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## Original Articles.

## HISTORICAL NOTES ON THE DISCOVERY OF THE NASAL ERECTILE TISSUE.

BY JOHN N. MACKENZIE, M.D., OF BALTIMORE, MARYLAND,  
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It is generally supposed that to Kohlrausch is due the honor of discovery of the erectile tissue of the nose, — a supposition to which nearly all writers steadfastly adhere, — and I have been taken to task by one of my German confrères for ignoring the alleged claims of that writer to priority in the matter.

My reasons for so doing will be readily understood when the following historical facts are taken into consideration. These are the result of an extensive study of the anatomical literature of the nasal passages, and only those works have been cited whose authors appear entitled to the credit of original or independent observation.

The porous and spongy character of some portions of the nasal mucous membrane seems to have attracted the attention of certain writers of the seventeenth century,<sup>1</sup> and Schneider,<sup>2</sup> whose graphic description led Haller to christen it the Schneiderian membrane, depicted it as made up of a congeries of vascular tufts, but failed to recognize its true cellular structure. The first reference to the latter that I can find is contained in an inaugural dissertation by Benedict Ruppert,<sup>3</sup> who gives a very good description of it in the following words: "Huic dein perioste tunica nostra pituitaria superexpansitor, non tamen immediatè; subtile enim textum cellulare (quod, si scalpellò tunice pituitariæ vulnusculum infligitur, inque hoc aer inflatur, intumescit) intermediat periosteum inter & membranam pituitariam."

Later on we find a more explicit account of the tissue by Duverney.<sup>4</sup> Referring to the spongy structure covering the interior of the bony nose, he compares it to a network of interlacing veins and arteries intimately connected with the periosteum, and adds: "Si l'on souffle par la veine qui sort par le trou du troisième os de la mâchoire, l'on verra que cette membrane s'enfle et se soulève principalement dans la partie postérieure du nez, à peu près comme quand on souffle dans la rate."

It is, however, probable that the cellular nature of the membrane was known even before the time of the writers referred to, for I find in A System of Anatomy<sup>5</sup> published in Edinburgh in 1781, and which is simply a compilation from the works of Monro, Winslow, Innes, and others, the following passage: —

"All the other parts of it (i. e., the mucous membrane) in general are spongy and of different thickness. The thickest parts are those on the septum narium, on the whole lower portion of the internal nares, and on the concha; and if we make

a small hole in it at any of these places, and then blow through a pipe, we discover a very large cellular substance," etc.

The first, however, to distinctly announce its true erectile nature, seems to have been Cruveilhier,<sup>6</sup> who, in the second edition of his great work, published in 1845, observes: "La pituitaire est généralement plus épaissie que les autres membranes muqueuses; aussi est-il extrêmement facile de déterminer la structure éminemment vasculaire et véritablement érectile de cette membrane: Si on pique la pituitaire avec un tube à injection lymphatique rempli de mercure, ce liquide pénètre immédiatement dans les cellules du tissu érectile, et s'écoule de là par les veines qui y aboutissent. Si on pique plus superficiellement, on voit se former un réseau lymphatique admirable, et tellement superficiel, que le mercure présente tout son état métallique. Ce réseau lymphatique ne communique nullement avec les cellules dont je viens de parler."

Eight years later appeared the often quoted, but rarely read, communication of Kohlrausch.<sup>7</sup> This observer injected the tissue from the jugular vein, and looked upon it as a cavernous network of veins placed perpendicularly to and just underneath the mucous membrane. Such a plexus had been previously briefly referred to by Hyrtl,<sup>8</sup> and was subsequently claimed as an independent discovery by Kölliker.<sup>9</sup>

While due praise should be accorded to Kohlrausch for original investigation, both his description and the figures which illustrate it show clearly that, in mistaking the erectile cells for cross-sections of venous trunks, he failed to appreciate the true erectile or contractile character of the tissue, which was subsequently set forth by Bigelow.<sup>10</sup> The latter observer, in an article familiar to the readers of this journal, described the tissue with great accuracy, and showed that it was limited to the space occupied by the superior and inferior turbinated bones and the septum. Apart from independent discovery, to Bigelow belongs the credit not only of giving the best description of this tissue, and of more accurately defining its minute structure and extent of distribution, but also of showing that the so-called mucoperiosteum of the posterior part of the septum is in reality an erectile substance. Bigelow was also the first to observe the alternate inflation and collapse of these bodies, which he compared to that of the lungs of a small animal, thereby leading the way to the rational interpretation of nasal affections. From their resemblance to the cavernous bodies of the penis Bigelow gave them the name of turbinated corpora cavernosa, but as Henle and, more recently, Zuckerkandl<sup>11</sup> have pointed out, they may be with more propriety classed among the contractile as contra-distinguished from the erectile tissues.

Finally Woakes<sup>12</sup> calls attention to the following passage in Toynbee's work on Diseases of the Ear: —

"Many years ago I pointed out the peculiar erectile tissue of

<sup>1</sup> Trélat, d'Anatomie descriptive, Paris, 1845, tome iv. p. 55.

<sup>2</sup> Miller's Archiv f. Anat., 1834, p. 149.

<sup>3</sup> Anatomie. (Acknowledged by Kohlrausch, loc. cit.)

<sup>4</sup> Handbuch d. Gewebelehre des Menschen, Leipzig, 1867, p. 741.

<sup>5</sup> Boston Med. and Surg. Journal, April 29, 1875.

<sup>6</sup> Yide Zuckerkandl, Wiener med. Wochenschrift, 1881, No. 38, s. 1123. — Zuckerkandl states that Virchow, in 1855, observed contraction of this tissue in the body of a man who had been beheaded.

<sup>7</sup> Deafness, Giddiness, and Noses in the Ear. Phil. ed., 1880, p. 40.

<sup>1</sup> See especially G. Rolin, Dissertationes Anatomice, Noribergæ, 1656, lib. ii. cap. 20.

<sup>2</sup> De Catarhis, Witteburgæ, 1661-62, lib. v. passim.

<sup>3</sup> Diss. inaug. med. de tunica pituitaria, ejus anatomia, physiologia, et pathologia exponens. Vetro-Pragæ, 1751. Pars I. p. 22. The method of inflation seems to have been adopted at an early date, Winslow and others having demonstrated a glandular structure (erectile cells?) by this means.

<sup>4</sup> Œuvres anatomiques, Paris, 1761, tome I. p. 222.

<sup>5</sup> A System of Anatomy, etc., arranged in the order of lectures delivered by the Professor of Anatomy in the University. Edinburgh, 1781, vol. II. pp. 141, 142.

which the nasal mucous membrane is composed, not only in man but in most mammalia; this tissue is a most efficient respirator.\*

As pertinent to the subject of the present inquiry I would like to call attention to the description by Morgagni<sup>1</sup> of the "peculiar and red thicknesses of the membrane of the nostrils" found on the inferior turbinated bones, which is given with the singular accuracy which characterizes all the researches of that great anatomist. Describing the post-mortem appearances in an insane man, he says:—

"I saw that these thicknesses where they lay on the lower part of the inferior turbinated bones had grown out into very ex caruncles which hung from each of these bones. And upon cutting into these excrescences, in any part whatever, I found them to be so constructed that between a white network, or, if you please, betwixt white cancelli, red areas seemed to be contained; which appearance confirmed the glandular nature of these thicknesses," etc.

Farther on he describes the millet-seed appearances and ashy-gray color of these masses in other bodies with such fidelity to nature that it leaves no doubt that these so-called glandular enlargements were none other than the hypertrophied turbinated bodies.

Morgagni thus narrowly missed the discovery of the turbinated erectile tissue and the relation of its enlargement to nasal disease.<sup>2</sup>

Note. It is only within a comparatively recent period that the hypertrophic enlargements of the turbinated tissues have been relegated to their proper anatomical place among affections of the nasal passages. The ancients probably knew of their existence, but confounded them with polypi: the Greeks under the terms "hypersarcosis" and "sarcoma," the Romans under the appellations "carnis exerescentia" and "germinatio." It is unnecessary to invoke the long list of ancient writers from Hippocrates down, in defence of this proposition, but I will simply direct attention to the following words of Actuarius as a fair presentation of the doctrine of his day: "Polypus, est meatuum, qui à colatu *ϑηροειδής* (quasi dixeris colatorios) vocatur, obstructio, propter carnis exerescentiam, quæ ea parte ita inhaeret, ut aegrè detrahi possit. Enascuntur enim frequentes germinations, quæ instar polyporum, nasi meatibus circumcirca adfixæ adherent quibus inspiratio expiratioque prohibetur, et siquid superne pituita aut muci defluit haud facile obstante polypo delabi potest."<sup>3</sup>

A distinction was made by some<sup>4</sup> between true polypus and other "caruncles" found in the lower and more fleshy (carnissimæ) portions of the nose, and Janus<sup>5</sup> draws an accurate differential parallel between "ganglia" (evidently the hypertrophic

turbinated tissue of the present day) and polypi in the following sentences: "Credo vero differentiam, posse inde hauriri; primo ganglia semper deprehen- dentur in narium partibus inferioribus. Polypus vero frequentius subnascitur in partibus superioribus; dein circa basin semper sunt crassiora atque latiora; contra polypus magis est attenuatus imo sæpiissime penilis. Tertio ganglia sunt duriora. Polypus vero mollior. Cancerosus vero atque durus distinguitur à ganglio, quod ganglium ut plurimum retineat colorem eundem cum partibus vicinis; polypus contra aut nigrescat aut colore præditus sit livido."

## A CASE OF "PERNICIOUS" ANEMIA.—RECOVERY.<sup>6</sup>

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A. McL., the patient, a male, single, thirty-eight years old, of late a farmer by occupation, entered the City Hospital July 8th, 1884. He had been for many years a sailor. Patient's parents were reported to have both died of phthisis; his brothers and sisters, three in number, are all believed to be well. He had never been sick since he was a child until two years previously, when he was laid up in the marine hospital at Pensacola with fever and ague, which he called Texas fever. Had no chill since. No history of rheumatism or syphilis could be elicited. He had never been a hard drinker. Had not been subjected to any especial exposure, hardships, or mental worry. He gave up work on a farm a month before entering the hospital, feeling run down, and having lost his appetite, as he thought, from working a little too hard. About two weeks after giving up work, and the same length of time before coming under my care, began to have nose-bleed, sufficiently obstinate at times to necessitate plugging. He took to his bed ten days before entrance. The nose was plugged when entering the hospital.

He reported having had a cough for three months, with slightly viscid expectoration, a poor appetite, regular bowels, no headache. He had a temperature of 100° F., and a pulse of 104. A physical examination of the lungs showed dullness, broncho-vesicular respiration, and a moderate number of fine and medium moist râles over the lower third of right back. The examination of the heart gave a negative result. The spleen was enlarged, though not greatly so. The urine was normal. There were no enlarged glands. The general appearance of the patient showed great emaciation and extreme pallor. He was very weak.

A diagnosis of phthisis was made, and he was put upon malt and oil, and tincture of chloride of iron.

A week after entrance râles were found in the lower left as well as the lower right back. He had gained a little strength, however, though he felt better, and sat up somewhat. The next day he had epistaxis, which was promptly checked by plugging. Two days after thought he felt better, and began to sit up again. The oil distressed the stomach, and was omitted, malt being given without it.

Two weeks after entrance began to complain of

<sup>1</sup> De sedibus et causis morborum, lib. I. epist. xlv. art. 26. (I quote from the translation of Alexander in the London edition of 1789.)

<sup>2</sup> Curiously enough, many years before, the development of certain forms of polypus has been compared to the augmentation in bulk of the clitoris. Thus, Janus (De polypo narium, Lipsiæ, 1672, mensur. l. cap. II. § 25), in describing the variety known as exerescentia, says: "Grav. in hac deficiente nascenti. . . exerescentiam per quam cuplo intellectum talium partis nutritionem, que modo quidem natural, nempe per appositionem alimentæ hauribilis est, ita tunc tamen desinit in quantitate ceteris partes longe sub proportionem excedentem. Quare moxque semper morbum partem confortandum in augmentum auctæ. Exemplum est, mentula mulieris, clitoris dilata," etc. Further on (§ 6) he compares the polyoid enlargements to the hypertrophy of the virgin breasts, "que immo bincque palme pondere pressæ fellibus accrescere dicuntur." In the Methodo Medendi, lib. II. cap. viii. De affectus nariumque affectionibus, Venetiæ, 1764.

<sup>3</sup> Ab Altonari, De medicinis humani corporis nullis ars medendi, cap. xxxix., Ed. Lugol, 1559.

<sup>4</sup> Cap. cxi., memb. II. cap. I. § 1.

<sup>6</sup> Read before the Boston Society for Medical Improvement, December 22d, 1884.

pain in the right ear, from which a day or two later there was a slight discharge, at first serous, and subsequently bloody. July 25th, seventeen days after entrance, half a drachm of fluid extract of ergot was ordered every four hours. Three days later the bleeding from the right ear began. The ergot and malt were omitted on this day, July 28th, by Dr. F. W. Draper, who saw the patient in my absence, and he was given instead half an ounce of sherry every two hours, and three drops of Fowler's solution three times a day. At this time he had not been out of bed for a week. The pallor, debility, and distaste for nourishment had steadily increased; diarrhoea had been troublesome; there was oedema; he was steadily and rapidly failing; moreover, he had grown so deaf that he could understand almost nothing said to him.

July 30th, at my request, the blood was examined by Dr. W. L. Munro, the house officer, with Gower's hæmacytometer, showing as a mean of four enumerations only 595,000 red corpuscles to the cubic mm., the normal number being about 5,000,000.

August 1st. Dr. O. F. Wadsworth, by request, examined the fundus of the eye with the ophthalmoscope and reported the following conditions: Left eye.—The disc pale, central vessels of good size, very pale—both arteries and veins. Numerous hemorrhages scattered all about the retina, some of considerable size. Right eye.—Upper third of the disc obscured by hemorrhage. The spleen was examined again and found less enlarged than before. The Fowler's solution was increased to five minims three times daily, and was ordered to be increased two minims every other day until eight minims three times daily was reached.

By August 3d, the deafness had decreased considerably, the hearing was better; the patient felt better and took more interest in his surroundings. A soft systolic murmur was detected over the apex of the heart; the moist râles continued in both lower backs, and the dulness over the lower third of the right back.

August 7th. He began to sit up again.

August 10th. He was ordered twenty minims of chloride of iron in addition to the arsenic, and Tarragona instead of sherry wine.

August 13th. Two weeks after the first blood count, and fifteen days after the administration of arsenic, the hæmacytometer showed 1,180,000 red corpuscles to the cubic mm. The patient's general condition steadily and rapidly improved.

August 18th. He was up, dressed, and about the ward; six days later he went out about the yard.

August 28th. There were 3,025,000 red corpuscles to the cubic mm. The proportion of white to red corpuscles was at times somewhat increased, but was never more than relatively increased. September 19th he was discharged greatly improved. There was no count of the globules, the hæmacytometer being broken.

An ophthalmoscopic examination at this time, made by Dr. Myles Standish, showed both nerves to be paler than normal, and the fundus of each eye to be very light for a man with a dark complexion. In the left eye there was a large retinal hemorrhage immediately below the macula.

Since leaving the hospital the patient has been living and working on a farm at Dedham. He has gained steadily in strength and weight, and is as strong and heavy as he ever was in his life. No examination of the blood was made when I saw him to-day, December 22d, as his appearance and feeling of vigorous health made it unnecessary. The signs at the base of the right lung have disappeared. The local pulmonary process may have had some influence upon the temperature, otherwise but little upon the general condition. The temperature varied from 97.5° F. to 103° F., and the pulse from 75 to 120. The hemorrhages, though aggravating his condition, must be regarded as a result rather than as a cause, for the first one did not occur until two weeks after he had given up work on account of weakness and loss of appetite. Moreover, the amount of blood lost in this way whilst in the hospital was small, the epistaxis being promptly checked by plugging; and yet the unfavorable elements of the situation increased in the most threatening manner until the administration of arsenic.

The first diagnosis of phthisis was a correct one, but the pulmonary process was not the cause of the anemia and the prostration. In fact, a careful physical and oral examination of the patient and revision of his history fails to offer any satisfactory explanation for these extreme conditions which were apparently due to some change in the blood itself. Other than the consolidation in the lower right lung and the moderate enlargement of the spleen, no organic disease could be discovered, and the subsequent course of the case would indicate quite positively that none had been overlooked.

The patient had been living a fairly wholesome life in a healthy neighborhood, where he has since thriven. His habits were correct, there was no evidence of specific taint, his mind had been at ease, and, as a male, he had not been exposed to a rapid succession of pregnancies. There was nothing in the past history to account for the extremities to which he was so rapidly reduced, except the malarial attack at Pensacola two years before. This, the subsequent history, comparative good health and absence of chills, would hardly permit us to accept as an adequate explanation.

I therefore do not hesitate to call the anemia idiopathic; that it was pernicious, the hemorrhages nasal, anal, and retinal, the extreme diminution of the red blood globules to nearly a tenth of the normal, the aspect of the patient, proved; that it was progressive, the man's condition, July 28, compared with his condition seven weeks before when he gave up working on the farm, is sufficient evidence. Had he not been put on arsenic when he was there is no rational ground to doubt that he would speedily have died, and then there would have been no occasion to hesitate signing the death certificate progressive pernicious idiopathic anemia, for all the textbooks would have been treated with due respect.

The only features at variance with a typical picture of so-called pernicious anemia are the emaciation, the recovery, and the absence of loud cardiac *bruits*. Emaciation is common in simple anemia; all writers except Quincke agree that it is the exception in the pernicious form. The same

is true of recovery. Quincke claims ten recoveries out of thirty-one reported cases. S. Laache<sup>1</sup> five recoveries out of eleven very characteristic and carefully recorded cases. Loomis (1884) says death occurs in ninety per cent. of all cases. Bartholow (3d edition), who is the reverse of a therapeutic nihilist, closes his few remarks on treatment thus: "Unfortunately, hitherto no results have followed the treatment and the cases have pursued their evil course until the end." Flint (5th edition) says truly: "The prognosis is affected materially by the latitude of the signification of the term pernicious in this application of it. If a fatal termination be essential for the disease to be considered pernicious, of course there is no possibility of recovery. This is an extreme view. . . . Cases have been reported presenting the requirements for the diagnosis of pernicious anemia in which recovery has taken place."

Immermann, writing for Ziemssen's Cyclopaedia in 1874, said: "I hold that no doubtful case of extreme and fatal anemia should be admitted into the present category, unless, after we have sifted every possible cause, we remain unable to account, either rationally or empirically, for the progressive course of the anemic symptoms. The term progressive pernicious anemia ought to be restricted to those cases of extreme anemia which tend uninterruptedly towards a fatal issue, notwithstanding appropriate tonic treatment, and for the malignity of whose course and termination no adequate cause can be discovered, either in the patient's circumstances or in the previous state of her constitution. The former of these characteristics is included, the latter implied, in the name assigned to the disease."

But Immermann goes even farther than this and says elsewhere: "It is clear that if the progress of our etiological knowledge should at any future time enable us to trace the development of a certain proportion of cases of malignant anemia to agencies whose operation is either rationally or empirically understood, those cases will, *ipso facto*, be withdrawn from the present category, and included among the forms of ordinary symptomatic anemia. The sole plea for retaining them in their former place would be their similarity, as regards symptoms and prognosis, to progressive pernicious anemia; on etiological grounds, it would be necessary to detach them from the group."

Still again he says: "I must again insist on the complete inefficacy of every kind of treatment, both dietetic and medicinal (all the more striking as a certain number of the recorded cases occurred among the poorer class), as a leading feature of the disease, and which distinguishes it alike from chlorosis and ordinary anemia." In still another place, speaking of prognosis, the same writer says: "But the chance of a favorable result is in the highest degree doubtful, even apart from pregnancy, when the disease is well marked. Our present experience justifies us in regarding every case as tending inevitably to a fatal issue."

A generous, easily digested diet, iron, quinine, strychnine, ergot, arsenic, intravenous injections of milk, transfusion, have been the measures most

generally and most hopefully resorted to in pernicious anemia. The stomach often refuses to digest the nourishment and rebels against iron. Ergot is only a palliative aimed at a symptom—the hemorrhages. Transfusion has been proved impotent on several occasions, though Quincke reports three recoveries out of twelve attempts. Successful results have been reported from intravenous injections of milk, but I know nothing about the details of the cases. The use of arsenic has hitherto met with not a few favorable results, and has been especially recommended by Bramwell, Warfvinge, and Laache.

I have abstained from wearying you with any elaborate differential diagnosis, as I did not conceive that it would further any more useful end than a cheap exhibition of medical pedantry. Having endeavored to report the case truthfully, it seems to me it speaks for itself. There was evidently something more than a simple anemia, and something different from chlorosis; the absence of extreme splenic enlargement, of all glandular enlargements, and of any marked change in the proportion of white corpuscles in the blood, declare against leucocythæmia, and the absence of glandular hypertrophies against pseudo-leukæmia. The oligocythæmia, or diminution of red corpuscles, was as pronounced as is often reported, and is not far removed from Hayem's extreme limit, placed at 450,000 to the cubic millimeter.

The blood of a female patient now in the hospital, who is extremely blanched from flowing for six months owing to retained placenta, still gives 2,660,000 red globules to the cubic mm.

The effects of chlorosis generally show themselves at puberty and almost exclusively in females; it is not attended by any liability to dropsy, is scarcely ever accompanied by fever or by a hemorrhagic diathesis; it is generally amenable to treatment. Leukæmia and pseudo-leukæmia are progressive and malignant, are associated with fever and hemorrhage; they are both characterized, however, by hyperplasia of the lymphatic glands and of the marrow of the bones, and the former, in addition, by great enlargement of the spleen and positive increase of the white blood corpuscles from a ratio to the red of one in several hundred to one in twenty, ten, or even one in three or four in extreme cases.

Biermer,<sup>2</sup> of Zurich, first used the term progressive pernicious anemia, to describe fifteen fatal cases which came under his notice at Zurich, between the years 1867-71; Gussersow<sup>3</sup> published, in 1871, an account of five similar cases of "extreme anemia in pregnant women," also observed at Zurich.

In pernicious anemia the number of red globules is probably invariably diminished to a striking degree, unless one is willing to admit with Quincke what he calls a "transition stage." The condition of the red globules is characterized in general, according to that observer, by extraordinary varieties in form and size, which he terms *poikilocytosis*. He found these changes well marked in twelve cases, indicated in two, absent in one. Such changes are certainly not constant, and not pathognomonic.

<sup>1</sup> Die Anämie, von S. Laache. Christhonia. 1868.

<sup>2</sup> Correspondenzblatt f. Schweizer Aerzte, Jahrgang II. 1872. No. 1.  
<sup>3</sup> Archiv für Gynäkologie, Bd. II. 1871. Heft 2, s. 218.

Hayem and S. Laache agree with Quincke as to changes in the size, but not of the form, of the globules. These they found frequently increased in size. Both, and especially Laache, lay great stress upon the increase observable in the coloring matter, the hemoglobin, of the globules. The recorded cases justify Laache in the statements that the number of globules may fall below 500,000 to the cubic mm. without death ensuing as an immediate consequence; and that the number may fall below 500,000 and still be restored to the normal without transfusion.

The latest contribution to the pathology of pernicious anemia is that of Sasaki,<sup>1</sup> who, while carefully studying the intestines from fifty autopsies, met with those from two patients dying from this disease. In these he detected certain marked changes in Meissner's and Auerbach's ganglionic plexuses throughout the intestines.

Quincke<sup>2</sup> takes the following position in regard to the etiology of the disease: "If one considers the clinical symptoms of pernicious anemia they, as well as its etiology, show that we have to deal with a very characteristic pathogenic condition, whose cause, however, is not a simple and single one, but that a variety of pathological processes may precede and lead up to the malady." Elsewhere he contends for a "secondary pernicious anemia" in cases of cancer and cirrhosis of the stomach. Lépine<sup>3</sup> distinguishes three forms in regard to origin: A splenic and medullary form; gastro-intestinal; that occurring during pregnancy.

The standpoint of both of these observers is very different from that of Imnermann previously quoted, who undoubtedly would reject many of the thirty-one cases reported by Quincke. Sasaki, following Lépine, regards his two cases as belonging to the gastro-intestinal variety, and draws the following conclusions, which I take from Dr. W. F. Whitney's abstract of his paper:<sup>4</sup>

(1) It is highly probable that the gastro-intestinal form of pernicious anemia may be produced by recognizable anatomical lesions in the intestine.

(2) Pernicious anemia can be caused by an atrophy of the intestines. The correlated change in the nervous apparatus coming under the class of parenchymatous degeneration.

(3) In the affection of the intestine which is not diffuse, and does not extend over a large area, the changes in the plexuses are restricted in a corresponding manner.

Should these two observations of Sasaki's be supported by others it seems to me that, in regard to one class of these cases, we may look upon ourselves as initiated into a little higher degree of the mystery; and instead of expressing our ignorance in terms of a mysterious change in the red blood corpuscles, we may then express it in terms of a mysterious change in the intestinal nerve plexuses.

The phrase "progressive pernicious" is mainly objectionable if it is supposed to imply a necessarily fatal termination; the term "idiopathic" ceases to be applicable as soon as we get some clear idea of the cause or causes which undoubtedly exist.

## A CASE OF MYXEDEMA WITH ATROPHY OF THE OPTIC NERVES.<sup>5</sup>

BY O. F. WADSWORTH, M.D.

It is only quite recently that the disease known as myxedema has excited much attention; its pathology, beyond the fact that there is a deposit of mucine in the subcutaneous tissues, is still unknown; and even the symptoms observed in the cases reported have presented in some respects considerable variations. Although symptoms pointing to disturbance of the cerebral nervous system have occurred in some cases, no affection of the eyes, in particular of the optic nerves, has, so far as I am aware, been described. It may therefore be of interest to put on record the following case, in which there was atrophy of the optici. It may well be that the optic atrophy was only coincident, and had no direct connection with the myxedema. Yet primary atrophy, as this evidently was, when it affects both eyes, is of comparatively seldom occurrence as an independent lesion.

Mrs. C., aged forty-two, a large, strongly built woman, applied to me at the Boston City Hospital, June 27, 1884, because of failure of sight. She was in fairly comfortable circumstances, and since an attack of measles, when fourteen years of age, had never been sick. She had been married twelve or fifteen years, but never been pregnant. Her catamenia had been regular till three years ago, when they ceased.

Some seven years ago her fingers and hands, and two or three years later her feet and the lower part of her face, lips, nose, and eyelids began to increase in size. The enlargement gradually became greater, and for a long time she had been obliged to have her boots made for her, being unable to find any large enough. Her speech became somewhat thick and slow, and her movements slower than formerly. Except for an occasional feeling of numbness in the parts affected, and of burning in the feet and legs, there had been no special discomfort. Of late, however, she had experienced slight dyspnea on active exertion. Failure of sight was first noticed a year and a half ago, and had continually progressed. Careful inquiry both of her and her husband failed to elicit any history of pains anywhere. She had never had headache. There had been no failure of intelligence or memory. Her appetite was good, bowels somewhat sluggish, micturition normal. She slept heavily.

The lower part of the face was full, heavy, of waxen hue, the natural folds obliterated; the lips full; the nose large, its alae broad and thick; the eyelids baggy. The hands and fingers were large and square, the thickening being most pronounced on the palmar surface, where the tissues could be pinched up in thick folds and gave the feeling as of an excessive development of subcutaneous fat. The feet were very large and broad, the swelling not extending above the ankles, and, although there were large varicose veins of the right leg, there was no pitting here or elsewhere. The tongue was large and rather pale. The skin was not dry to the touch, but she stated that she never perspired. The thyroid was of normal size. Auscultation revealed

<sup>5</sup> Read before the American Ophthalmological Society.

<sup>1</sup> Virchow's Archiv, Bd. 96, s. 287.

<sup>2</sup> Deutsch. Archiv f. Klin. Med., Bd. 20, s. 24.

<sup>3</sup> Revue Médecine de Med. et de Chir., 1877, Pp. 59, 124.

<sup>4</sup> Boston Med. and Surg. Journal, vol. xli, p. 543.

nothing abnormal in heart or lungs. Temperature and pulse were normal. The patellar-tendon reflex was present. There was no anesthesia of the skin. The urine was normal in every respect.

Examination of the eyes showed the conjunctiva, cornea, and iris to be normal. Movements good. R. only perception of light. L. V. =  $\frac{20}{80}$ ; F. contracted in all directions, but to much greater degree upward and outward. Media clear. In both eyes the discs were sharply defined, gray with slight bluish tinge, without vascularity; the central vessels, both arteries and veins, small; in other respects the fundus normal.

Some weeks later the patient was admitted to the hospital, in the nervous and renal department, and remained for about a month. During this time her general condition remained the same, but the vision of the left eye varied somewhat; on September 9 it was recorded as  $\frac{20}{80}$ , but when I saw her last, at the end of September, and a fortnight after she had left the hospital, it was  $\frac{20}{80}$  -  $\frac{20}{80}$ . No farther symptoms had developed.

### CASES OF URINARY CALCULI.

BY FREDERIC HENRY GERISH, M.D.,

*Surgeon to the Maine General Hospital, Portland; Professor of Anatomy in Bowdoin College, etc.*

CASE I.<sup>1</sup> N. F., a farmer, aged seventy-five, for more than half a century a resident of Penobscot County, Maine, consulted me on the twelfth of May, 1883. He had experienced more or less uneasiness in the region of the bladder for twenty years, and, nine years before my seeing him, had an attack characterized by such difficulty in micturition that he was obliged to have his urine drawn for some weeks regularly, and at intervals afterward. For the past four years it has been necessary to resort to the catheter almost every day, and his trouble has been so much worse during the last eighteen months that he has had to abandon all labor. There is pain nearly all the time in the penis, and, at the neck of the bladder, pricking pain, which is much greater when he is sitting. Consequently, he keeps on his feet a great deal, moving slowly about with a cane in each hand, relieving himself occasionally by kneeling beside a sofa or bed, on which he rests his elbows. If the urine is allowed to accumulate for more than an hour, his suffering is aggravated. He is always more comfortable, sometimes entirely so, for a short time after evacuating the bladder; and, as the case is much greater after drawing than after passing water naturally, he commonly empties the viscous artificially. There is occasional priapism, and, during urination, the stream is liable to stop suddenly. The urine contained a large amount of phosphates and many granular casts a year ago; but a recent examination shows that there are no casts and no albumen. In the twenty-four hours selected for the test, he passed his water naturally thrice, and drew it off twenty-five times; seventy-two fluidounces was the entire result of these twenty-eight evacuations, showing that the bladder

could hold two and a half ounces without such distension as to cause agonizing pain. A year ago he began to use morphine, at first in ordinary amounts; but the dose was gradually increased, and his daily allowance now is more than five grains, usually taken in two equal parts, one in the morning, the other at night. His appetite and digestion are excellent, the pulse, respiration, and temperature normal. There is some constipation, and the thirst is considerable. His strength is failing, he is pale, haggard, emaciated, and his face indicates long-continued suffering.

The patient having been put to bed, a twenty-three French steel sound was readily introduced, and immediately touched a stone. The examination caused so much pain that it was thought best to give an anesthetic before completing the exploration. Ether was given, and a thirty sound was easily passed without enlarging the meatus. The calculus was free in the cavity. The prostate was found to be much enlarged laterally. A suppository, containing eight grains of quinine, was given, and no inconvenience resulted from the examination.

After keeping the patient under observation a week, I determined to attempt litholapaxy. Ether was administered, two ounces of water were injected, and a Bigelow lithotrite introduced without difficulty. But, though I could easily reach the stone with a metallic catheter or sound, I could not touch it with the lithotrite, though my efforts were continued for an hour and a half, and only abandoned then because of my fear that longer instrumentation would harm the patient. No unfavorable symptoms succeeded this severe trial of the patient's strength, the pulse kept below ninety, and the temperature never rose above the normal line.

After five days, lithotripsy was again essayed, Prof. S. H. Weeks, Dr. L. W. Pendleton, and Dr. I. E. Kimball kindly assisting. The result, however, was the same as before: the lithotrite was inserted with perfect ease, but its movements in the bladder seemed to be interfered with by obstacles which were not apparent when a sound was introduced, and it never touched the calculus. My colleagues had an equal lack of success, and it was decided to perform lithotomy. Accordingly I operated, adopting the lateral method. For some minutes I searched with my forefinger in the meshes of the strong bands which seemed to cross the cavity of the bladder in every direction, breaking some of them in my efforts to explore thoroughly, but I did not find the stone. On withdrawing my finger, I felt, close to the neck of the bladder, a sharp, transverse ridge, behind which I pushed the digit, which immediately entered a larger sack with smoother walls, and here the stone was found lying entirely free, and was quickly extracted with the forceps. It measured one inch and a quarter (32 mm.) in its longest diameter, and weighed one hundred and thirty-four grains (8.7 grams). It was rough, and evidently phosphatic.

The reason of the failure to reach the stone with the lithotrite was now plain: the bladder was divided into two parts by a vertical, transverse partition, the lower edge of which extended to the neck of the organ. An instrument whose beak was long

<sup>1</sup> Reported to the Maine Medical Association.

and had a sweeping curve, like a catheter, would slip behind this septum; whereas, one with a short beak and a sharp bend, like a lithotrite, must go in front of it. The sounds struck the calculus, because they were carried into the posterior chamber; the crushing instrument never came in contact with it, as it always got into the anterior compartment.

For three weeks everything progressed very favorably. The pain was so largely diminished that the amount of morphine required to control it was immediately reduced to a grain a day, and then gradually to less than half a grain. The wound partially closed, until the greater part of the urine was passed by the natural channel. But then the reparative powers refused to continue their work, the strength of the patient perceptibly diminished, and he lost ground slowly, but steadily, until the 7th of July, when he died, forty-four days after the lithotomy.

At the necropsy it was found that the walls of the bladder were immensely thickened; the lining membrane was inflamed and covered with a smear of mucus, mingled at spots with a phosphatic deposit of the consistency of soft mortar; the partition was thin, but firm, resembled mucous membrane, and divided the cavity into two unequal compartments, the anterior being the smaller, and traversed by trabeculae of (apparently) inflammatory formation.

The case is reported on account of the deformity of the bladder, which is sufficiently uncommon to deserve recording. It is possible that the failure of eminent surgeons to discover stones, whose presence has been demonstrated previously, may sometimes be accounted for by such an abnormality of structure. The result of treatment would probably have been different if the operation had been performed before the vitality of the system had been undermined by years of suffering.

CASE II.<sup>1</sup> E. H. B., a store-keeper, aged seventy-three, a resident of Portland for many years, presented himself for treatment on the 29th of June, 1883, with the following history: He has always been strong and well, an attack of erysipelas in the face being the only illness he can recall. He has been accustomed to take frequent plunges in the salt water, and I had heard that he practised sea-bathing all the year round; but this rumor he stated was incorrect, modestly saying that he had never taken a swim earlier than the 14th of April, or later than the 24th of November. He is used to hard work, and has always been a plain, temperate liver.

About six weeks before he came to me, he began to have frequent desire to urinate, and micturition became painful. The distress was altogether in the region of the bladder; there was no sudden stoppage of the stream. The urine was not abnormal. His general condition was excellent. A twenty-three French sound struck a stone immediately. At several following sessions sounds of gradually increasing size were introduced for the purpose of educating the urethra, of ascertaining the effect of instrumentation, and of dilating the passage up to the size of the lithotrite. No chill or inconvenience was ever experienced, excepting the pain incident to the passage of the instrument.

The symptoms, however, speedily grew worse: the stream of urine was frequently arrested, the desire to empty the bladder came at shorter intervals, and the pain became more severe. In twenty-four hours he passed thirty-four fluidounces of urine, evacuating the bladder eighteen times.

On the fourteenth of July, assisted by the gentlemen who were with me in the former case, I performed litholapaxy. The etherization occupied but four minutes. The Bigelow lithotrite quickly grasped the calculus, which measured an inch in diameter, and was very hard. It was crushed in a few minutes, without removal of the instrument. The fragments were washed out easily. The entire procedure occupied forty-one minutes. A suppository of quinine and morphine was given before the patient awakened from the ether-sleep; no other anodyne or antipyretic was required during the convalescence. With considerable difficulty the patient was persuaded to stay in bed about a week, although he protested he was entirely well; and, on the eleventh day, he walked a mile to his warehouse and back again without discomfort or exhaustion. A year and a half has elapsed since the operation, and there has been no sign of a recurrence of stone. The patient's health is perfect.

The fragments when dried weighed one hundred and thirty-one grains (8.5 grams). The pieces which came from the surface of the calculus were of a dark-brown color, tuberculated, and so hard that they were scarcely affected by the file; others, evidently from the inner parts, were whitish, and tolerably dense; and those of a third variety were of a light brownish hue, and friable. Dr. Edward Preble examined them chemically and microscopically, and decided that the calculus was made up of oxalate of lime, simple and triple phosphates, and urate of ammonia.

## REPORT ON SURGERY.

BY A. T. CABOT, M.D.,

*Surgeon to Out-Patients, Massachusetts General Hospital.*

### ACTION OF ERYSIPELAS UPON MAMMARY CANCER.

DR. JANCKE<sup>2</sup> and PROFESSOR NEISSER report a case in which erysipelas was inoculated upon a breast with an inoperable cancer. The organisms (micrococci) used in the inoculation were obtained from Dr. Fehleisen, who had prepared them in a pure form by cultivation upon meat-gelatine. The patient was a woman forty years of age. The tumor was of rapid growth and had recurred after two removals. A little mass of micrococci, about as large as the head of a pin, was rubbed into a small surface of skin, carefully scarified.

Within seven hours there was a violent chill, and a blush appeared which rapidly extended and was accompanied by high fever. Death occurred at the end of the fourth day.

Even in this short time a very decided change was noticed in the cancerous mass, which became smaller and softer.

The *microscopical examination* confirmed the

<sup>1</sup> Reported to the Practitioners' Club, Portland.

<sup>2</sup> Central bl. f. Chir., June 21, 1881.

diagnosis of carcinoma. The tissues were filled with masses of micrococci, which could be seen extending into the cancer alveoli, from many of which the cells had disappeared. The exact changes which the epithelial cells underwent could not be exactly made out, although they could be seen to be paler with less distinct markings.

The result of this examination, then, was that the micrococci excited a destructive influence upon the carcinoma, causing a disappearance of the epithelial cells from their alveoli.

PROFESSOR NEELSEN<sup>1</sup> reports his observation of a case of mammary cancer which suffered from two attacks of erysipelas, and in which the microscopical appearances were in a degree contradictory of the inferences drawn from the above case of Professor Neisser.

The patient, a woman forty-one years of age, presented herself with cancerous tumors in both breasts. The glands in the left axilla were likewise affected. The left breast was removed, together with the contents of the axilla.

On the thirtieth day the wound, which had contracted to a small granulating surface, was attacked with erysipelas which spread over the right breast, and was followed by a diminution of the size of the tumor on that side. A slight gangrene of the skin occurred over this tumor, and was followed by an abscess behind it, which was incised.

Three weeks after the subsidence of the first attack of erysipelas a second followed, starting in this instance over the right breast. This proved fatal at the end of fourteen days.

A microscopical examination of the tumor on the right side, over which two attacks of erysipelas had run, showed the following appearances:—

In limited portions the ordinary alveolar structure and cellular character of the cancer were preserved. In by far the greater part of the tumor, however, the contents of the alveoli had undergone fatty degeneration (necrosis).

The connective tissue around the alveoli was filled with small cells. A portion of these were evidently leucocytes, but the larger part of them were young epithelial cells which were forcing themselves in every direction into the surrounding tissues, even reaching and infiltrating the overlying skin.

Both observations seem to show, therefore, that erysipelas may bring about a destruction of existing carcinoma, while, according to Neelsen, a second effect may be the stimulation of younger portions of the cancer to increased growth.

#### FORMS OF INTESTINAL OBSTRUCTION THAT MAY FOLLOW HERNIA AFTER REDUCTION.

MR. TREVES<sup>2</sup> calls attention to the following conditions which may lead to obstruction of the intestine subsequently to the reduction of a strangulated hernia.

1. Organic stricture of the intestine may follow as a result of constriction in the hernial sac.

The lesion in this case may be either a loss of substance in the mucous membrane, and a consequent centric contraction. Or a well-localized

peritonitis may be followed by shrinking of the inflammatory products thrown out, and a narrowing of the bowel may ensue.

In either case the symptoms of obstruction generally appear in from six weeks to two months, although they have been known to delay their appearance until the end of eight months.

2. The herniated loop after reduction may become fixed to the abdominal parietes by adhesions.

This condition acts in two ways to bring about obstruction. The bend or kink caused by the attachment of a loop of the intestine to the abdominal wall renders the passage of the intestinal contents difficult, and the necessary friction and stagnation at that part is liable to set up ulcerative processes which act secondarily to increase the obstruction.

Mr. Treves in this connection mentions a case in which serious obstructive symptoms followed slowly upon the reduction of an inflamed femoral hernia. He opened the abdomen, found the intestine adherent about the ring, separated the adhesions and obtained a good recovery for his patient.

3. The two ends of the loop may be fixed together by adhesions.

This condition is only possible in the small intestine. Occasionally the two sides of the loop may adhere together and be fastened side by side like the barrels of a double-barrelled gun.

4. Adhesions between the reduced loop and the parietes may develop into a band, behind which an internal strangulation may subsequently occur.

5. To the inflamed peritoneum about the hernial orifice a part of the omentum may become adherent and thus lead to internal strangulation.

#### CANCER OF THE RECTUM.

In the surgical section of the recent International Medical Congress held at Copenhagen, a long discussion<sup>3</sup> was had in regard to the treatment of rectal carcinoma.

*Esmarch* opened by recommending early and thorough extirpation of the disease with the knife, and said that the prognosis was by no means hopelessly bad. Recurrence is less common in cases of cylinder-celled cancer affecting only the superficial layers of the mucous membrane than in alveolar cancer of the deeper tissues. Small movable nodules may be excised from the wall of the bowel, but in case of more extensive disease the removal of the whole rectum to a point above the portion affected is necessary. This extirpation may be properly carried even into the sigmoid flexure.

If the external sphincter is not removed the incontinence which is left is not complete, and the resulting condition of things is much less distressing than that which would be caused by the cancer if left alone.

*Bryant* advised lumbar colotomy for these cases, and also for other non-malignant strictures and for severe ulcerations of the rectum. To have a favorable effect the colotomy should be done early.

*Vernieu* said that he had tried both extirpation and lumbar colotomy in the treatment of rectal carcinoma, but that he had now adopted the median linear rectotomy as the most advantageous operation

<sup>1</sup> *Centr. Bl. f. Chir.*, November 14, 1881.

<sup>2</sup> *Lancet*, June 7th, 1881.

<sup>3</sup> *Centr. Bl. f. Chir.*, October 18th, 1884.

for these cases. With the thermo cautery he pierces a hole from the outside to a point above the stricture. Through this he introduces a probe, and then with the cautery he severs the bridge of tissue between this and the anus.

*Trelat* also spoke in favor of rectotomy, with colotomy to fall back upon in exceptional cases of pain, hemorrhage, or stenosis.

*Volkmann* advocated extirpation, which, he said, effected a permanent cure in a certain proportion of cases. He had himself in one case obtained a cure of ten years' duration.

The prognosis after the operation he regarded as good, when the peritoneum is not opened, and when this accident does happen, as no worse than after colotomy. In successful cases the condition of the patient after extirpation is much more bearable than after the establishment of an artificial anus.

He operates only in cases in which, with the aid of anaesthesia, he can reach the upper edge of the disease, and in which the mobility is such as to exclude implication of the bladder.

In difficult cases he makes an incision along the raphe, anteriorly as well as posteriorly, in order to afford more room. If the peritoneum is opened he sews up small rents and drains large ones. When colotomy is necessary, he does it anteriorly rather than posteriorly.

*Küster* said that he had seen very few cases in which colotomy was indicated. In cases not proper for extirpation a thorough scraping of the disease and subsequent cauterization obtains for the patient a condition of comparative comfort for weeks or even months.

extent. The stomach was contracted in all its diameters. Externally, the course of its vessels was marked by dull red lines a quarter of an inch wide. The entire mucous membrane presented the caustic effects of the acid in full degree. It was of a dull white color, with here and there a faint pinkish tinge in the depressions of the rugae, which were remarkably developed. The entire inner aspect of the organ had an appearance as if it had been suspended a moment in a thin mixture of plaster of Paris which, hardening, had coated the mucous lining of the stomach with a dense white deposit, hard and rough to the touch and easily cracked.

For about six inches below the pylorus, the mucous coat of the duodenum showed limited areas of the whitened and thickened appearance seen in the stomach, but less in extent and degree; it was chiefly manifested upon the summits of the mucous folds, the intervening depressions having escaped the caustic action. The caustic and irritant effects diminished rapidly as one proceeded downward, and in the lower part of the duodenum and upper part of the jejunum showed only in a moderate redness of the mucous membrane.

The liver, spleen, and kidneys were deeply reddened and were injected. The bladder contained four ounces of urine of normal appearance.

Dr. JOHN HOMANS stated that he had known death to occur inside of ten minutes without foaming at the mouth, in a person who had taken a teaspoonful of clear carbolic acid liquefied.

#### RAPID COURSE OF SYPHILIS.

Dr. J. J. PUTNAM reported a case of syphilis in which a series of lesions (ulcerated tonsils, iritis, symmetrical gummatous tumors on the arms, papular eruptions) had come on within a few weeks after a sore on the foreskin which had been followed by non-suppurating buboes.

It could not, to be sure, be affirmed with certainty that the symptoms were not due to a previous infection. There had been exposure previously, but no history of infection could be obtained.

Dr. F. B. GREENOUGH thought that there could hardly be a question but that there must have been earlier infection. Even secondary symptoms are rare in so short a time, and while the case is interesting we ought not to accept gummata as the result of infection at this time, unless an earlier infection can be disproved.

Dr. PUTNAM referred to cases reported by *Mauriac*, in which there were cerebral symptoms at an early date, which were supposed by *Mauriac* to depend on gummata.

Dr. J. C. WHITE asked if there had been any indications of the existence of cutaneous gummatous infiltration? He remarked that it would be unwarranted to infer the presence of gummata within the cranial cavity from the mere occurrence of undefined cerebral symptoms.

Dr. GREENOUGH said that while early cerebral symptoms have many times occurred, yet he agreed with Dr. White that it is absolutely impossible that gummata have existed within a few weeks, or even a very few months, of infection.

Dr. JOHN HOMANS said that a patient of his had

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

C. M. BUCKINGHAM, M.D., SECRETARY.

DECEMBER 22d, 1881. The President, Dr. CHARLES D. HOMANS in the chair.

#### A CASE OF CARBOLIC ACID POISONING.

Dr. F. W. DRAPER exhibited the stomach of a young woman who, with suicidal intent, swallowed an ounce of undiluted carbolic acid. It was impossible to obtain accurate information concerning the symptoms or their duration, as the girl was alone when she took the dose, and attention was first called to her condition by her moans. She was found unconscious, cold, sweating freely, frothing at the mouth. Her lips were blanched by the local action of the acid. There was no vomiting. The poison was taken upon an empty stomach.

At the autopsy, eight and a half hours after the death, a remarkable lifelike flush of the cheeks and brightness of the cornea were observed. The mucous membrane of the mouth and lips was bleached. On section of the body the odor of carbolic acid, though decided in its manifestation, was not extraordinary. There was nothing remarkable about the heart, the blood, or the lungs. The œsophagus was uniformly whitened throughout its

died within eight months of the initial lesion, and at the post mortem the cerebral vessels were found occluded by gummata.

“PERNICIOUS” ANEMIA, WITH RECOVERY.<sup>1</sup>

DR. G. B. SHATTUCK read a paper including the report of a case.

DR. FRANCIS MINOT alluded to three cases of pernicious anemia which had come under his observation, and which presented the usual symptoms of failure of strength, dyspnea on exertion, and systolic cardiac and carotid murmurs. In one of these cases very marked improvement followed immediately the employment of arsenic, and continued for eight months. The symptoms then returned in spite of the continuance of the remedy.

DR. F. W. DRAPER said that he recalled very distinctly the condition of the patient who was the subject of Dr. Shattuck's paper. It was strikingly characteristic of an extreme degree of anemia, to which it was evident that the man was about to succumb. So reduced was he in his strength, and so hopeless in his mental state, that the suggestion of a change of treatment to wine and Fowler's solution was made without any expectation that he would live long enough to derive any possible benefit from it, it being regarded as a probably fruitless last chance. There was no doubt that the anemia in this case was rightly characterized as of the “pernicious” and “progressive” type, the significant addition to the title of the paper of the words “with recovery” being the most interesting part of it. For while the fact must be evident to any one who studies the literature of idiopathic anemia that medical authorities are very far from unanimity concerning the nature and pathogeny of the disease, all agree with regard to its gravity, and most practitioners would accept Immermann's statement that “the absolute fruitlessness of all tonic treatment, and the uninterrupted progress of the disease toward death are the essential characteristics of this peculiar and enigmatical affection.”

With regard to the source of the usefulness of arsenic in this disease, we are almost as much in the dark as we are to the cause of the condition which it sometimes relieves. It adds little to our knowledge to call arsenic an “alterative”—a “modifier of nutrition,” as Wood defines it. The recent theory, quoted by Dr. Shattuck, that the seat of the affection (pernicious anemia) is in the intestines instead of the blood, obtains some support from the fact that arsenic is the remedy which clinical experience has found to be most useful in staying the progress of the disease; for it is well known that, in certain varieties of chronic diarrhoea, Fowler's solution has been found curative when other agents have failed.

DR. R. T. EDEN recalled the case of a man reported by him some years ago<sup>2</sup> who suffered from weakness, headache, dyspnea, and loss of appetite. He was extremely pale. There was a slight cough and cardiac souffles. The spleen was slightly enlarged. The urine contained a trace of albumen, a few casts, a little pus and blood.

Several blood counts ten days after his enter-

ing the hospital gave an average of 780,000 red corpuscles to the cubic millimeter. The treatment consisted in rectal feeding for a few days and the use of Fowler's solution, the latter having been already given for three days when the first count was made. Seven days after the first count another gave 735,000; but in four days more it had risen to 955,000, and in another week to 1,290,000. Seventeen days later it was 2,295,000. A few days later he left the hospital and remained well so long as we could keep trace of him.

In by far the greater number of cases which have recovered from idiopathic anemia the treatment has been arsenical. There are enough exceptions, however, to this rule to show that arsenic cannot be looked upon exactly as a specific.

DR. GEORGE B. SHATTUCK said that he did not mean to make any claim for specific virtues for arsenic. Sometimes it could not be borne at all, sometimes it failed entirely to bring relief, sometimes improvement occurred independently of its administration, as shown by Lache's admirably reported cases. A number of cases, however, were on record in which it might fairly be claimed to have cured the disease and saved the patient. He did not think it possible to make a satisfactory diagnosis of pernicious anemia without the ophthalmoscope and the hamacytometer.

The nomenclature was undoubtedly faulty, but with the existing state of ignorance it would be hard to improve it. In any case the statements in the textbooks should be revised.

DR. F. H. WILLIAMS said that the discussion has an interesting bearing on the therapeutic action of iron. Arsenic and iron have much the same symptoms in cases of poisoning, they kill in the same way. If then anemia is relieved by arsenic better than by iron, these facts together tend to show that iron does not, as has been supposed, furnish a food to the blood, in which case it should be superior to arsenic.

DR. JOHN HOMANS read a paper on EXPLORATORY ABDOMINAL INCISIONS.<sup>3</sup>

DR. GEORGE W. GAY asked the reader if he had abandoned tapping.

DR. HOMANS answered that he had in almost every case. If he had to do with a large doubtful tumor, he might tap, but not otherwise.

DR. GAY said that a few years ago he had been greatly surprised at the strong ground then taken by Dr. Homans in this matter, but that he was more and more coming to the same view. He mentioned a patient tapped not long ago, Dr. Cheever seeing the patient with him. Some leaking followed, and then peritonitis. Ovariectomy came later and the patient died. He thinks the tapping was unfortunate, at the same time it was justifiable because when he tapped the tumor could not be made out.

On the other hand he had seen very fortunate results from tapping. In September of 1879 he examined a hospital patient under ether with Dr. Fildes, and tapped, withdrawing two or three pailfuls of fluid, and then found a large polycystic tumor. A probe entered the uterus five or six inches. The woman left the hospital and afterward became his private patient. She was tapped

<sup>1</sup> See pages 2-5 of this number of the Journal.

<sup>2</sup> Boston Med. and Surg. Journal. October 31, 1880.

<sup>3</sup> To be published in the Journal of January 8.

every ten, twelve, or fourteen days, getting two or three pailfuls of ascitic fluid at a time, and this was done to his knowledge, though not always by himself, as many as ninety times. It is now two years since she has been tapped, the interval between the last two tapplings being three months. Before the last tapping the uterus was eight or nine inches deep. Since the last tapping she has been in fair health.

The speaker mentioned a bullet being removed from the omentum by Dr. Bull, of New York, some weeks since. His own tendency is toward free incisions. He felt indebted to Dr. Homans for the report of his cases, and intends to act on it.

Dr. J. W. ELLIOT said he was very much interested by Dr. Homans's paper; that within a few months he, Dr. Elliot, had made an exploratory incision in a case sent to him by Dr. Dunne, of Athol, which he thought worth reporting. The patient, aged 30, had been married three years. Five years ago she had measles. Since which time her menstruation had been irregular and sixteen months ago it ceased altogether. Three or four months later she noticed a tumor the size of a cocoanut in the lower abdomen and supposed she was pregnant. Six months after the cessation of menstruation she had a very severe pain in the abdomen accompanied by tenderness and some flowing. This attack was naturally supposed to be a threatened miscarriage. At the time of her expected confinement the tumor was about the size of a uterus at full term, but no confinement followed. Three months before he saw her she had an attack of peritonitis. Since that time she had been in bed with a temperature from  $101^{\circ}$  to  $102^{\circ}$  F. When she entered the Free Hospital for Women she was much reduced in flesh and strength. There was a large semi-solid abdominal tumor. Her temperature was  $101^{\circ}$  F.

Dr. Dunne, her attending physician, thought it was a case of extrauterine pregnancy. Dr. Elliot thought it might be a suppurating cyst or an abscess. She was evidently in a bad way unless something could be done to relieve her. They thought that tapping would be dangerous without offering a chance of cure, and therefore determined to make an exploratory incision. On opening the abdomen a sarcoma of the left ovary was found with extensive peritonitis. The tumor was so widely adherent that the wound was closed without attempting to remove it. The patient sank, and died in a few days. At the autopsy the wound was found to have united by first intention. The tumor weighed sixteen pounds. Dr. W. F. Whitney reported that "microscopic examination showed that it was essentially a round-celled sarcoma, in which large cysts had developed." Sarcoma of the ovary is, of course, a very rare disease.

Dr. H. I. BOWDREN said that the subject of opening the abdomen was until quite recently in the same condition that opening the thorax was thirty or forty years ago. He had partly prepared a paper on the bad treatment involved in letting cases go on to a painful death that might be helped by operation. In a case that had died of impacted gall-stone, with the diagnosis made, why should not the stone have been removed and the gall-duct sewed up?

He mentioned a case of Dr. Adams's: A child under two years with peritonitis and a large abdomen containing pus, was relieved by tapping although nearly moribund. Growing worse again, and the pus containing micrococci, Dr. Adams, aided by Dr. Marcy,<sup>1</sup> had opened the abdomen and washed it out with carbolic acid (1:200), and the child recovered.

He asked the reader if he thought the use of the spray necessary.

Dr. HOMANS answered that he does not think the spray absolutely needed, though he always uses it, even in tapping. It is not troublesome, and it is a part of the general surgical neatness. Its use keeps one up to the mark, and if he were to lose a patient, not having used it, he should feel uncomfortably. He feels safer with it, but the majority of ovariologists do not use it, and it is not absolutely necessary provided all other precautions are taken.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

### DISCUSSION ON CHOLERA.

At a meeting of the Association held December 16th, there was a discussion on cholera, which was opened by Dr. E. G. JANEWAY. There could scarcely be a doubt, he said, in the outset that the disease was of specific origin, and having its home in India; although there were still a few writers who seemed to think that it might arise spontaneously under conditions favorable to its development. The claims of Koch for a specific microbe for cholera had been admirably stated by Dr. Flint in his recent paper before the Association; but since then certain points had been determined which rendered Koch's position stronger than before. Thus, at the time when Dr. Flint read his paper, it was claimed by Mr. Timothy Lewis, that comma-like bacilli identical in size, form, and in their reaction with aniline dyes, with those found in choleraic dejecta were ordinarily present in the mouth and fauces of perfectly healthy individuals; but Koch had now shown that this form of bacillus had been known for some years, that it differed from the comma-bacillus in being longer, more slender, and not so blunt at the ends, and, finally, that it could not be cultivated in the weak alkaline peptone-gelatin in which alone the latter would develop. Again, it was claimed by Finkler and Prior, that certain bacilli found in connection with cholera-morbus were identical with the comma-bacillus of Koch; but the latter had now shown that the so-called bacillus of cholera-morbus was very different from the comma-bacillus of cholera in its form and mode of growth. Furthermore, Koch had not at that time been able to succeed in inoculating animals with cholera by means of comma-bacilli. The successful experiments of Rietsch and Nicati in this connection had, however, just been published, and Koch had now announced that he had repeated their experiments with complete success. He had, moreover, produced inoculation by using the fresh bacillus-culture in so diluted a form that not more than one hundredth part of a drop was contained in the matter injected into the duodenum.

<sup>1</sup> Boston Med. and Surg. Journal, November 20, 1884.

The animals died in from a half to three days, and after death the intestinal fluids abounded in numbers of comma-bacilli. These later proofs in support of Koch's theory seemed, therefore, to furnish the "missing link" in its positive demonstration.

Dr. Janeway then took up *seriatim* the sixteen questions which were presented for discussion at the cholera conference at Berlin, July last; which he thought would serve as useful topics for discussion on the present occasion. In speaking on the point, "Is a direct transmission possible, or must the infectious matter pass through a kind of maturity, or change of generation, in the soil or elsewhere?" he said that it looked in many cases as if there was direct transmission. It was true that the chief of Vulpian's laboratory in Paris, as reported by the journals, had recently swallowed without serious consequences some of the excreta of a cholera patient made up into pill form; but this simply showed that individually he was apparently not susceptible to the infection of cholera at that particular time. The seventh point was, "Is the infectious matter contained in the dejecta, or eventually in the vomit, or is it also to be found in the blood, urine, sweat, or air for breathing?" Dr. Janeway believed that, as a rule, the dejecta alone contained the infecting agent. The vomit rarely contained it; but, in order to be on the safe side, he thought it was better to disinfect both the vomit and the dejecta. In regard to the tenth point, "Can the infectious matter reach the body by other channels than through the digestive canal?" he remarked that this was a difficult matter to determine. Although it might not be carried to the lungs by means of the breath, it seemed possible that it might be taken into the mouth through this agency, and then swallowed. He felt confident that he had seen instances in which typhoid fever was in all probability contracted by the infectious matter being carried by means of the breath into the mouth, where it was swallowed. The eleventh point was, "Are special individual dispositions necessary to make it effective?" Such dispositions seemed to be required, he said, in all infectious diseases; but this feature seemed more marked as regards cholera than any of the others. The liability of the same individual to contract such diseases varied very greatly at different times, and he illustrated this by a reference to the cases of two resident physicians at the Riverside Hospital on Blackwell's Island. One of them, after serving there for a number of years, during which he attended hundreds of patients suffering from typhus fever, often of a very malignant type, finally contracted the disease from a mild group of cases, and himself fell a victim to it. The other, after having for years been exposed to the risk of small-pox, typhus fever, and other infectious diseases, but without taking any of them, went to Europe for a year, and almost immediately on his return to the hospital contracted typhoid fever. The sixteenth question, "Can the proof of the presence or absence of comma-bacilli be diagnostically turned to account?" he thought in the present state of our knowledge should certainly be answered in the affirmative.

In speaking of the measures that ought to be taken to protect New York from cholera, he ad-

vised that a judicious quarantine should be maintained for all vessels coming from infected ports, and claimed that, while such quarantine had not always proved successful in the past, this did not prove that it might not be so now. Then passing on to speak of certain measures which ought to be taken in order to place the city in the best possible condition for resisting its ravages in case the disease should make its appearance, he mentioned the large number of privy vaults which still remained unconnected with the sewers. The substitution of trough closets for all these was greatly to be desired; but as this was perhaps too much to expect, the vaults should, at all events, be thoroughly cleansed and disinfected. Another important practical measure that should be promptly attended to was the dredging of the slips along the river-front, many of which are now in a very foul condition, and the carrying of the sewers to the ends of the piers. In addition the Board of Health ought to watch with great care every suspicious case of disease occurring in the city, and he thought it would be an excellent plan for it to establish several convenient reception wards in different districts, in anticipation of the coming of cholera. The authorities have recently made an appropriation of \$50,000 to be used by the board in case the disease actually made its appearance, but not otherwise; but he thought it would be much better to devote a certain portion of this sum in advance to the purposes mentioned.

The number of deaths was greater during the first epidemic of cholera that visited New York (in 1832), Dr. Janeway continued, than during the last, which occurred in 1866; notwithstanding the very much smaller population of the city at that time. The number of deaths from the disease in 1866 was 1137; but if the proportion of deaths to the population had been as great as it was in 1832, there would have been 12,588 deaths. If it had been as great as in the epidemic of 1849, there would have been 7,143 deaths, and if as great as in that of 1854, there would have been 3,005 deaths in 1866. It was a remarkable fact that in the latter year fully one half of all the cases of death occurred in the institutions on Blackwell's, Ward's, and Randall's Islands in the East River; which seemed to establish the fact that the measures at that time adopted by the health authorities were efficient in controlling the disease and saving the city from a severe epidemic.

Koch had maintained that it was sufficient to ventilate a house in which a case of cholera had occurred, and advised that the premises should be vacated for six days. This, however, would often prove difficult to accomplish, and Dr. Janeway thought it would be safer to first fumigate a house, and then ventilate it. If it was simply ordered to be ventilated there would be a great risk of its not being done thoroughly; but if it was first fumigated by means of burning sulphur, there would be little doubt but that it would afterward be well ventilated by the occupants. Having referred to the various agents which Koch had found to prevent the growth of the comma-bacillus, he remarked that it was a question not yet settled whether they actually killed the microbe or not. The matter of cholera-morbus was one of some

importance, on account of the resemblance of the symptoms of the disease to those of Asiatic cholera. Under ordinary circumstances the latter diagnosis was excluded because of the absence of cholera from the country or city; but at times when the appearance of cholera was likely to be expected, the question of diagnosis was more difficult. If there was any doubt, it was far better to treat the case precisely as if it were one of Asiatic cholera. In making out the positive existence of comma-bacilli clear cultures were required, and Koch thought that every city health-board ought to have some one connected with it who was capable of making the cultures.

In speaking of the treatment, he referred to the injection of a saline solution in large quantities under the skin, as proposed by Senator; the idea being to furnish to the system a supply of salts and liquid to make up for that drained from it by the disease. The former practice of injecting such solutions into the veins, however, has never been attended with much success.

The President, DR. DETMOLD, made a few remarks, in which he expressed the opinion that the question of the essential agency of the comma-bacillus in the production of cholera was not yet decided. There were fashions in medicine as well as in other things, and at the present time it was the fashion to consider many diseases to be of parasitic origin. Whether these doctrines would stand the test of time remained to be proved.

DR. AUSTIN FLINT, SR., having remarked that he had seen something of the disease in all the epidemics that had occurred in this country, and that his experience with it had been especially large in that of 1849, said that he had formerly thought the proof was complete that cholera was not a communicable disease. To show what his views were in 1849, when he was practising in Buffalo, and where he attended 150 cases, he quoted from an elaborate article which he had prepared at that time for the *Buffalo Medical Journal* (of which he was the editor), and which was founded upon the tabulated records of nearly one hundred cases made at the bedside. The opinion expressed in this article he now believed to be incorrect, and he said that if it could be shown that in the cases of abdominal disturbance, often of a mild character, which are always so abundant during the time that cholera was prevalent, the characteristic bacillus of that disease was present, it would go far toward satisfactorily explaining the spread of cholera. Having stated that in regard to many of the questions referred to by Dr. Janeway he was not prepared to give a positive opinion, he said that he would only call attention to one or two practical points. The most successful treatment of cholera consisted in controlling the premonitory symptoms, and this was a matter upon which he said he had laid special stress in the article referred to, from which he again quoted. The portion quoted ended as follows: "It follows that the disease may with great certainty be averted in the vast majority of cases, if premonitory symptoms precede its development, and we know the latter to be the general law of the disease, although not without exceptions. Hence, a person resolved not to neglect the earliest prodromic symp-

oms, but to resort to appropriate measures of prevention, need not entertain much apprehension of an attack of epidemic cholera." In this connection Dr. Flint spoke of the great importance of having thorough house-to-house visitations made in cholera times. If every family could be visited every day by a sanitary inspector, and have the inquiry put to it whether any of its members were affected with diarrhoea, he believed the disease would undoubtedly be divested of a large share of its fatality.

The discussion was also continued by Drs. Purple and Dwyer. The former gave some account of the epidemic of 1849 in New York, when, although the first case of the disease was brought to quarantine in the beginning of December, 1848, and although occasional cases occurred after that at the quarantine buildings on Staten Island and at the institutions on the islands in the East River during the following months, nothing whatever was done by the health authorities to put the city in an efficient sanitary condition. The first cases in the city occurred in the region of the Five Points, which was not at that time provided with any sewerage, in the early part of May, and during the year 1849 there were not less than 5,000 deaths from the disease. The fact that cholera was allowed to exist in the vicinity of New York for so long a period without any attempt being made to clean and purify the city was, no doubt, the reason why it was visited with such a severe epidemic, and he thought that the lessons to be gathered from this outbreak of the disease should not be lost upon the community at the present time.

DR. DWYER spoke particularly of the epidemic at the Emigrant's Hospital on Ward's Island, in 1866. He treated some 300 cases, with about 150 deaths, and in twenty-five autopsies which he made he was struck with the fact that the gall-bladder was always nearly full of bile. Dr. Janeway had spoken of the period of incubation being from two to five days; but on Ward's Island, where the outbreak was clearly traceable to a female nurse, who came there from quarantine, the first case was taken within twelve hours after her arrival, and the second (an infant) within twenty-four hours. In the case of two pregnant women who died of cholera, on one of whom cesarian section was performed immediately after death, both the children were found to be dead.

In concluding the discussion, Dr. Janeway said that the premonitory diarrhoea was probably due to the irritation caused by the bacilli. In regard to the distended condition of the gall-bladder, noticed by Dr. Dwyer in his cases, he thought that the explanation of the fact was, perhaps, that in consequence of the drain of liquids from the system by the disease the bile became so thick and inspissated that it would not flow out freely. Dr. Janeway then presented three

#### SPECIMENS SHOWING THE INTESTINAL LESIONS OF TYPHOID FEVER.

in two of which the lesions were very slight, while in the third they were very extensive; and made some remarks on their significance, and the difficulty of diagnosis sometimes met with in typhoid.

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HOSPITAL.<sup>1</sup>

DR. S. J. MCNUTT had used equal parts of carbolic acid and glycerine as a local application; a zone about two inches in width was painted around the periphery of the inflammation, but in half a dozen cases under observation she had not noticed that any particular advantage was gained by the procedure. She used the tincture of the chloride of iron internally.

DR. F. B. CARPENTER considered aconite abortive in the sthenic variety, citing a case of erysipelas which had recurred three times. The first two attacks, under the local application of the lead and opium wash, with the tincture of the chloride of iron internally, ran their courses in ten days; the third, although it began just as the others had, was treated with the aconite and recovered in four days.

DR. A. F. BEUTLER said that he considered that the experiments demonstrating a special coccus for the disease as conclusive, adding that not only the inoculation with the culture of the third generation produces the disease, but also the transported culture from a distant neighborhood produced it just as certainly, and in this case it had the peculiarities of the disease as it existed in its native place. The cocci were always found in the lymphatics, and extending not with the current of the lymph but against it. After inoculation the period of incubation is from fifteen to sixteen hours.

DR. J. H. HAWLEY had noticed that when erysipelas was present in the hospital with which he was connected, it was present, as a rule, in the other hospitals, and in other parts of the city. A more or less epidemic influence seemed to control its development. He used the lead and opium wash hot, cold, or in poultices, whichever was most agreeable to the patient. When tension existed he made early and free incisions. He had also used the injections of carbolic acid around the border of the blush, but it seemed impossible to decide what this procedure accomplished where the course of the disease was so erratic. He thought that the Lister dressing was useful to prevent infection, and had used it with good result in a case of compound, comminuted fracture of the scapula from a bullet wound, applying it all about the wounded side. Shortly after the temperature rose to 103° F., and an erysipelas developed in the arm of the wounded side, which ran its course without involving the wound under the dressing.

DR. H. G. LATLEY had used iodoform 5i to collodion 3i as an external application with apparently good success. In erysipelas of the scalp in children he had made use of the white lead, which undoubtedly reduced the irritation and scratching, while the spreading of the inflammation was checked.

DR. C. L. STIVERS in his practice in Turkey had met with many cases of idiopathic erysipelas, æthiopic in character and resembling typhoid fever, so common in Oriental cities, though having a more favorable prognosis and a shorter natural history. In these idiopathic cases he had learned to rely mainly on proper nourishment, stimulation, and

good nursing, using local applications as palliatives, but with no expectation of cutting short the disease.

DR. C. H. BROWN used Trousseau's mixture as a local application, and thought that when the part was freely painted with it that it limited the disease and relieved the pain. He considered it might be of neurotic origin occasionally. He had seen a blister applied for pleurisy take on an erysipelatous inflammation with rapid improvement of the pleuritic symptoms, and he referred to the fact that a proposition had been made to inoculate with the erysipelas virus for the sake of the absorption of such effusions.

DR. S. M. ROBERTS formerly used equal parts of carbolic and spirits of turpentine, and had thought that it limited the disease, but he now obtained as good results without it. When hyperpyrexia becomes dangerous he uses quinine if the stomach can digest it.

DR. JOHN H. NESBITT said that he had used the nitrate of silver pencil applied to the tissues at the border of the inflamed surface, had painted the edges with tincture of iodine and with tincture of iron, in many cases without any appreciable benefit in limiting the spread of the disease. In cases of idiopathic facial erysipelas occurring in dispensary practice no internal treatment whatever was used, but he depended entirely on local applications, selecting that which seems to be the most soothing to the patient. He preferred the lead and opium wash in most cases. Some time ago he had been in the habit of sewing all scalp wounds carefully with catgut, but had frequently found it necessary to cut the stitches within two days to relieve the pain incident to tension the erysipelatous inflammation. During the past year he had washed all these wounds with a solution of the bichloride of mercury, and then applied iodoform, cotton, and a bandage. Under this treatment there has been no inflammation, while in many cases the wound has united by first intention.

DR. JUSTIN HEARD said that while serving as house physician and surgeon of St. Vincent's Hospital he had under observation a large number of cases, it being for a time epidemic in the wards. On the fourth of October, 1883, a case of inguinal hernia was operated upon, and the next day facial erysipelas developed, which also spread to the wound. Under energetic treatment this patient recovered, but was the starting point of all the other cases that rapidly followed. In a few days a number of compound fractures (twenty-six) began to show signs of the disease. The character of the disease was low and diffuse, which made the treatment difficult. One or two died within two weeks, while one other lived five or six months, and then died of exhaustion. All were inmates of lodging-houses before their admission to the hospital, were ill-nourished, intemperate, and in bad general health. Several other cases presented themselves at the out-patient department about this time, and these may have produced further infection, while several more were treated in the ambulance, thereby infecting the surgeon who was obliged to dress all cases of minor surgery. Even one of the first cases in the new wing contracted the disease. The epidemic became so alarming that all surgical operations were suspended for a time. The doctor

<sup>1</sup> Continued from page 913, vol. ex1.

himself contracted a facial erysipelas. The epidemic was only controlled by a thorough disinfection of all the contaminated wards by means of sulphur fumes. Whenever the temperature of a patient rose to 103° F. or over, others with simple lacerated and contused wounds would have a rise of temperature, and have other constitutional symptoms of erysipelas, but no local signs. In none of these cases was the dressing antiseptic in a strict sense. The treatment was both constitutional and local; cachectic conditions were corrected, when present, by suitable measures; light nutritious nourishment was ordered in every case. Stimulants when indicated were allowed in quantities not exceeding thirty-six ounces in the twenty-four hours. For high temperature quinine, and to overcome the irritability of the stomach the official solution of morphia; if vomiting occurred a hot poultice of mustard was placed over the abdomen, affording instant relief in the majority of cases; if delirium occurred, as it did usually, it was treated with bromide of potassium and chloral with marked relief. The tincture of the chloride of iron was of invaluable service in simple facial erysipelas, but in the other forms it did more harm than good, invariably inducing disturbances of digestion. Locally the lead and opium wash was not of as much service as the one to forty solution of carbolic acid, while a wash prepared freshly from the powdered opium did better than either, when applied hot. Solution of nitrate silver 5ss or 3i-ʒi of distilled water stopped the spread of the disease in every case, and was a very valuable remedy.

#### RHODE ISLAND MEDICAL SOCIETY.

A QUARTERLY meeting was held in Providence, December 18th, 1884. The President, Dr. O. C. WIGGIN, in the chair.

The subject of a museum for the promotion of anatomical and pathological studies was again brought to the attention of the society, and it was voted that a committee of five with full powers be appointed by the President to serve as a committee on the Society's Museum. The President named Drs. W. J. McCaw, G. T. Swarts, F. B. Fuller, C. M. Godding, and B. R. Symonds, as the committee.

Delegates to State Medical Societies for 1885 were announced as follows: Maine, Drs. A. D. Weeks and W. H. Traver; New Hampshire, Drs. C. D. Wiggins and Eugene Kingman; Vermont, Drs. E. M. Snow and W. R. White; Massachusetts, Drs. C. W. Parsons and E. T. Caswell; Connecticut, Drs. W. F. Hutchinson and W. H. Palmer; New York, Drs. L. F. C. Garvin and H. E. Turner.

DR. JAMES H. ELDRIDGE read the quarterly report of the Board of Censors, recommending for fellowship Drs. Elmer S. Fiske, of Olneyville; Edward W. Penny, of Wausauk; Mary P. Root, of Providence, and Thomas J. Smith, of Valley Falls. They were unanimously admitted.

In accordance with notice given at a previous meeting the by-laws were amended changing the

time for holding the annual meeting from the third to the second Thursday in June.

#### FISTULA OF THE ANTITRAGUS.

DR. EZRA DYER reported a rare case of fistula of the antitragus. It was not a complete fistula, but a track about one centimeter deep, terminating in a blind sac and admitting an ordinary probe. The patient, a lady, had been annoyed for several years by a constant and offensive discharge and had consulted several surgeons who made ineffectual attempts to obliterate the sac. Dr. Dyer adopted the following plan. A curved needle armed with a small platinum wire and pointed with wax was carried along the passage to the bottom of the sac and thrust through the skin. The platinum wire thus placed *in situ* was detached from the needle, connected with a battery, raised to a white heat, and withdrawn. The operation was successful, though followed by greater pain than usually attends such use of the canterly.

#### RETAINED PLACENTA.

DR. E. W. PENNY reported a case of retained placenta and exhibited the specimen. The patient, aged thirty-six, had been married ten years and had four children, the last born in November, 1881. After weaning the last child her periods returned regularly until January, 1884. In March following, supposing herself three months pregnant, she flowed profusely. During the next nine months she had irregular and at times very copious metrorrhagia but did not seek medical advice, as the flow was painless. Dr. Penny was called December 10th, and found her suffering violent expulsive pains, and an intrauterine mass resembling a fibroid presenting at the os. On removal it was found to be a placenta of apparently three month's development, which had undergone partial atrophy and cystic degeneration.

DR. D. H. BATCHELDER called attention to the value of the dull wire curette in cases of incomplete abortion. He had never seen bad results follow its careful use.

DR. J. H. ELDRIDGE exhibited a specimen of the witch-hazel, *Hamamelis Virginica*, gathered late in October while in full flower, with the fruit from the blossoms of the previous year in perfection, a freak of nature peculiar at the North to this order of plants.

Remarks on the astringent proprieties of *Hamamelis* were made by Drs. Brown, Garvin, O. C. Wiggins, and Ely.

#### REPEATED LITHOLAPAXY.

DR. CASWELL reported the farther history of a case of stone upon which he operated by crushing two years ago. The patient did well until October last, when he passed three small calculi. December 2d Dr. Caswell crushed and washed out a small calculus. A second smaller stone was washed out uncrushed. In such cases it would be well at periods of six or nine months to have an experimental washing out of the bladder to remove any small stones that might have formed.

#### NATURE AND PREVENTION OF PUERPERAL FEVER.

DR. FRANK B. FULLER read a paper on nature and prevention of puerperal fever. A disease

having no clinical history and no pathology peculiar to itself can hardly claim a place among specific diseases. The fact that puerperal fever frequently follows exposure to certain zymotic diseases is no argument against its septic character, for in ordinary surgical practice, especially in hospitals, we find that erysipelas, diphtheria, and scarletina will give rise to septicaemia. Different meanings are attached to the word septicaemia. The definition which includes blood poisoning from any infection, whether septic or from zymotic diseases would cover all cases of puerperal fever. Reference was made to the relation of this definition to the germ theory of disease and the probability that future investigations in this field will throw light on the connection between septicaemia in its puerperal form and the zymotics.

A source of puerperal fever that especially concerns us as practising physicians is by direct inoculation. Happily proof is abundant that only occasionally can the disease be ascribed to inoculation by attendants; but as it is a source of danger which can be controlled by physicians its consideration is of great importance. The physician should refrain from attending a case of labor when fresh from the presence of contagious diseases or from contact with septic materials. The hands of the physician should be thoroughly washed in some disinfecting solution before making a vaginal examination. All instruments used should be known to be clean and disinfected.

Care should be taken that no part of the placenta or membranes is left within the uterus or vagina. Firm contraction of the uterus should be assured and maintained after delivery. Sutures should be taken in all deep lacerations of the perineum. Bedding should be changed frequently, as also the napkins; and if any unnatural odor is detected from the latter, disinfecting vaginal douches should be used. Ventilation of the lying-in chamber must be secured.

Dr. NEWBALL opposed all theories and details of treatment growing out of germs believed in but not seen. Until the poisonous bacillus is found and described he preferred to remain unacquainted with it.

Dr. TERRY remarked that the theory that puerperal fever is a septic and not a zymotic disease is strongly supported by the fact that better results are obtained by basing treatment on that theory. The effective prophylaxis now carried out in prominent lying-in hospitals grew out of the recognition of the germ theory. Believing that septic germs cause the disease, we attempt by rigid antisepsis to prevent their introduction before confinement or to paralyze their action after confinement.

Dr. ARILL BALLOR objected to much meddling with nature's processes, and thought that our interference in way of treatment had sometimes more to do with causing septic puerperal fever than germs. Nature often overcomes these post partum difficulties better than we do. He referred to a case of sickness lasting three years caused by the unwarranted search for germs. He congratulated the younger members on their enthusiastic devotion to scientific progress, but cautioned them, in midwifery, to follow nature — the safest guide.

Dr. CASWELL hoped the society would not go

on record as doubting the doctrine of the septic nature of puerperal fever. Some recent directions for the management of labor cases are extravagant. Dr. Thomas's elaborate rules go beyond the necessities of ordinary cases. Stripping the chamber of furniture and carbolic washings of floors and walls are unnecessary in private practice, except in extraordinary instances. The safe middle course is best. In times of epidemic erysipelas or puerperal fever, greater precautions are needed.

Dr. ELY observed that parturition is not a pathological but physiological process and requires no routine guidance or interference. In all cases involving lacerations we need first of all absolute cleanliness. He doubted the necessity of intra-uterine injections. Their chief good is in washing out breaking down tissue and probably pure distilled water is as useful as anything for this purpose. He alluded to Klein's demonstration of the vitality of the bacillus of anthrax as illustrating the great tenacity of life of germs and spores.

Dr. O'LEARY believed that a physician should carry a sense of personal responsibility when attending a case of labor, but he should follow the dictates of common sense and avoid officious meddling, or merely following a fashion.

Dr. FULLER said that acceptance of the germ theory is not necessary to the recognition of septicaemia as a disease, and nearly all the authorities admit that puerperal fever is a form of septicaemia. Any known means of preventing septicaemia should be adopted.

#### INVESTIGATION OF THE PREMISES AND HABITATIONS OF THREE HUNDRED CASES OF TYPHOID FEVER.

Dr. G. TABLER SWARTS read the statistics of an investigation of the premises and habitations of three hundred cases of typhoid fever occurring in Providence in the winter of 1882-83.

During this epidemic over five hundred cases of typhoid fever were reported to the city registrar. In compiling the results of the investigation by hundreds each succeeding series of one hundred cases gave the same results and the investigation was not pushed beyond three hundred cases. In this examination every endeavor was made to find some source of air or water contamination or other prevailing condition which might have a bearing in the production of the disease. At the same time doubtful instances of any defect were conscientiously excluded. The cases investigated were from the general practice of forty-two physicians and represent all classes of practitioners. Some of the most important of these statistics are as follows:—

#### AGE.

No. of Cases in Groups of Ten Years.	No. of Cases in Groups of Thirty Years.
1 to 10 . . . . . 70 cases.	14 to 20 . . . . . 251 cases.
11 to 20 . . . . . 112 cases.	31 to 60 . . . . . 47 cases.
21 to 30 . . . . . 69 cases.	61 to 78 . . . . . 2 cases.
31 to 40 . . . . . 29 cases.	
41 to 50 . . . . . 12 cases.	300
51 to 60 . . . . . 6 cases.	
61 to 70 . . . . . 1 case.	
71 to 80 . . . . . 1 case.	
300	

## EXPOSURE.

Other cases in the same house . . . 52 instances, or 17 per cent.  
 Fellow-workmen having typhoid . . . 33 instances, or 11 per cent.  
 Known exposure to typhoid . . . 37 instances, or 12 per cent.

122

40 per cent.

There was in forty per cent of the cases known exposure to the emanations of typhoid fever.

## HEATING OF HOUSES.

Concerning heating of houses, results were negative. Many complaints were made of air being contaminated before entering the furnace, as where lawns were covered with stable manure. One modern schoolhouse supplied over two hundred pupils with furnace-heated air drawn from within twelve feet of a privy vault hemmed in by a high board fence. It was frequently necessary to open the windows and close the registers to prevent introduction of foul odors.

## SEWER CONNECTIONS

existed in only twenty-eight per cent. of the cases. Seventy-two per cent. of all the cases were connected with cesspools or allowed waste to run on the ground near the dwelling.

There were many bad conditions external to the houses still sufficiently near to sleeping-rooms to be a source of danger. Thus

Swill thrown on the ground to decay . . .	10 instances
Swill deposited in the privy vault . . .	14 instances
Swill buried . . .	2 instances
Swill stored in the cellar . . .	5 instances

A very common source of air contamination is found in

## PRIVY VAULTS,

which are located indiscriminately as regards distance from houses.

Vault emptied every three months . . .	13 instances
Vault emptied every four months . . .	2 instances
Vault emptied every six months . . .	48 instances
Vault emptied every year . . .	72 instances

In one instance the vault had remained uncleared for two years.

## WATER SUPPLY.

Wells or pumps the only supply . . .	16 instances
Wells for drinking, cisterns for washing, Cistern water the only supply . . .	18 instances
Pawtuxet water, but well water for drinking . . .	2 instances
Pawtuxet water, but cistern water for drinking . . .	10 instances
Admitted that hot water from tank was used for cooking . . .	2 instances
	5 instances
	53

Thus 53 cases or 17 per cent. used an impure water supply.

## OCCUPATION.

Indoor entirely . . .	252 cases
Outdoor and in . . .	19 cases
Outdoor entirely . . .	15 cases
Not recorded . . .	14 cases
	300

## PREVIOUS DISEASE IN THE SAME HOUSE.

Diphtheria . . .	4 to 2 years previous, 7	
Diphtheria . . .	3 to 4 years previous, 5	12
Typhoid fever . . .	1 to 2 years previous, 2	
Typhoid fever . . .	3 to 4 years previous, 6	9
Scarlet fever . . .	1 to 2 years previous, 45	
Scarlet fever . . .	3 to 4 years previous, 9	21
Malaria . . .	1 to 2 years previous, 36	81

That these figures should be larger there can be no doubt. A large part of the population are migratory, and the disease-record of a tenement is soon lost.

## SINKS

were found untrapped in 170 cases, and leakage under the sink contaminating cooking utensils was found in sixteen instances.

## SUMMARY.

Fair sanitary conditions were found in ninety-seven cases, or thirty-two and one-third per cent. Unsanitary conditions sufficient to be a factor in the production of disease were found in 203 cases, or sixty-seven and two-thirds per cent of the 300 cases investigated.

## Recent Literature.

*The General Practitioner's Guide to Diseases and Injuries of the Eye and Eyelids.* By LOUIS H. TOSWILL, M.B., M.R.C.S., etc. London: J. & A. Churchill. 1884. 12mo. pp. 140.

This little volume is a very fair specimen of its class, but it belongs to a class of books which we believe to be of very little value, except perhaps to their authors or publishers. Mr. Toswill has written it "knowing how little time the general practitioner can devote to professional reading, and to what frequent interruptions he is liable." If such a book as this be the measure of the time that a physician can devote to the study of diseases of the eye, it would be better that he should not attempt to treat those diseases at all.

*A Treatise on Ophthalmology for the General Practitioner.* Illustrated. By ADOLF ALT, M.D. Chicago, St. Louis, Atlanta: J. H. Chambers & Co. 1884. 8vo. pp. 224.

The author has attempted to prepare a work solely for the general practitioner, intended to serve as a guide as to when he may conscientiously take upon himself the responsibility of dealing with an affection of the eye, and when he had better not do so.

Within the limits thus assigned the task may be said to have been accomplished with large measure of success; certainly the book is very much better than most of those written avowedly with the above purpose. There is an avoidance of unnecessary detail and no useless padding. The descriptions of disease are generally clear so far as the prescribed brevity allows, and the directions for treatment judicious. Perhaps for readers unfamiliar with eye diseases too much latitude in the treatment is occasionally impliedly allowed. In speaking of gradual or forcible distention of strictures of the nasal duct, for instance, it would have been better to have expressed the choice more strongly than by saying, "The gradual distention is in most cases the preferable method." The wood-cuts are coarsely executed, but serve sufficiently well to give the desired idea, and that is, after all, the main point.

# Medical and Surgical Journal.

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## A NEW YEAR.

WITH this number THE BOSTON MEDICAL AND SURGICAL JOURNAL enters auspiciously with the first day of the new year upon the fifty-seventh year and the one hundred and twelfth volume of continuous publication under its present title. It began in February, 1828, as the result of the union of two predecessors, of a quarterly published for fifteen years—from 1812–27—as the *New England Journal of Medicine and Surgery and Collateral Branches of Science*, and for one year as the *New England Medical Review and Journal*, with a weekly published for five years—1823–28—as the *Boston Medical Intelligencer*.

At the time this consolidation took place, and the JOURNAL was given its present name and weekly issue, there were in existence in the United States eight medical journals, of which the *American Journal of Medical Sciences*, a quarterly started in 1820, alone survives, we believe. The *London Lancet* was begun in 1823, the *Medical Times and Gazette* in 1827, the *Edinburgh Medical and Surgical Journal*, a monthly, in 1805.<sup>1</sup>

Since its first volume in 1828, this Journal has had several publishers. In 1835 it was first issued by Mr. David Clapp, who acquired the property, and continued to publish it until 1875, it having been previously purchased, in 1873, by a number of well-known medical gentlemen with the object of making it on broad grounds as serviceable as possible to the medical profession, and placing it above partisan or commercial bias. Since 1875 the JOURNAL has been published at the Riverside Press, and its title-page has borne the imprint of H. O. Houghton & Co., Houghton, Osgood & Co., and Houghton, Mifflin & Co. The second contract with the Riverside Press having expired with the past year, a new contract for publication has been made with the firm of Messrs. Cupples, Upham & Co., of Boston.

In the process of evolution, and in the desire to meet the growing wants of the medical public,

the form and size of the JOURNAL have been changed several times, and the double and single column pages have yielded to each other more than once. The present size, form, and attractive typographical appearance were adopted in 1880, and will be continued in all respects without change, having proved themselves satisfactory, unless at some future date it should seem desirable to increase the number of pages.

Under the new contract for publication, the JOURNAL will enjoy increased advantages, and with them it is believed an increasing field of usefulness and prosperity. An immediate proximity of the printing-office to the editorial-office will greatly facilitate that prompt appearance of the latest intelligence and reports of meetings, which, as well as carefully prepared original articles, it is the aim of an active, energetic weekly medical newspaper to furnish. The respectable age of the JOURNAL will not deter it from making use of the telegraph, should that seem likely on any occasion to furnish information of genuine value to its readers, but electricity will not be resorted to merely as a means of display.

The editorial-office, at the "Old Corner Bookstore," on Washington Street, so well-known all over our country, and associated with literature, in fact, wherever English books are read, brings back to that building once more medical interests for which it was formerly best known, and, in uniting the past and the present, joining medicine with literature, finds itself appropriately placed. Many of our readers outside of New England, who are perfectly familiar with this oldest building save one in Boston, either by name or by sight, as a centre of literature, can hardly be expected to know that it was built in 1712, one hundred years before the appearance of the first number of the *New England Journal of Medicine and Surgery*, by Thomas Crease, the principal apothecary of the town in that day. In 1816 it again sheltered the *ateria medica* under its roof, being occupied by Dr. Samuel Clarke, the father of our distinguished townsman Rev. James Freeman Clarke, and it was not until 1828 that it became a home for books and authors.

We therefore feel that, in taking up our quarters in this famous old building around which surges to-day the very busiest life of an active, eager modern city, we harmonize all the interests to which it has been devoted, and not unfitly see typified in it, and in the JOURNAL, which now enjoys its hospitality, a respect for the past and for conservatism combined with an adaptability to and sympathy for the changing wants and aspirations of the present and future.

The word Boston is retained in our title for the sake of *old lang syne*, but every occurrence of professional importance, whether within or without the borders of New England, will receive prompt and impartial notice at our hands.

<sup>1</sup> Those who are curious for further details in regard to medical journals are referred to a paper by Dr. J. S. Billings, in this Journal, vol. c, p. 1.

## THE EVOLUTION OF THE TREATMENT OF EMPYEMA.

RECENTLY the admitting physician of a prominent hospital sent a communication to the medical board asking whether, in future, cases of empyema should be admitted on the medical or the surgical side,—a question which illustrates at once the depth of shading of parts of the line separating medicine from surgery and the evolution of the treatment of empyema. It is on this latter point that we propose to say a few words.

From the earliest times empyemata were opened occasionally, but at so late a period in the course of the disease that recovery can seldom have been more than partial. Until Auenbrugger and Laennec taught us how to distinguish accurately between affections of the lung and of the pleura at the bedside it may be said with truth that the lot of the possessor of a purulent pleural effusion was a hard one; he rarely had even that satisfaction which comes from knowing what is one's disease before the pus made its way through the chest wall and opened into a bronchus, if happily it did not choose some less favorable avenue of escape. For many years later, indeed, the finer methods of diagnosis bore but little therapeutic fruit, the evacuation of pleural effusions by the trocar or knife being practically considered unwarrantable, save as a last resort in desperate cases, accurate diagnosis necessarily preceding rational treatment by a longer or shorter interval.

The next great step in advance was taken on this side of the Atlantic, when Bowditch showed that fluid can be withdrawn from the chest with ease and safety at any stage of the disease, and that the danger of wounding the lung, diaphragm, or liver could be disregarded. The aspirator was then improved by Dienlaffoy, and it was gradually ascertained that, while with the aid of that instrument we had gained the mastery over the great majority of cases of serous and sero-fibrinous effusion, the simple operation was rarely of more than mere temporary service in empyema. In children, it is true, one or more tapings sometimes proved curative, but adults were apt to succumb sooner or later to tuberculosis or some complication. It was then more clearly seen that an empyema must be treated like any other abscess, by free incision, and the advantages of an early operation were more and more appreciated, the antiseptic method and thorough drainage contributing materially to progress. We now found ourselves in a position to deal satisfactorily with those cases in which, between expansion of the lung and falling in of the chest wall, obliteration of the cavity could be obtained; but a not inconsiderable number of cases remained in which the lung was so hopelessly bound down by adhesions that a permanent thoracic fistula with good drainage seemed the best result which could be reasonably hoped for.

Already more than twenty years ago Roser suggested the excision of a portion of a rib in order to obviate the difficulty often met with in keeping the fistula open, owing to the approximation of the ribs in the process of contraction of the chest; and, with the same end in view, Langenbeck revived the operation said to have been done by Hippocrates of boring through a rib, but with the comparatively modern instrument, the trephine. It was found that no bad results followed these operations on the bone, and Estlander was led to reason that if a portion of one rib can be removed without ill consequences, several could be treated in the same way, and then the permanent closure of intractable empyemata be brought about. Putting his idea into practice, the latter observer found that it stood the test, and the thoracoplasty operation, or the excision of ribs in such number and extent as may be required to bring the chest walls and remains of the lung in apposition, is the last great advance which has been made in the treatment of interthoracic effusion.

This operation has been done a number of times in this country during the last few years, but does not seem to be so widely and favorably known as it deserves to be. It is not difficult, and has yielded excellent and speedy results in some cases which have come to our knowledge. Only a day or two ago we met on the street a man whose chest at one time had been opened for empyema, but who remained in hospital for months with a moderate sized suppurating cavity. The subsequent excision of a portion of a few ribs effected a cure, and the man has now resumed his former work. The more promptly and thoroughly empyemata are opened the fewer cases will require the operation on the ribs; but the lung is sometimes seriously bound down at an early stage of the disease, and for these cases we are now able to afford relief.

## PATHOGENY AND TREATMENT OF DELIRIUM TREMENS.

The pathogeny of delirium tremens is still a matter of dispute—not that there is any doubt as to the principal causal factor, but there is not precise agreement as to the relationship of the toxic agent to the special phenomena of the disease.

According to one view delirium tremens is a peculiar kind of cerebro-spinal erethism, with disorder and depression of all the functions of animal and organic life, caused by the continued irritation of alcoholized blood, or, as Dr. B. W. Richardson suggests, blood charged with impure alcohols, of which potato spirit is the type. There is a marked analogy (regarding it in this light) between *mania à potu* and the ataxic delirium of typhus or typhoid fever, and the tremulousness of the voluntary muscles much resembles the shaking paralysis of mercurial poisoning—the *tremblement*

*mercuriel* of French pathologists. According to the second view, held by the late Dr. Watson, and defended at the present day by Jaccoud, delirium tremens "is a disease of exhaustion or irritation of nervous power, having the habitual use of intoxicating liquors for its predisposing, and the abstraction or diminution of the accustomed stimuli for its exciting, cause."

An inebriate, for instance, has been on a long carousal, during which little or no food has been eaten, and the brain has been in a craze from liquor; he comes to a point where he can take no more stimulant—either he now loathes it, or the stomach rejects it, or both—and he has an attack of the "horrors." According to the first theory the attack is due to excess of the stimulus, the alcohol acting as a paralyzing agent; the second theory attributes the cerebro-spinal ataxia to "insufficiency of the stimulus"; in other words, the nerve centres having been long equilibrated under alcohol become depressed and fall into disorder when the stimulant is withheld. It would be a therapeutical outcome of the first theory to enjoin entire abstinence from spirituous liquors, and of the second theory to prescribe them in suitable quantities as adjuncts to cure.

In endeavoring to form a proper estimate of the pathogeny of this affection, and thus get hold of the rational indications of treatment, it will not do to lose sight of the prime fact that the disease is an acute epiphenomenon of chronic alcoholism, and that it depends essentially on blood poisoning by the fiery products of the still, being especially prevalent in countries where distilled liquors—in preference to the lighter fermented beverages—form the customary intoxicant. This being the case the leading indication must always be suppression of the cause. It would almost seem as though nature intelligently recognized this indication, and attempted to realize it in the loathing of liquor, which the drunkard at a certain stage experiences; if, despite this loathing, he persists in imbibing the alcoholic potion, the stomach speedily rejects it by vomiting. And here is where the two views meet and harmonize. The man who is in a state of preparedness for delirium tremens is one whose nervous system is in a highly irritable, unstable condition from strong drink; he has for some time been unable to eat or digest, and has become further weakened in consequence; the time, moreover, has arrived when, owing to saturation of the system with the poison so that it will bear no more, he can take no more alcohol, and this is "the last blow that brings him down." The issue may be precipitated by a traumatism, as a severe injury to the head, or a fracture, by its prostrating influence upsetting the nervous equilibrium even more than taking from the system the prop of alcohol could do. An attack of pneumonia, erysipelas, acute

rheumatism, even severe mental emotion from business losses, disappointment, etc., any great physical or mental shock, may be the immediate antecedent, just as the snapping of the gun-lock causes explosion of the powder in the barrel.

The therapeutics of delirium tremens must recognize the poisoned state of the blood, the weakened state of the vital forces, and the perturbed, irritable, ataxic condition of the nervous system, which finds expression in the restlessness, agitation, and sleepless delirium, as well as in the tremulousness of the voluntary muscles. The first and most imperative indication is to stay the waste of nervous energy and nerve substance, which, if too long continued, may wear out the patient. Here is the principal danger of the disease. It is true that delirium tremens is a self-limited disease, as Dr. Ware a long time ago pointed out, and that the patient, if brought under suitable hygienic influences, will very often get well without medicine; it is no less true that the violence and duration of the disease may be very much moderated; that the attack may even (as there is reason to believe) be cut short by suitable sedative, anodyne, and waste-restraining treatment.

The discovery of the hypnotic effects of the bromides, and especially of hydrate of chloral, almost ushering in a new era in the treatment of delirium tremens, and now moderate doses, which may be regarded as absolutely safe, of hydrate of chloral have replaced in the practice of most physicians the large and sometimes dangerous doses of opium which were formerly deemed necessary to quell the fury of the attack. When it was sought to control the disease by bromide of potassium (a very natural and successful mode of treatment), it was found that rather large quantities of this salt were required—half a drachm or more repeated every hour. These doses were not without serious disadvantages in further enfeebling the digestive powers, and in depressing the functions of the spinal cord. The dose of chloral indicated in order to produce a hypnotic effect is very much less, and the inconveniences attending this medicament are so trifling that, in words of Balfour: "We seem to possess in hydrate of chloral a remedy which in all cases, from the slightest to the most severe, acts rapidly, safely, and efficiently, *cito, tuto, et jucunde*, and which seems to deprive indulgence in drink of all its horrors, and nearly all its dangers."

As for the administration of opium in *mania à potu*, we believe that it is now the experience of all practitioners that in cases where it is desirable to resort to opiates in conjunction with chloral, hypodermic injections of morphia claim the precedence of all other modes of exhibition. There will be continually instances of unusual obstinacy and severity, where the morphia injection will be a valuable auxiliary to treatment, rendering necessary

much smaller doses of chloral. There is no doubt that in capsicum we have a useful stimulant in delirium tremens, as in other forms of chronic alcoholism. This drug may be given in the form of tincture along with the hydrate of chloral. There is considerable evidence in favor of the utility of pretty large doses in this disease.

A judicious eliminative treatment should be carried out as opportunity offers; the action of the skin and kidneys should be favored by suitable diaphoretics and diuretics (ammonia, camphor, and salines); the bowels should be kept open by an occasional saline laxative. After all it is doubtless true that suitable nourishment is the best depurant, and that, as Perrie observes, "we cannot look for much improvement in the condition of the sufferer till his blood has been freed to a certain extent from its poisonous ingredients, and made richer in quality by the persevering exhibition of proper food, and so rendered more suited for the purposes of nutrition." To this and the frequent administration of meat broths—and here beef peptones are handy and useful—and milk (when borne) is a *sine qua non*; the importance of muscular rest, as well as of mental quietude, must also ever be kept in mind.

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#### STATE REGULATION OF MEDICAL PRACTICE IN PENNSYLVANIA.

THE Philadelphia County Medical Society has recently held a number of extra meetings to consider the draft of a bill to create a State Board of Examiners and Licensees, formed by a committee appointed for the purpose. The committee held several conferences with similar commissions from the Medical Jurisprudence Society, Philadelphia, and the Pennsylvania State Medical Society, at some of which a committee of the Homoeopathic State Medical Society was present.

The Committee of Conference agreed to present a report to the county medical societies throughout the State, recommending a bill whose principal feature was the creation of a mixed board of examiners, consisting of seven physicians and seven homoeopathic physicians, this being claimed to be the relative proportion of the homoeopathic school to the unadorned and unexclusive portion of the profession.

The provisions of the Act are only applicable to those commencing practice after September 1, 1886, and require examination before the Board and the possession of its license as necessary prerequisites to registration and practice. For the examinations upon therapeutics and practice of medicine it is proposed to have two sets of papers, one homoeopathic and the other scientific, the candidate being allowed to select which of the two he will be examined upon, it being kept secret which he selects until he has passed upon the other branches.

Societies have already signified their approval of the bill, but the Philadelphia Society, keeping up its reputation for conservatism, seems willing rather to bear with present ills than rush into unknown perils. Some of the principal members of the society are uncompromising in their opposition to a mixed board, and consider it in the highest degree unwise to endorse practitioners of any exclusive sect in medicine by such a course as contemplated in this bill. It is also believed that the medical schools are looking askance at it, uncertain whether to join their influence with that of the general profession throughout the State, or to holdily enter the lists and fight the bill because it may be prejudicial to their interests and interfere with their vested rights, by establishing a sort of censorship, which is distasteful to those schools that like to follow the go-as-you-please system of teaching.

In the meantime, incompetent and irregular practitioners of medicine who are driven away from other neighboring States are descending upon the fertile valleys of Pennsylvania, like a horde of locusts; unfortunately they do not observe any times or seasons, but come to stay permanently or as long as they are made welcome.

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#### MEDICAL NOTES.

NEW YORK.

—One of the most familiar characters in the New York medical world has passed away in the person of Dr. William Darling, for many years the distinguished Professor of Anatomy in the University Medical School, who died on Christmas morning, at the age of eighty-two. He was born at Denise, Scotland, and in the year 1830 came to America and began the study of medicine at the university with which he has so long been connected. It was more than ten years after this, however, before he would consent to come up for his degree; although he was all the time engaged in the enthusiastic pursuit of his studies, and had in the meanwhile made for himself a reputation as a teacher of anatomy. After being graduated, in 1842, he went to England, and there became a Fellow of the Royal College of Surgeons, remaining abroad until 1862. He then returned to New York, and soon afterward was appointed to the professorship at his *alma mater* which he has filled with so much honor ever since. He retained his zeal for his professional studies up to the last, and his anatomical collection is one of the finest in the country. In addition, however, he was a profound mathematician and was remarkably well versed in the whole range of poetical literature; while he was himself a poet of no mean attainments. It is said that during his residence in London a twisted paper was once found in the cavity of a young girl's skull among some specimens,

which contained an anonymous poem of his of such extraordinary merit that a reward of fifty pounds was offered for the name of its author. Dr. Darling wrote only two scientific works, "A Small Compend of Anatomy," and "Essentials of Anatomy."

—On the twentieth of December a woman, twenty-seven years of age, who had recently been confined, died suddenly from fright, in consequence of a slight fire which occurred in the tenement-house where she resided.

—The New York Young Men's Christian Association, in a recent debate, decided that "physicians should be Christians." The *Springfield Union* agrees to the decision, but thinks it a mistake to draw the line at physicians: their patients should be included.

#### PHILADELPHIA.

—The University of Pennsylvania has, during the past month, opened two new departments: a School of Biology, which will be under the direction of Professor Joseph Leidy and Dr. Horace F. Jayne, and a Department of Physical Culture under the charge of Dr. J. William White, who is president of the University Athletic Association, and who is clothed with the authority and title of Professor, and has a seat in the Faculty. This department will be modelled after that of Harvard University. The school of biology has a separate structure for its uses situated on the grounds of the university. The new building is of brick, and is two stories in height; the upper floor is devoted to laboratories, library, and private rooms; the first floor has the lecture-room, museum, and working-rooms, while in the basement are a large aquarium and storage-rooms. The object of this new school, which is modelled after the Johns Hopkins School, is the encouragement of individual and original biological research. A zoological station at Naples under the charge of Dr. Dollay, of Rochester, has been established. It is intended that the work of the new school will be published in monographs or journal form. The Faculty of this school consists of William Pepper, M.D., LL.D., Provost of the University and *ex officio* President of the Faculty; Joseph Leidy, M.D., LL.D., Professor of Anatomy, Director of the Biological Department; Joseph T. Rothwick, M.D., B.S., Professor of Botany; Harrison Allen, M.D., Professor of Physiology; Andrew J. Parker, M.D., Ph.D., Professor of Comparative Anatomy; Horace Jayne, M.D., Professor of Vertebrate Morphology; Benjamin Sharp, M.D., Ph.D., Professor of Invertebrate Morphology; N. Archer Randolph, M.D., Instructor in Physiology. In the Medical Department recently Edward T. Bruen, M.D., has been elected Professor of Physical Diagnosis, and Louis Starr, M.D., Clinical Professor of Diseases of Children.

—Nearly a year ago the State Board of Charities appointed a sub-committee, under the chairmanship of Dr. John G. Morton, to investigate certain cases of alleged improper detention and ill-treatment of insane persons, especially outside of asylums, in various parts of the State. Although there is a very good lunacy law, it failed of efficiency because it was not made the duty of any one to see it properly enforced; the neighbors who are in possession of such knowledge of illegal detention and abuse of insane patients rarely are willing to publicly appear as informers. The Lunacy Board seemed to be just what was needed; they have received confidential letters from all parts of the State and have investigated eighteen cases, some of which had been kept chained in outhouses, poorly fed, and exposed to bad weather, for many years. One patient had been thus kept like an animal for sixty-five years. Another patient, to whom attention had been called, was burned to death by an accidental fire before he could be removed from his den. Very little opposition has been encountered by the committee in its investigations, and its directions with regard to the placing of the insane under proper care are usually promptly complied with.

—A crematorium was opened at Lancaster on November 25th.

—Two more cases of acute facial erysipelas have been treated in Professor DaCosta's wards at the Pennsylvania Hospital, by hypodermic injections of pilocarpin muriat (gr.  $\frac{1}{4}$  to  $\frac{1}{2}$ ). The injections may have to be repeated, or supplemented by the fluid extract of Jaborandi, the object being to produce free diaphoresis; but if the case be in its incipient stage, the results are almost magical—the erysipelatous symptoms entirely disappear. During convalescence, a course of iron was found to be advantageous. No relapses have thus far been noticed. No special effect upon salivary glands or kidneys was observed. At the last meeting of the College of Physicians, Professor DaCosta called attention to the hypodermic use of cocaine in cases of cardiac failure and weak heart. He had found that doses of one third to two thirds of a grain strengthened the cardiac systole, and, as shown by the sphygmograph, the pulse became fuller, stronger, and a little slower. Given in this way it was observed that the pupils became dilated, but the effect upon sensibility of mucous membranes was only slight, and not comparable to those following its local employment. Injected into the skin it produced a wheal which was insensible, but thrown under the skin no local anesthesia was produced.

#### CHICAGO.

—One of the professional topics of the hour here just now is a local dispute about a case of so-called "lumpy jaw" in the human subject. The dispute began among the doctors, then it got into

the secular papers, and now the *Medical Review* has taken it up, has quoted in detail and *ad nauseam* from the daily papers the strictures of one doctor upon another, and then of a third upon the first, and, to make the matter worse, the editor castigates the doctor who could be so rash as to have two cases of so rare a disease within four months, refers to the first and chief calumniator of a professional brother as the victim, and says he himself—the editor—has had ocular evidence that the “lumpy jaw” was a simple abscess, since, after being freely evacuated, it had promptly closed up.

The case referred to is one of the two on which *The Boston Medical and Surgical Journal* commented editorially some weeks since as having occurred in the practice of Dr. J. B. Murphy.

The diagnosis was not made in either case till both the patient and the microscopic specimens had been carefully examined by a number of physicians, among whom was Dr. Christian Fenger, who, as a pathologist, probably has no superior in the North-west. It was the unanimous judgment of the council in each instance that true actinomycosis existed. The first case, which was much the worse of the two,

underwent a most thorough scraping of all the sinuuses of the enlargement, healing took place, and the disease has not returned. The other case was less thoroughly scraped, and healing followed. But the disease returned; so did the patient, when, informed of the true nature of his trouble, he straightway consulted another doctor, who, without making a microscopical examination, declared the thing a simple abscess, opened it, and now reports it healed. Meanwhile he exhibits the case to a considerable number of other medical men, and appears greedily to seize the opportunity to tell all about it, with the corroborating opinions of his medical friends, and his own opinions of his medical enemies, to a newspaper man who enjoys nothing so much as to get a lot of doctors quarrelling, and who prints the whole story with amplifications, and in a way to make the profession feel as though its clothes were too large for it. Next Dr. Murphy reads a careful report of his cases before the Medical Society and exhibits his specimens, whereupon Dr. Fenger reaffirms that they were cases of actinomycosis, and his views are warmly endorsed by Dr. Belfield.

## REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 20, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	627	254	17.85	19.35	10.00	6.60	3.90
Philadelphia . . . . .	927,965	359	117	21.28	17.92	5.36	12.04	3.90
Brooklyn . . . . .	644,526	277	—	29.16	15.91	17.20	8.84	—
Chicago . . . . .	632,100	235	123	34.85	15.91	4.73	12.04	4.30
Boston . . . . .	423,800	170	63	15.34	19.06	3.90	8.26	3.54
Baltimore . . . . .	408,520	141	46	18.46	9.23	1.42	7.81	1.42
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	153	84	22.73	7.80	3.90	5.85	.65
New Orleans . . . . .	231,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	—	—	—	—	—	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,100	—	—	—	—	—	—	—
Providence . . . . .	119,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	22	6	13.62	4.54	—	—	—
Nashville . . . . .	54,400	21	5	33.32	11.28	4.76	—	—
Charleston . . . . .	52,286	35	12	22.88	8.58	4.72	5.72	—
Lowell . . . . .	71,447	28	15	7.14	3.57	—	3.57	3.57
Worcester . . . . .	69,442	24	10	24.96	20.80	4.16	20.80	4.35
Fall River . . . . .	62,674	23	11	26.10	4.35	8.35	13.05	14.80
Cambridge . . . . .	60,995	27	12	29.60	11.80	—	11.80	—
Lawrence . . . . .	45,516	13	—	7.69	7.69	—	7.69	—
Lynn . . . . .	44,895	10	1	10.00	10.00	—	—	—
Springfield . . . . .	38,090	11	6	26.36	9.09	—	18.18	—
Somerville . . . . .	31,350	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	—	—	—	—	—	—	—
New Bedford . . . . .	30,144	13	5	23.07	21.38	—	21.38	—
Salem . . . . .	29,503	9	3	11.11	—	9.09	9.09	9.09
Chelsea . . . . .	24,347	11	2	27.27	18.18	—	—	—
Taunton . . . . .	22,693	6	0	—	—	—	—	—
Gloucester . . . . .	21,400	15	9	40.00	11.11	—	5.55	27.77
Haverhill . . . . .	20,905	3	0	33.33	—	—	33.33	—
Newton . . . . .	19,421	9	2	—	11.11	—	—	—
Brockton . . . . .	18,323	9	4	—	20.00	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	5	0	—	—	—	—	—
Fitchburg . . . . .	13,433	5	2	—	—	—	—	—
Massachusetts towns . . . . .	—	72	13	8.31	12.61	—	11.12	5.56

Deaths reported 2,333; under five years of age, 805; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 490, lung diseases 401, consumption 297, diphtheria and croup 290, scarlet fever 63, measles 53, typhoid fever 48, diarrheal diseases 25, malarial fever 22, whooping-cough 16, erysipelas 14, cerebro-spinal meningitis, nine, puerperal fever six. From *measles*, New York 27, Cincinnati eight, Chicago and Gloucester five each, Brooklyn three, Philadelphia two, Baltimore, Fall River, and Newton one each. From *diarrheal diseases*, Cincinnati nine, New York, Chicago, Boston, and Nashville three each, Baltimore two, Charleston and Springfield one each. From *typhoid fever*, Brooklyn six, Chicago four, Baltimore three, New York, Philadelphia, and Charleston two each, Cincinnati, Nashville, and Springfield one each. From *whooping-cough*, New York six, Chicago, Boston, and Baltimore two each, Brooklyn, Nashville, Charleston, and Lynn one each. From *erysipelas*, New York four, Brooklyn and Baltimore three each, New Haven two, Chicago and Nashville one each. From *cerebro-spinal meningitis*, New York six, Philadelphia, Chicago, and Cincinnati one each. From *puerperal fever*, Chicago four, New Haven and Newton one each. From *small-pox*, Philadelphia one.

In 102 cities and towns of Massachusetts, with an estimated population of 1,286,111 (estimated population of the State 1,955-

104) the total death-rate for the week was 18.15 against 18.00 and 19.29 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354 for the week ending December 6th, the death-rate was 24.4. Deaths reported 4,102; infants under one year of age 942, acute diseases of the respiratory organs (London) 499, measles 80, scarlet fever 76, whooping-cough 63, fever 52, diphtheria 42, small-pox (London) 37, diarrhoea 35.

The death-rates ranged from 18.4 in Portsmouth to 38.7 in Oldham; Birkenhead 25.8; Birmingham 24.8; Bradford 25.4; Bristol 21.8; Leeds 21.7; Leicester 24.4; Liverpool 26.0; London 22.9; Manchester 27.8; Nottingham 26.7; Sheffield 23.1; Sunderland 30.9. In Edinburgh 22.2; Glasgow 37.5; Dublin 31.2.

For the week ending December 6th, in the Swiss cities, there were 27 deaths from consumption, lung diseases 24, diarrheal diseases 11, diphtheria and croup 13, measles 5, whooping-cough four, typhoid fever two, puerperal fever one. The death-rates were, at Geneva, 13.2; Zurich 3.9; Basle 20.1; Berne 28.9.

The meteorological record for the week ending December 20th, in Boston—as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 P. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
December, 1884,																				
Sunday, 14	30.379	30.7	35.1	26.0	47	50	31	68.3	N	S	S E	10	4	10	O	C	C	C	—	—
Monday, 15	29.567	35.7	48.2	34.1	100	65	53	71.3	S	S	S E	9	12	10	R	C	C	C	—	—
Tuesday, 16	29.988	37.1	41.6	34.9	59	43	63	55.0	W	S W	S W	10	12	12	C	C	C	C	—	—
Wednes., 17	29.882	36.4	38.1	24.5	87	91	93	96.3	N W	S	N W	6	13	15	N	N	N	N	—	—
Thurs., 18	30.653	19.7	27.6	16.5	70	45	56	57.0	N W	N W	S	10	15	10	O	C	C	C	—	—
Friday, 19	30.562	0.8	18.8	-5.0	29	42	96	59.3	N W	N W	N W	16	16	11	O	C	C	C	—	—
Saturday, 20	30.592	-0.7	6.0	-9.5	55	56	53	54.3	N W	N W	N W	11	10	8	O	C	C	C	—	—
Mean, the Week.	30.105	23.4	32.2					65.1											28.00	1.024

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow.

<sup>2</sup> Melted snow and rain.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 20, 1884, TO DECEMBER 26, 1884.

WALES, P. G., first lieutenant and assistant surgeon. Received from duty in Department of Colorado, and ordered to Department of Arizona. S. O. 128, Division of the Pacific, December 17, 1884.

EXTRACTUM.—On page 619 of the JOURNAL, December 25, for Dr. F. N. Oils, read Dr. George A. Oils.

DEATH.—Died, in Boston, December 26, 1884, William Henry Thorncliffe, M.D., M.M.S.S., aged sixty years and six months.

#### SOCIETY MEETINGS.

SUFFOLK DISTRICT MEDICAL SOCIETY.—Surgical Section. There will be a meeting of the Section at 19 Boylston Place on Wednesday evening, January 7, at eight P.M. Communication: Five successful cases of Ovariectomy. By Dr. J. W. Elliot.

GYNECOLOGICAL SOCIETY OF BOSTON.—The Annual meeting will be held at 19 Boylston Place on the second Thursday of January, at four o'clock, P.M. The Annual Address will be given by the President, Dr. H. O. Marey. Lunch will be provided.

H. J. HARRIMAN, M.D., *Asst. Secretary*.

J. PICKERING PUTNAM, Esq., and PROF. T. M. CLARK will deliver a lecture before the Society of Arts, Massachusetts Institute of Technology, Friday evening, January 2, at eight o'clock, on Sanitary Plumbing and our Plumbing Laws. Members of the medical profession are cordially invited.

BOOKS AND PAMPHLETS RECEIVED.—The Story of My Life. By J. Marion Sims, M.D., LL.D. Edited by his son, H. Marion Sims, M.D. New York: D. Appleton & Co. 1884.

Home Again! A Synopsis of a Tour Abroad. By Edward Borek, A.M., M.D., of St. Louis, Mo., one of the Delegates at the International Medical Congress, held at Copenhagen, Denmark, August 10-16, 1884.

The Basic Pathology and Specific Treatment of Diphtheria, Typhoid, Zymotic, Septic, Scorbatic, and Putrescent Diseases Generally. By George J. Ziegler, M.D. Philadelphia: 1884.

Fifteenth Annual Report of the Manhattan Eye and Ear Hospital, with Throat and Nervous Departments. New York, October 15, 1885, to October 1, 1884.

Notes on the Opium Habit. By Asa P. Meyler, M.D. Third Edition, Revised and Enlarged. New York: G. P. Putnam's Sons. 1885.

The Plaster-of-Paris Dressing in the Treatment of Fractures. By W. O'Daniel, Bullard, Ga. (Reprint from Transactions Medical Association, Georgia.)

Transactions of the Medical Society of the State of Pennsylvania at its Thirty-sixth Annual Session. Held at Philadelphia, May 11-16, 1884. Vol. XVI. Published by the Society. 1884.

A Pharmacopœia for the Treatment of Diseases of the Larynx, Pharynx, and Nasal Passages, with Remarks on the Selection of Remedies and Choice of Instruments, and on the Methods of Making local Applications. By George Morewood Roberts, M.D., etc. etc. Second Edition, Revised and Enlarged. New York and London: G. P. Putnam's Sons. 1884.

Modern Medical Therapeutics: a Compendium of Recent Formulae and Specific Therapeutical Directions. From the Practice of eminent contemporary Physicians, American and Foreign. By George H. Napheys, M.D. Edited by Joseph F. Edwards, M.D., and D. G. Brinton, M.D. Eighth Edition, Revised and Enlarged. Philadelphia: D. G. Brinton. 1885.

## Original Articles.

EXPLORATORY ABDOMINAL INCISIONS.<sup>1</sup>

BY JOHN HOMANS, M.D.

I HAVE been trying for a long time to report a number of miscellaneous cases of abdominal surgery. In the list will be found simple exploratory incisions: exploratory incisions followed by puncture and emptying of cysts; incisions followed by opening of the cyst, sewing it to the abdominal walls, and draining it; incision and partial removal of tumors; removal of ovaries and tubes for the cure of hysterotomia; for the cure of mania; for the cure of uterine fibroids; incision and drainage of interperitoneal abscess; exploratory incisions for intestinal obstruction followed by the establishment of artificial anus; supravaginal hysterectomy; nephrotomy for removal of renal calculi; nephrotomy for renal cancer; removal of immense myxolipomatous; removal of a fibroid tumor of the peritoneum and abdominal fascia.

As I have already reported many cases of ovariectomy it seems proper that I should report some of these other operations done for the relief of abdominal disease, and in the outset let me say that the mortality will be found to be much higher in this list of cases than in ovariectomy. This higher mortality as compared to ovariectomy is to be attributed mainly to two causes: first, to the greater gravity of some of the operations, and secondly to the smaller experience of the operator in these cases as compared to his experience in the removal of ovarian tumors.

I believe that I have opened the abdominal cavity about two hundred and fifty times. Eleven of these operations were simple exploratory incisions followed by the removal of ascitic fluid, and affording an opportunity for visual and manual exploration of the interior of the abdomen. In this paper I will give an account of a certain number of exploratory incisions, and I shall hope to describe the other operations at some future time.

All these exploratory incisions were done antiseptically and under the carbolic spray.

**First Exploratory Incision.**—December 18, 1878. Patient sixty-two years old, a widow. Recovery. The patient was so large and the respiration was so embarrassed that it was necessary to place her upon her side, and this position made her abdomen so pendulous that I had to kneel on the floor and cut upward. About fifty pounds of ascitic fluid ran out of the peritoneal cavity, and, relieved of this pressure, the patient could breathe lying on her back. The tumor was found to be solid and friable, and immovably attached to the sacrum and ilium. Entire relief for many months to all the distressing symptoms was the result of this operation, and the fluid never reaccumulated. Dr. W. S. Brown, of Stonham, the patient's attending physician, and myself, both thought the tumor an ovarian cyst before the operation, but the abdominal walls were so thick and fat that it was impossible without aspirating to determine this question. After several months of comfort the tumor began to grow, and

the patient died a year after the operation. At the autopsy a soft, solid tumor involving the lower abdominal and pelvic viscera and parietes was found.

**Second Exploratory Incision.**—February 22, 1881. Patient forty-eight years old, a widow. Recovery. About twenty pounds of ascitic fluid removed. Tumor, a papilloma of the right ovary adherent to the pubes, rectum, ischium, and pelvic organs generally. The cyst had burst in the pubic region. After recovery the fluid reaccumulated and the patient died about nineteen months later. Dr. Abner Post kindly told me the result of the autopsy which showed papillomatous growths attached to and scattered over all the abdominal contents.

**Third Exploratory Incision.**—September 21, 1881. Patient twenty-one years old, unmarried. Recovery. A large amount of ascitic fluid was removed, many thin-walled, blue-colored cysts attached to the peritoneum and intestines were seen, and the pelvis was more or less occupied by a friable-feeling tumor filling the right side; its exact attachments were not made out, but it was immovable and was not interfered with. The patient recovered. Dr. J. W. Elliot tapped her on February 2, 1882 (five months after the operation), and, after the ascitic fluid had run out, he saw beneath the abdominal parietes a hard tumor about as large as a pregnant uterus of six months. On April 4th, he tapped her again; this time the fluid was bloody, and the tumor was somewhat larger. On June 28th he again tapped; the tumor was no larger, and the fluid was clear. She was able to go about, but was very thin. In the meantime another physician had tapped her. Dr. J. Foster Bush also treated her, and has written me the following letter:—

November 23, 1884.

DEAR SIR,—In reply to your note of Monday I would say that I saw Miss H. A. R. in the fall of 1882. Her general condition was extremely bad; there was hectic, nausea, and extreme prostration, she being confined to her bed. The cicatrix of your exploratory incision had the appearance of a keloid, and in the right iliac fossa there was a tumor about the size of a quart bowl. In this locality she complained of constant pain, which was augmented by motion. The pain was so severe that she required opiates to produce sleep. I arranged to come in a day or two and tap her, but when I went to perform that operation I found that the tumor had opened spontaneously, discharged what she described as a "thick yellowish fluid," the amount of which she could not estimate. I put her on tonic treatment and a liberal diet. Soon she moved away and I lost sight of her till October, 1883, when she told me that she was well, was working regularly from morning till night, and was only troubled occasionally with pain in her side. After the rupturing of the tumor the yellow discharge had troubled her for a long time.

Very truly yours,

J. FOSTER BUSH.

Dr. John Homans.

Dr. Bush tells me that when he saw Miss R. she was rosy and healthy. I have been unable to find her. Her case is certainly a very remarkable one if the tumor has disappeared.

**Fourth Exploratory Incision.**—August 18, 1881. Patient thirty-six years old, married. Recovery. A small amount of ascitic fluid. Tumor a sarcoma, but so generally adherent that its origin could not be determined. Subsequent history of the patient unknown.

**Fifth Exploratory Incision.**—August 24, 1882. Patient thirty-nine years old, single. Death. Tumor universally adherent; it had a thick vascular feel, and on incision to the depth of an inch bled freely. She died of septicæmia on the fifth day.

<sup>1</sup> A paper read before the Boston Society for Medical Improvement, December 22, 1884. See page 10, No. 1, Vol. xli.

At the autopsy, the body was found full of gas and rapidly decomposing. The tumor was inseparable from the intestines: originally it had sprung from the left ovary.

*Sixth Exploratory Incision.*—September 20, 1882. Patient thirty-seven years old, single. Recovery. A moderate amount of ascitic fluid was found, and on digital exploration large malignant tumors of the omentum, liver, intestinal organs, and ovaries, were felt. The patient went to Burlington, Vermont, and died in March, 1883.

*Seventh Exploratory Incision.*—May 8, 1883. At the Free Hospital for Women. Tumor adherent, sarcomatous looking. Recovery. Patient went home and was heard from in July, growing larger and suffering much. Her subsequent history is unknown to me, but she has probably died.

*Eighth Exploratory Incision.*—August 9, 1883. Patient sixty years old, married. Death. General abdominal cancer. Thirty pounds of ascitic fluid removed. Patient died on the fourth day.

*Ninth Exploratory Incision.*—March 22, 1881. Patient sixty-six, widow. Recovery. Many pounds (ten or more) of ascitic fluid ran out of the incision and as much more gelatinous-looking material. The omentum had become an elongated tumor of a pinkish coral color; the spleen was enlarged and in the same condition. Nodules of cancer were felt among the bowels, a wall of cancerous tissue shut off the pelvis and its organs from the abdominal cavity. The patient recovered entirely from the operation and died in September, 1884.

*Tenth Exploratory Incision.*—June 13, 1884. Patient seventeen years old, single. Death. The intestines were found matted together when the abdomen was opened, and beneath them an elastic swelling was felt. No fluid could be obtained by aspiration. Neither the uterus nor ovaries could be felt by the hand in the abdomen. The patient died on the fifth day of septicaemia. At the autopsy the Fallopian tubes were found to be in a state of tubercular salpingitis and the cheesy mate-

rial extended upward on both sides of the abdominal cavity nearly to the diaphragm.

*Eleventh Exploratory Incision.*—June 19, 1884. Patient twenty-one years old, single. Recovery. Many pounds of ascitic fluid removed. The stomach was dilated and distended with fluid. Owing to the presence of lymph and adhesions, the liver and spleen could not be seen nor felt. Much lymph covered the peritoneum and was in the shape of flakes and masses and layers upon the abdominal viscera. Tubercular deposits were seen on the bowels. The disease was tubercular peritonitis. The patient went home at the end of three weeks. I have heard from her at various times, through the kindness of Dr. Tower, of South Weymouth, whose letter of November 21st is appended. The discharge of ascitic fluid through an opening in the wound gives the patient much relief.

SOUTH WEYMOUTH, Mass., November 21, 1884.  
DEAR DOCTOR HOMANS,—I am happy to say that M. is as comfortable as we could reasonably expect a woman to be who has had an exploratory incision through the wall of the abdomen, leaving a fistulous opening from which there is a serous (or sero-purulent) discharge more or less profuse continually kept up. She has gained considerable flesh, so that she looks in her countenance much improved. The appetite is generally good. Bowels inclined to constipation but kept open by aperients and laxatives. Recently she complained of acute pain in the left iliac region, and later in the right iliac region. I attributed this to distention of the intestine from flatus, and prescribed accordingly with relief of the pain. As there is inflammation of the peritoneal covering of the bowels, we can hardly expect she will be entirely devoid of pain, although I suppose tuberculous inflammation (being of a chronic character) is less likely to be attended with pain than acute inflammation. The pulse is eighty or under, rather small and weak. Tongue less red and tender than three months ago but not yet normal. She is of course an invalid, but within certain limits may be regarded as comfortable. She walks out short distances when the weather is pleasant. The fact is demonstrated, in her case, that a woman with tubercular peritonitis not only survives the operation of abdominal section but thereby has been relieved of the dropsical accumulation in the peritoneal cavity which otherwise would have existed. Possibly her life is prolonged by the surgical interference, although it may be an open question, not yet capable of solution, whether ascites with occasional paracentesis for its relief would not have been attended with as much comfort and longevity. I think, however, that having survived the perils of the operation, her condition is now much better than it would have been without the operation.

C. C. T.

#### SIMPLE EXPLORATORY INCISIONS.

No.	Date.	Place of Operation.	Condition.	Age.	Anti-septic?	Result.	Remarks.
1	December 18, 1878.	Stoneham.	W.	62	Yes.	Recovery.	Ascitic fluid never reaccumulated.
2	February 22, 1881.	Boston.	W.	48	Yes.	Recovery.	Much ascitic fluid. A burst papillomatous cyst attached to pubes, ischium, rectum, and pelvic organs generally. Died, September, 1882.
3	September 22, 1881.	Boston.	M.	21	Yes.	Recovery.	Ascitic fluid removed. Many thin-walled, delicate, bluish-colored cysts attached to the peritoneum and intestines. A friable, immovable tumor in right side of pelvis. Patient reported as perfectly well in December, 1884.
4	August 18, 1881.	Boston.	M.	36	Yes.	Recovery.	A small amount of ascitic fluid. Tumor a sarcoma, but so adherent that its origin could not be determined.
5	August 24, 1882.	Boston.	S.	39	Yes.	Death.	Tumor probably originated in the left ovary, and was inseparable from the intestines, even at the autopsy.
6	September 20, 1882.	Boston.	S.	37	Yes.	Recovery.	Large malignant tumors of omentum, liver, intestinal organs, and ovaries. Died six months later.
7	May 8, 1883.	Boston.	S.	34	Yes.	Recovery.	Tumor inseparable from intestines and peritoneum; Probably malignant.
8	August 7, 1883.	Boston.	M.	60	Yes.	Death.	Thirty pounds of ascitic fluid. Abdominal and pelvic organs as far as seen, more or less covered with nodules of cancer.
9	March 22, 1884.	Newton.	W.	66	Yes.	Recovery.	Large tumor of omentum and abdominal organs generally. Pelvic organs shut off by lymph.
10	June 13, 1884.	Boston.	S.	17	Yes.	Death.	Original disease probably pyo-salpinx.
11	June 19, 1884.	Boston.	S.	21	Yes.	Recovery.	Ten pounds of ascitic fluid. Tubercular peritonitis. Quite comfortable and much improved in December, 1884. A permanent opening in the scar, through which the peritoneal fluid escapes, and thus prevents accumulation and pressure.

It will be seen that simple exploratory incision in a patient who is not too feeble, followed by gentle manual exploration, is usually innocuous and sometimes beneficial, as in case I., where the ascitic fluid never reaccumulated. Case III., where the tumor is reported to have disappeared, and the patient's health to be re-established, and case XI., where the patient has gained flesh and strength.

Four exploratory incisions were followed by emptying of the cysts in three instances, and the removal of a few small masses in the fourth.

Patient thirty-six years old, married. Recovery, December 29, 1881. On opening the abdomen a large cyst of a bluish color and vascular look presented; this was tapped, and fourteen pounds of fluid removed. An interior cyst was also emptied. On the exterior of the tumor was a kidney-shaped mass about three inches long; this was burnt off with Paquelin's canterly and the base tied. The tumor was a multiple fibro-cyst of the uterus. The opening in the cyst-wall was sewed up with catgut. The patient recovered promptly and went home at the end of three weeks. The fluid gradually reaccumulated and the patient died about two years later. Hysterectomy would have been the proper operation, but neither the woman nor her husband desired the performance of a dangerous operation.

Patient forty-two years old, married. Death, May 6, 1882. When the peritoneum was opened forty pounds of ascitic fluid ran out. A cystic tumor filled the pelvis and prevented me from getting my hand below it either in front or behind. Several small cysts in various parts of the tumor were punctured, and afterward carefully sponged out and sewed up. The wound was closed as usual. The patient died on the fourth day. There was no autopsy.

Patient thirty years old, married. Death, April 21, 1883. About twenty pounds of ascitic fluid were removed. Papillomatous cystic tumors in the broad ligaments, and masses on the peritoneum everywhere were scattered about. More or less of the masses were removed, but it was found

impracticable to remove many or all of them and the operation was abandoned and the wound closed. The growths were not especially ovarian, though they probably originated as such. The patient died suddenly on the third day; there was no autopsy.

Patient fifty-four years old, married. Death, October 18, 1884. On incision the peritoneum was found to be a quarter of an inch thick. On cutting through this membrane a viscid tenacious fluid looking like thick mucilage ran out. On inserting the hand it was found that the anterior wall of of the cyst had become incorporated with the peritoneum and the posterior wall had been perforated by a tapping done at her home, or else had burst. A hardish-feeling tumor filled the pelvis and was covered with a pinkish-colored roughness. About twenty-five pounds of thick gelatinous fluid ran out of the abdominal cavity. Deposits of cancer were seen and felt in the bowels and probably were disseminated throughout the abdominal organs. Another cyst filled with the same kind of fluid was found attached to the lumbar vertebra; it was punctured, emptied as thoroughly as possible, and a glass drainage tube was put in it. The abdominal cavity was thoroughly sponged out and the wound closed around the drainage tube. No definite outline of the uterus or ovaries could be made out. At the close of the operation the patient's condition was excellent. She died rather unexpectedly the next day. There was no autopsy.

It will be noticed from the foregoing account that interference with an abdominal tumor without completing the removal of the growth is exceedingly dangerous. And it will grow more dangerous until we reach the class of cases when we say we have *left behind* portions of the tumor, instead of saying that we have *removed* a portion; that is, in the former class a great deal more has been removed than has been left and in the latter a great deal more has been left than has been removed. I hope to continue an account of the other miscellaneous operations at some future meeting of the Society.

#### EXPLORATORY INCISIONS WHERE THE ABDOMINAL TUMORS WERE SLIGHTLY INTERFERED WITH.

No.	Date.	Place of Operation.	Condition.	Age.	Anti-septic?	Result.	Remarks.
1	December 29, 1881.	Boston.	M.	36	Yes.	Recovery.	A large uterine fibro-cyst was emptied of fourteen pounds of fluid, and a fibroid tumor about three inches long was removed from the exterior of the cyst. Patient died two years later. The proper operation would have been hysterectomy.
2	May 6, 1882.	Boston.	M.	42	Yes.	Death.	Died on third day. Several cysts were punctured. Tumor apparently uterine, and generally adherent.
3	April 21, 1883.	Boston.	M.	30	Yes.	Death.	Forty pounds of ascitic fluid removed. General papilloma, that is, general abdominal cancer. Died on the third day.
4	October 18, 1884.	Boston.	M.	54	Yes.	Death.	Thirty pounds of fluid, looking like vaseline, removed. Some cysts punctured and removed. Drainage. Death on second day.

# INVERSE TYPE OF TEMPERATURE IN TYPHOID FEVER, WITH A REPORT OF TWO CASES.<sup>1</sup>

TEMPERATURE PECULIARITIES IN EPIDEMICS, WITH A REPORT OF SEVEN CASES IN ONE FAMILY.

BY W. C. HOLLOPETER, M.D.

THE classical investigations of Wunderlich, Thierfelder, and Traube, have done much to simplify the study of fever, and by their deductions they have rendered it possible for us to differentiate typhoid from all the other continued fevers by its temperature alone. This universal tendency to refer a given symptom to an established, or partially established, law has done much to lessen the interest of individual work; for those cases marking the exception are, as a rule, looked upon as complications, and slight causes are frequently brought forward to explain the apparent departure from the established rule. Dr. J. C. Wilson, in his admirably written work on "The Continued Fevers," tell us that "marked deviations from the typical course of the temperature are always due to special causes. These causes, in many cases, cannot be discovered by the most searching investigation. On the other hand, upon inquiry, clinical facts of importance are often discovered, and it is therefore the duty of the physician, in every case when marked deviations occur, to make diligent search for their cause."

I enunciate a well-recognized fact when I state that every physician in general practice has had cases of typhoid fever where the temperature record has been irregular, when, at the morning or the evening visits, the thermometer has registered the same, or has shown some unusual features in the evening exacerbation, or morning remission, departing in some unsatisfactory manner from the gracefully arched curve of Wunderlich.

It has frequently been my lot to treat cases of fever having every symptom of typhoid, yet not responding to the well-marked type of temperature, as described by Wunderlich. For a long time it was very difficult to assign any cause for the variation, although it is natural for complications to disturb the rule, especially when we anticipate a typical curve in the temperature chart.

Dr. William Pepper has stated, in a recent clinical lecture, that "it was the exception, and not the rule, to find a typical case of typhoid fever." Although every symptom may be uncertain, or even frequently wanting, in some cases of typhoid fever, yet I believe the temperature, the peculiar form especially, remains the most constant factor, and, as Griesinger states, it "generally controls the situation."

During the last seven months I have had under my care a case of typhoid fever, in which the temperature record corresponded to the "inverse type," as described by Traube.

Bäumler, in drawing attention to this unusual character of the temperature, states that, in the great majority of cases, the daily fluctuations follow the rule of health, the exacerbation taking place in the

evening. We sometimes meet with cases where this order is reversed, the rise taking place in the morning, and the remission occurring in the evening.

This "inverse type," so named by Traube, of the daily fluctuations of a febrile temperature has been observed in some rare instances in typhoid fever.

I have been unable to find any additional reference to this unusual type of temperature in the systematic treatises on fever. Liebermeister or Murchison do not mention it in their works, nor have I been able to find any clinical reports bearing on the subject in any of the medical journals.

The clinical notes of my case are as follows:—

Frank M., aged fourteen, of thoroughly healthy parents, was taken ill, May 15, 1884. My friend, Dr. Schoales, being the family physician, was sent for. The doctor was indisposed at the time, and I was requested to take charge of the patient. I found that the boy had been sick for two days, a slight chill occurring three days previous, and ever since he had been feverish, restless, and stupid; he had refused food, and complained of headache; he had also slight nose-bleed and loose bowels. The history of the case was not unusual, having every well-marked typhoid symptom, and was of interest in the character of the temperature alone, which was as follows:—

Date.	A.M.	P.M.	Pulse.
May 15 . . . . .	102.8°	102°	100
May 16 . . . . .	104	103.4	108
May 17 . . . . .	103.5	103	108
May 18 . . . . .	103.8	102.4	112
May 19 . . . . .	105.4	104	116
May 20 . . . . .	104.6	101.4	96
May 21 . . . . .	103.6	102.8	108
May 22 . . . . .	100	102.2	96
May 23 . . . . .	99.8	99	96
May 24 . . . . .	100.6	100	96
May 25 . . . . .	101.6	101	96
May 26 . . . . .	101.8	101	100
May 27 . . . . .	98.8	99.2	100
May 28 . . . . .	100	99.4	100
May 29 . . . . .	100.2	99	100
May 30 . . . . .	101.6	99	98
May 31 . . . . .	101	97.4	98
June 1 . . . . .	100.8	99	100
June 2 . . . . .	98	98.4	98
June 3 . . . . .	98.4	97.4	98

In this case the boy had been complaining for a few days, according to the statement of the parents, before advice was called in. How much longer he had been ill we are unable to state, but, judging from the elevation of the first temperature (102.8°), the case was evidently well on in the first week.

The exacerbation recurring so regularly in the morning, and the remission taking place as faithfully in the evening, caused me to watch the case with unusual vigilance. We could hardly be mistaken in the character of the fever—Dr. Schoales subsequently visiting the case with me frequently, and corroborating the diagnosis; the stupid and listless countenance, the distended and tympanitic abdomen, the rose-colored spots, few, but constant throughout the illness, the gurgling in the lower portion of the abdomen, the loose bowels, the nose-bleed, the deafness, all conjoined to render the diagnosis certain. Then the duration of the illness,

<sup>1</sup> Read before the Philadelphia County Medical Society, November 26, 1884.

while not very severe, extended over four weeks, which corresponds to the average duration of uncomplicated typhoid fever.

The treatment of the case was such as to have but little effect on the temperature, except to lower it; diet exclusively of milk and milk food; the recumbent position faithfully maintained; large and well-ventilated room, thoroughly disinfected. No drug was used likely to influence the fever, with the exception that, during the prevalence of the highest records, thirty grains of quinia sulphatis were exhibited in ten-grain doses two hours apart during the night. This was ordered on three successive evening visits. Cold-water sponging of the body was continued frequently as long as the temperature remained above  $102^{\circ}$ . We were unable to discover any complications whatever; in fact, there were none: no bronchial irritation, no disturbance of the alimentary tract. The course of the fever was so uniformly regular, the various symptoms occurring in their usual order, and the whole phenomena of the fever convincing as to its character, except the very important factor noticed in the *inverse type* of temperature.

The want of uniformity in the temperature record of the case just noticed recalls the facts in a patient I had under my care nearly three years ago. The clinical notes recorded on the back of my temperature sheet at the time are briefly as follows:—

Walter, aged seven, was a well-developed boy, and the youngest in an exceedingly healthy family. The mother informed me that the boy had commenced to manifest a disinclination for food and play five days before any trouble was suspected. I was therefore called in on the evening of the fifth day. I found the little fellow quite delirious, with a temperature of  $103.4^{\circ}$ , a full pulse of 130, respirations 26, face flushed and apparently swollen, eyes congested, skin dry and hot, bowels confined. Ordered a fever mixture.

In the morning the temperature had fallen to  $100.2^{\circ}$ , pulse 100. The patient had relapsed into a quiet sleep during the early morning hours. The skin had become moist. On a more careful examination I found the abdomen tender, somewhat tympanitic and distended. The mother stated that there had been, during the past ten days, occasionally slight nose-bleed. The bowels showed a disposition to be free, yet, while not constipated, they had not been open regularly every day, now one or more free movements occurred daily. The third day, and probably of first week, if not more, the temperature, with a single exception, did not go above  $102^{\circ}$ , but had a gradual decline. The interesting feature was the morning record, which was higher than the evening. This unusual feature continued for twelve days; the amount of variation was from one to one and a half degrees.

On the twelfth day, about the twentieth of the attack, the morning temperature reached  $103^{\circ}$ , without any other unusual symptom, after which it changed and ran as a typical case of typhoid fever in convalescence: morning  $100^{\circ}$ , evening  $102^{\circ}$ ; morning  $98.8^{\circ}$ , evening  $101.4^{\circ}$ , etc.

The downward curve was thus continuing uninterrupted until the seventeenth day, when the temperature ran up to  $102^{\circ}$  again; following this rise,

the morning record marked  $98^{\circ}$ , and an intestinal hæmorrhage of over four ounces of dark blood, following an unusually large fecal movement.

The thermometer never registered a temperature after this above  $100^{\circ}$ . The case made a good recovery, convalescence slow. In this case we had a temperature-curve closely following an ordinary typhoid-fever chart, with the unusual exception of the twelve days of *inverse type*, with no discoverable complications to explain the cause.

I have not deemed it expedient to enter into an accurate analysis of each and every symptom of the foregoing irregular cases, knowing it to be exceedingly burdensome, yet I hope that I have sufficiently outlined the general features of typhoid, the phenomena of which are so constant as to make a diagnosis practically certain.

I wish now to present the salient points in a group of seven cases, occurring in the form of an epidemic in one family, in which the victims followed each other to bed in rapid succession, four of whom suffered very severe and prolonged relapses. All, however, eventually made a good recovery. It is not my intention to narrate these cases as especially unique or exceptional, but as taking place under one roof, and springing from one well-recognized cause; the variation in the temperature record alone became an interesting element of study.

The fever occurred in a very healthy German family; the parents as well as the children were free from any predisposing weakness.

CASE I.—Mary, aged thirteen, was the first to take sick. I made my first visit to her on December 6th, when I obtained the following history: The patient had been complaining for nearly a week of weariness, chilliness, aching in limbs, back, and head, loss of appetite, and a general disinclination to any physical exertion. I found her, at 12 M., with a temperature of  $104.8^{\circ}$ , pulse 112, skin hot and dry, puffiness around the eyes, with an injected conjunctiva, face dark and flushed. During the day had diarrhoea, with vomiting. At 8 P.M. of the same day, vomiting (continuing) of thick, tenacious mucus, tinged with blood and bile; bowels were opened seven times during the afternoon. Since my morning visit the girl had had low muttering delirium, but can be aroused by speaking in a loud voice. The backache was so very severe as to merit especial mention, it being more pronounced than is usually found in bad cases of typhoid. The girl constantly complained of it during the first ten days. On the same evening at 9 P.M. the thermometer had registered  $105.8^{\circ}$ . In the morning it was  $104.8^{\circ}$ ; in the evening it was  $105^{\circ}$ . During the day and night vomiting and purging continued nearly hourly—fifteen times by the nurse's report.

At the end of the eighth day, the second day of my visiting, the backache continued violently, the hands being involuntarily placed in that region. Bowels continued loose, vomiting the same. Distention and tenderness of the abdomen decidedly marked, with gurgling in right iliac fossa, tongue heavily coated, dark, and foul, sordes on teeth and lips. Vomiting discontinued on third day after taking her bed. Temperature  $104.8^{\circ}$  in morning,  $105^{\circ}$  in the evening; low muttering delirium, alternating with violent outbursts; three or four well-

defined, rose-colored spots at this date made their appearance on the abdomen. After the fourth day, probably the tenth or twelfth day of her sickness, the temperature did not run higher than  $104.6^{\circ}$ , but did not fall below  $102^{\circ}$  until the eighteenth day. One very noticeable feature in this severe case was that, for two weeks, every other morning's fall was less or intermittent in character, while the evening exacerbation remained the same. During this period there existed the wildest delirium, it being difficult at times to retain her in bed; bowels frequently moved involuntarily. The girl gained her strength very slowly; it was five weeks before the temperature approached normal, and it was ten weeks before she was able to leave her bed. She however made a good recovery.

The point worthy of attention is that the temperature in this nearly fatal case remained nearly the same for the morning and the evening record. Immerman tells us that only in cases in which the fever is very severe, and the absolute temperature very high, that the difference is less, and does not exceed three fourths of a degree.

CASE II. — The second member of the family to fall ill was the mother, aged thirty-two, who had acted as constant nurse to the daughter. It was thirty-four days after the daughter was taken sick, and the daughter was yet in bed, that the mother was compelled to relinquish her duties. I might state that the mother was on the eve of her confinement, that she watched and waited on her sick child up to the hour of her illness, she passed safely through her labor, remained in bed one week, was up and around the house for *five days* before she had any decided symptoms of fever. She had a slight chill which was soon followed by a temperature of  $104.6^{\circ}$  in the evening. This was, however, the highest point reached. She had no delirium or vomiting. Bowels were opened daily, but not unnatural. The temperature remained high for over a week, ranging between  $103^{\circ}$  and  $104.5^{\circ}$ . It had a gradual decline for over thirty-six days, when it reached normal, without any unusual variations between the morning and evening record. Convalescence was very slow. The record was a typical temperature record from the second week of typhoid, yet much milder than the child. The puerperal state did not seem to modify the course of the fever or endanger the life of the patient.

CASE III. — The husband and father, aged thirty-six, a house-carpenter by trade, a rugged and compactly-built German, was next on the list. He was a perfect type of physical perfection. He continued his work up to the hour of taking his bed, on February 10th. He had complained of a cold, headache, and sore throat for two days previously. I found him, on the morning of the tenth, with a temperature of  $105.6^{\circ}$ , pulse 90, respirations 20; dry, hot skin; dark and infected countenance; bowels loose; abdomen flat; very stupid and sleepy. In this case the pulse was full and regular, never going above 90, yet for over two weeks his temperature lingered around  $105^{\circ}$ , with profound stupor, alternating in the wildest delirium. He had, during the second week, constant *subcostal tenderness* and frequent involuntary movement of the bowels. On the twenty-second day of his illness he suffered a hemorrhage

of fully eight ounces. He had several smaller hemorrhages previous to this date. On the sixteenth day his temperature fell to  $101.2^{\circ}$ , remaining under  $102^{\circ}$  with but one exception, when it ran up to  $103^{\circ}$ . Temperature did not reach normal until the thirty-eighth day.

CASE IV. — Caroline, aged five, was taken ill on January 13th, three days after her mother. She started with a temperature of  $104.6^{\circ}$ . She had been listless and stupid for a week preceding her complete prostration; during the prodromata I registered her temperature twice daily, but did not find the thermometer above  $100^{\circ}$ . Two days from the last date, the fever had reached  $105.4^{\circ}$ . From this point on it was a gradual decline for twelve days, when it as gradually climbed up to its old figure of  $105.4^{\circ}$ . This intermitting type continued for forty-two days, when it fell below  $100^{\circ}$ , and I ceased to make a record. The case was one of unusual severity, frequently losing large quantities of blood by the bowel, yet constipation was the rule throughout the illness. Epistaxis was also constant, the face being stained daily with blood; low delirium existed for over two weeks. The patient was in bed for over seven weeks.

CASE V. — Katie, aged ten, had a temperature record of her own — a marked difference existing in this case from the others. Above  $104.4^{\circ}$  to start with, reaching  $105^{\circ}$  the same evening, remaining above  $104^{\circ}$  for *three days*, then gradually declining for three days, when it again assumed the upward tendency, holding it for three days; then came a rapid fall. This intermittent character in the temperature continued for thirty-two days. This case was obstinately constipated throughout her illness, and was but slightly delirious. Recovery slow. Six weeks in bed.

CASE VI. — Pauline, aged fourteen, an unusually well-developed girl, and the last case which I deem of sufficient interest to record in the history of this family epidemic, will also illustrate a different phase in temperature irregularities. Three of the children before they became actually sick were noticed to have a weary, listless expression, did not manifest interest in their play, showed a decided preference for the house, which was contrary to their usual habits.

I registered the temperature of two of the younger children for a week or more before they were stricken down, and I did not find an elevation of temperature but slightly above normal, unless the temperature was taken in the evening, when it was generally near  $100^{\circ}$ . Taking into consideration the daily fluctuation in health, which is always higher in the evening, I could scarcely draw the line between the normal evening elevation in health, and the insidious approach of the fever. With Pauline I still endeavored to anticipate the onset of the disease. Acting on the suggestion of some of my professional friends, I commenced to register her temperature nearly two weeks before I perceived any indications of her being the next to fall sick. I might anticipate any theoretical conclusions likely to find lodgment in your minds as to the causation, by stating that the girl had been employed in a dry-goods store, and was brought home to take charge of the sick family. Upon her devoted

most of the washing and cooking for the sick. While the younger children were out of the house nearly all day at play, she was busy with household duties, and was in this way more exposed to the infectious disease than her younger sisters, who seemed to contract it so readily. I found it most convenient to take her temperature at the time I visited the other members of the family, that is, between nine and eleven in the morning, and eight and nine in the evening. I never found her temperature above normal, until within four days before she was compelled to take her bed. Three days before her prostration, the thermometer registered  $102^{\circ}$ ; normal the following day; second day it was  $101.6^{\circ}$ ; the following day it ran up until it reached  $104.4^{\circ}$ . Her temperature continued high for over ten days, ranging from  $103^{\circ}$  to  $105^{\circ}$ ; then assumed the intermittent character so frequently noticed in the record of the other members of this family, after which the fever record had a gradual decline. By anticipating her attack of the fever, and registering her temperature for over a week, three days in which her fever was above normal, gave us part of the ascending scale of Wunderlich — yet does not supply the gradual ascent and the lengthened arc of the semicircle, which should describe the model typhoid temperature record.

I have hinted that the cause of this epidemic had a tangible existence. While it is not the object of this paper to touch upon the aetiology of typhoid, yet it may not be without interest to mention the environments of this fated household. It is unusual to have seven cases of typhoid occur in one family, and follow each other in such rapid succession; yet not until the third member of the family was prostrated, could an adequate cause be found.

The head of the family was an industrious carpenter, who resided, with his wife and five children (two older girls were not living at home), in a two-storied, four-roomed house, near Thirteenth and Columbia Avenues. The house was quite comfortable for a small family, but not so for this one; hence they were crowded. Yet I have seen families packed in, and live free from disease, when there has been actually more to a room than in this family. The cellar was dry, drainage in a fair condition. A vacant lot of enclosed ground intervened between our family and the nearest neighbor on the north. This neighbor on the north was in the milk business, and for his convenience he had excavated a pit in the vacant lot adjoining our family's cellar wall, four feet deep, into which he had dumped the rubbish of the yard. The rain and snow, falling upon the decomposing mass of organic material, soon found its way through the intervening stone-wall; percolated its liquid poison into the cellar. This filth, while not at all times sufficient to be recognized by the sight, was more frequently perceptible to the sense of smell. The pit could in no way impregnate the drinking-water of the family for, as a precaution, I had all the water that was consumed for that purpose brought to them from a distant neighbor.

While we have mentioned the exceptional in the temperature record, we may also entertain a doubt of this rubbish pit being the only factor in the family illness. The first case in the epidemic,

Mary, aged thirteen, was employed in a store; hence she was not in the atmosphere of the house as long as the mother, who was the only one who constantly lived in the poisoned house, and yet second on the list, and, while she had a severe attack, her illness was not so prolonged as the first. Again, Pauline, the eldest girl, came from another family, in perfect health, resided for three months in the infected house, exposed to every form of contagion, and was the last to succumb to the disease; and when finally she was prostrated, the fever ran a comparatively mild course.

In directing your attention especially to the peculiarities of temperature in the foregoing cases that ended in recovery, I wish now to contrast them with one that, while the temperature was under control, and lower than any of the foregoing, yet, without complications, ended fatally.

A finely built young man of twenty-seven, regular, but rather full habit, first complained, on August 1st, of intense headache, backache, indifferent appetite, and general disinclination to exertion. He left the city, against the wishes of friends, as well as myself, for a trip through the South. On the third, he was taken violently sick; sent home, he reached the city on August 4th. At my first visit, same day, at 12 M., temperature was  $104^{\circ}$ ; at 8 P.M.,  $104.4^{\circ}$ . On the sixth day, he lost consciousness. His delirium was wild and pugnacious; constant mutterings. At the same time, his temperature fell below  $104^{\circ}$ , and remained below for over a week. On the tenth day his temperature reached  $104.6^{\circ}$ . From this point it fell, and remained under  $103^{\circ}$  until the fifteenth day, when it ran up to  $104.6^{\circ}$ , at death.

It is unusual to find patients unconscious when the temperature is so easily under control. In this patient the only antipyretic measure used was the cold bath. None of the symptoms of this case were as severe as the group occurring in the epidemic; yet this case terminated in death, while all of the others, indifferently nursed and badly surrounded, made good recoveries.

While it has been my principal object to record these cases of typhoid, as departing in a measure from the temperature law of Wunderlich, I wish to call your attention incidentally to the following facts:—

First, Six of the group of cases noticed in this paper were children, yet we had a severe course of the fever, and the temperature record commenced high, showing frequent irregularities. Wunderlich states, that in children, particularly in the younger subjects, the course of typhoidal temperature is somewhat irregular. The commonest of these irregularities is its extreme mildness; yet the temperature rises in the first days to a higher average than in adults; it passes more quickly into the remitting period, and defervescence is less protracted, but complications often occur, closely indicated by the temperature.

Second, In the nine cases of typhoid, including mild as well as severe examples, we had four cases of intestinal hemorrhage; an unusually large percentage. Systematic writers on fever regard intestinal hemorrhage as a rare and grave symptom. While Liebermeister states that there is not a single

symptom belonging to typhoid which can be characterized as pathognomonic, yet a tendency to diarrhoea is quite frequent and intestinal hæmorrhage quite rare: in our cases we found the bowels confined in over half of the cases.

Dr. Broadbent looks upon constipation in typhoid as of sufficient importance as to entitle the fever a distinct variety.

## Hospital Practice and Clinical Memoranda.

### MASSACHUSETTS GENERAL HOSPITAL.

SERVICE OF GEORGE C. SHATTUCK, M.D.

#### CASE OF ULCERATIVE ENDOCARDITIS.

REPORTED BY HENRY JACKSON, HOUSE OFFICER.

##### HISTORY TAKEN FROM THE FATHER OF THE PATIENT.

FAMILY history good. Child always delicate; subject to slight cough; he had noticed rapid and violent action of the heart. So far as the father knew the child had never had any acute disease.

Four days before entrance the child was apparently as well as usual. Three days before entrance she seemed sick in the morning; vomited once. That night was restless and had slight pain in her head. The next day screamed all day from severe pain in her head; the day before she entered she was delirious, constantly tossing, screaming, and apparently in great pain. She had not slept since the first of the attack.

*Physical Examination.*—Child twelve years old, emaciated, cold, and livid; mouth open; sordes on teeth and lips; tongue dry and cracked. Moans occasionally; head retracted; muscles of back of neck rigid; thighs flexed; resists attempt to straighten them. Lies on the left side and cries if touched. Very violent, tumultuous pulsation in the left front from second to fifth interspace. No localized apex beat. Thrill at the apex most marked in the sixth interspace just outside the nipple; area of cardiac dullness begins on the second rib, extends one and one-half inches outside the left nipple, and half an inch to the right of sternum. Loud presystolic and prolonged systolic murmur at the apex. Systolic murmur is transmitted into the left back. The pulmonic second sound is accentuated. Pulmonary resonance and vesicular respiration throughout the chest without rales. Pupils contracted, equal. Nothing abnormal was found in the abdomen. The spleen was not examined. There were a few small dark-red papules on the trunk. Temperature 102°F.; pulse very small, 110; respiration, 35. In the afternoon patches of urticaria appeared on the legs and abdomen. Tracheal rale; morning; evening temperature 105.5°F. A little morphia was given at night. The next day numerous small petechiæ were found scattered over the body. There was involuntary micturition. The patient was perfectly quiet all the second day, and died at 4.30 p.m.

*Autopsy by Dr. R. H. Fitz.*—Extreme lividity of

the dependent portions of the body. Numerous small petechiæ and hæmorrhagic papules.

*Brain.* On removal of the calvarium the dura mater was tense; the pia mater was deeply injected and dry; the convolutions somewhat flattened; pale opaque gray streaks along the veins over the convexity, suggesting purulent infiltration. The right side of the brain near the angle over the fissure of Sylvius contained a diffused patch of hæmorrhage infiltrating the arachnoid, and extending to the median line at the base. Both middle cerebral arteries were obstructed by reddish-gray emboli at the point where the anterior cerebral arteries are given off.

In the cerebral substance of the right hemisphere, corresponding to the region supplied by the obstructed artery, was a clot of blood the size of a walnut, lying in a cavity the walls of which were dotted with points of blood.

*Heart.* Pericardium opaque and thickened. Heart the size of an adult's fist. The initial valve admitted two finger-tips. Endocardium of the left auricle and ventricle were thickened and opaque. Endocardium of the left auricle near the initial valve was spotted with numerous elevated patches of gray translucent tissue. A reddish-gray soft thrombus adhered to an ulcerated surface of the left auricle. The ulcer was as large as the end of the thumb. Curtains and tendons of the initial valve were thickened and contracted. Spleen was increased threefold in size.

In the kidneys were numerous nodules of anæmic necrosis, several of which contained small cavities from which purulent fluid could be squeezed. There were also emboli of the liver and spleen.

*Diagnosis.* Cerebral embolism and hæmorrhage. Chronic endo- and pericarditis. Acute ulcerative endocarditis and parietal thrombosis. Embolism (septic?) of spleen, kidney, liver, and hepatic artery. Fatty degeneration of the kidneys.

## Therapeutic Memoranda.

### PHENOL-CAMPHOR.

BY THEODORE SCHARFEL, M.D., OF BEECHER, ILL.

The writer noticed (in December, 1882) the important fact that when common or Japan camphor and crystallized carbolic acid are mixed together and subjected to heat, a colorless liquid would be the result. The only reference he finds so far with regard to this reaction occurs in the very excellent and valuable scientific publication of Dr. E. R. Squibb, "Ephemeris of Materia Medica," etc., on page 673, vol. ii., No. 5, where a brief allusion appears under the appellation of Compound Alum Powder. Dr. E. R. Squibb, however, in a letter to the writer states that he has "several times before heard of this reaction between phenol and camphor." Phenol-camphor is best obtained by heating crystallized carbolic acid until it melts, and then gradually adding camphor; a clear liquid is obtained, which is characteristic on account of its permanency. In preparing this substance the writer uses equal parts of camphor and of carbolic acid. It remains liquid for an indefinite time, and does not solidify on being

subjected to the low temperature of a frigorific mixture of snow and sodium chloride. Phenol-camphor ( $C_8H_{11}O$  [?]) is a colorless, refractive liquid, possessing the fragrant odor of camphor, entirely extinguishing the one of carbolic acid, and has a sweetish camphoric, but biting taste, not as caustic as that of carbolic acid, somewhat benumbing the tongue. It is soluble in alcohol, ether, chloroform, and ethereal oils, but is insoluble in water, being heavier than the latter. I have not had the occasion to determine the boiling point and the specific gravity of phenol-camphor. When ignited it burns with a smoky flame. I have used phenol-camphor as a local anæsthetic in odontalgia, introducing it on cotton into the cavity of a carious tooth, with good success, and can speak of it favorably as a local anæsthetic in the ingrowing of the toenails.<sup>1</sup> This substance can be likewise used as an antiseptic. It mixes well with paraffin, cosmoline, and many oils. In impregnating cotton gauze (antiseptic gauze) phenol-camphor may be used as a substitute for carbolic acid. Phenol-camphor is less irritating, less caustic than carbolic acid, and has the advantage of possessing a pleasant odor.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY.

ALBERT N. BLODGETT, M.D., SECRETARY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

DECEMBER 10, 1884. The meeting was called to order at eight o'clock, P.M., by Dr. R. T. Edes, chairman.

Dr. H. I. BOWDITCH asked the privilege of addressing the Section for a few minutes, prior to the transaction of the business of the evening, and then spoke as follows:—

Before we enter upon the regular business of this Section, I ask permission to announce the death of one of the ablest of the members of the Massachusetts Medical Society. I allude to Henry A. Martin. He was, in my estimation, one of the strongest of the medical men it has been my fortune to meet either here or elsewhere. His long residence in Roxbury, and his frequent intercourse with the physicians and surgeons of Suffolk and Norfolk Counties, seems naturally to call upon us, who as a Section of the State Society meet first after his death, to take some notice of that event and of the loss which the profession has sustained.

Dr. Martin died of diabetes, quietly, and apparently without suffering, during the forenoon of December 7, 1884. He had been fully aware for two years that the disease had fastened upon him, but he made little or no complaint even to his family, but kept steadily at professional work until within a few past weeks. Finding that his strength was gradually but surely lessening, he had thought of resigning all laborious out-of-door practice and attending only to consultations at his office. During the last weeks especially, his physical debility

was greatly increased, and he kept his bed, but with no improvement.

Believing that death was near at hand he calmly bade farewell to his family, and soon after fell into a quiet sleep, from which he never awoke. Let us hope that such a tranquil ending of this life may be vouchsafed to us all.

In looking upon Dr. Martin's life and character, we must, I think, admit that in most of his salient points he was a man "*sui generis*." I at least know of no one like him. Intellectually he was far above most persons I have met, and physically he was one of the tallest and seemingly one of the most stalwart.

In conversation, not only on medical subjects, but upon a large range of topics, some of them widely removed from professional thought, he was superior to the majority of men. He had studied deeply into the history of medicine; in this department I know but one of our living associates who could approach him. He gloried in the greater heroes among the medical men of the past. Especially was he drawn to any one who by native vigor of intellect and perhaps fierce professional contests had won for himself fame in spite of all the babbling oppositions of men who apparently hated him because of his very superiority to themselves. For example, he sympathized heartily with that giant of our profession, grand old Ambrose Paré, who gained his ever-enduring fame in spite of the sneers of the robed professors of the School of Medicine at Paris, and the carping criticisms of smaller men in the profession at large. From a similar superiority of mind, and perhaps we may allow, from an apt readiness and joy in intellectual controversy, and from the fact that he never concealed an opinion even if it struck rather severely or perhaps sarcastically at even a friend's favorite notion, some have been led to think Dr. Martin was too pugnacious. Truth compels me to admit that at times he may have been almost savagely hypercritical in allusion to the writings or actions of others. Especially was this trait manifested whenever or wherever he knew there was a lack of fair dealing on the part of an opponent. But he was always a brave and frank-speaking antagonist. I have had some sharp passes with him at times, but our friendship was never marred by them. Nay more—I can say truly that my respect for him has always been rather increased than lessened by these contests, for I found him always open and fair in his opposition to my views. Anything like cant or hypocrisy or unfair dealing, exhibited by an opponent, seemed to awake in him a sort of fury, and he unsparingly used the lash upon his antagonist. With a kind of Martin Luther violence he would at such times hurl defiance at any thing or person that arose before him, and right manfully he would defend the position he had taken. I grieve to say that, in consequence of this peculiarity, some of the more sensitive of those whom he felt himself called upon to criticize may not hold his memory in their hearts so gratefully or so inspiringly as I do. I shall always regret his loss because our relations were always friendly, notwithstanding an occasional difference in opinion, and from him I could often gain excellent information which I could get from none else.

<sup>1</sup> I have also used it, in combination, in certain cutaneous eruptions due to cryptogamic cause.

Before closing these remarks, which have so much of a merely personal character, I would refer to the fact that, in addition to having been an able medical practitioner amongst us, he has been of inestimable advantage to every community in the world where animal vaccination is now used. His energy and decision of character, his knowledge of the past, have brought us all back to first principles on vaccination as proposed by Jenner.

One at least of his surgical devices is almost universally used, not only in this country, but in Europe, and probably elsewhere where surgery is practised.

For the above reasons we feel that he was an able practitioner of medicine and surgery for many years amongst us, and because medicine has been helped onward by his life's work, I have wished that due honor should be paid to the memory of our dead associate.

Believe me, gentlemen, you will wait for a long time before a man comparable with him will arise amongst you.

By motion of Dr. BLODGETT, seconded by Dr. J. P. REYNOLDS, Dr. Bowditch was requested to convey to the family of Dr. Martin the regrets of the Section at the loss of one of the distinguished members of the medical profession.

#### SACCHARATED OXIDE OF IRON.

DR. G. L. WALTON exhibited a preparation of iron to which he had called attention some months ago in a published article, but which had not become generally known to the profession.

It may possibly be remembered that I called attention<sup>1</sup> sometime since to several agreeable iron preparations in common use in Germany, but not as yet introduced into America. The merits of one of these preparations especially impressed me, namely, the so-called *Eisenzucker* (*Ferrum Oxidatum Saccharatum Solubile*), and I am glad to be able to show a specimen of it this evening, and to state that Metcalf and Company have undertaken its preparation, with this very satisfactory result. It is a brownish-red powder, of a very agreeable, sweet taste, completely soluble in five parts of water, and containing three per cent. of metallic iron. It does not discolor the teeth, and on account of its ready solubility may be taken for an indefinite length of time without affecting the digestion, even in cases where iron is otherwise ill borne. It will be found especially valuable in chlorosis, for susceptible nervous patients, and for children. The dose is five to twenty grains three times a day, to be taken in water or in powder. Most convenient and agreeable will be found the tablets, of which I have here five and ten grain specimens. Mr. Davidson assures me that this particular sample contains three and one-half per cent. of iron by actual assay. He also tells me, it may not be out of place to state, that he finds the precautions given me by the Leipzig pharmacist, Herr Blaser, of the utmost importance, and that a much more satisfactory result is reached by following his directions (detailed in the article already alluded to) than by following simply those of the pharmacopoeia. The difficulty of making the preparation may have had something to do with the postponement of its intro-

duction in this country. Its value, however, once recognized, I feel sure it will be generally adopted, and it is rather remarkable that among the needlessly multiplied and unsatisfactory forms of iron in American pharmacy this really elegant preparation has been so long overlooked. To show that it is not identical with, and that it is far superior to, the saccharated carbonate of iron, I have brought in a specimen of the latter, which has very much the color and general appearance of dirt, and is not particularly agreeable to the taste. I pass around two bottles containing about five grains each of the powders and half an ounce of water. It will be seen that, while the *Eisenzucker* makes a perfectly clear red solution, the carbonate is only partially dissolved, giving a murky mixture with a black residue. (Dr. Edes asked for the composition, saying that it could hardly be an oxide if soluble in water.) In answer to Dr. Edes: I cannot find that the chemical formula has been made out. It is certainly more than doubtful if it is really an oxide, notwithstanding its name. It is mentioned in the United States Dispensatory under *Ferri Peroxidum Hydratum* as a so-called oxide of iron adopted in the German pharmacopoeia. The process of manufacture was then described briefly.

In answer to Dr. Webber, Dr. Walton said that he did not know how long the solution in water remained unchanged, but that it did so for several days he could state with certainty from observation.

Dr. J. J. PUTNAM then presented the first paper of the evening, entitled

#### A STUDY OF THE DEVELOPMENTAL DISEASES OF THE NERVOUS SYSTEM,

which is reserved for publication.

Dr. P. C. KARP presented a very complete and exhaustive study of

#### CUTANEOUS AND DEEP REFLEXES,

extending over a long time and comprising several hundred observations, an abstract of which is here given:—

The observations were made upon 239 patients in the nervous and renal service at the Boston City Hospital.

The frequency of absence of the cutaneous reflexes was follows:—

	Cases Examined.	Present.	Absent.
Plantar . . . . .	234	217	17
Cremaster . . . . .	167	146	21
Gluteal . . . . .	179	113	66
Abdominal . . . . .	239	142	97
Epigastric . . . . .	239	97	142
Erector spinae . . . . .	178	45	133
Scapular . . . . .	177	15	162

In nearly every case in which the plantar and cremaster reflexes were absent there was either some lesion of the reflex arc, as in neuritis or myelitis, or some cerebral disturbance like coma, hemiplegia, or convulsions. No pathological cause could be assigned for the absence of the other reflexes. When the reflexes differed on the two sides it was usually significant of some unilateral disturbance of the

<sup>1</sup> Boston Med. and Surg. Journal, January 12, 1882.

nervous system, but in one or two cases no such disturbance could be made out.

The frequency of absence of the deep reflexes was as follows:—

	Cases Examined.	Present.	Absent.
Patellar . . . . .	239	192	47
Tibial . . . . .	231	18	213
Ankle clonus . . . . .	238	12	226
Toe clonus . . . . .	229	0	229
Triceps . . . . .	239	108	41
Radial . . . . .	239	131	108
Ulnar . . . . .	239	61	178
Extensors of wrist . . . . .	239	25	214
Wrist clonus . . . . .	239	0	239
Costal . . . . .	234	161	73
Lumbar fascia . . . . .	178	33	145
Spine of scapula . . . . .	178	45	133

The patellar reflex was also tested in eighteen patients under ether, and was found absent in six.

The patellar reflex was found absent not only in cases of myelitis, locomotor ataxia, multiple neuritis, etc., where there was evidence of lesion of the reflex arc, but also in many cases of cerebral disturbance, like coma, cerebral hæmorrhage, and obscure cerebral disease, especially in alcoholic subjects. The theory was advanced that such disturbances in the brain might have an inhibitory action upon the reflex centres in the cord, abolishing their action.

The tibial reflex was found usually in cases where the patellar reflex was exaggerated, but was not necessarily pathological.

Ankle clonus was found four times immediately after convulsions; in other cases there was disease of the lateral columns. Its presence was regarded as always pathological.

In a few cases of exaggerated patellar reflex patellar clonus was tested, and was found in five cases, in four of which there was disease of the lateral columns. It was regarded as pathological.

The presence of the reflexes of the upper extremity was found to be very common. The cause of absence was not clear.

The costal cartilage reflex was found very often, and no clear relation between its presence and the existence of phthisis was apparent. The other reflexes were unimportant.

A difference of the deep reflexes on the two sides was usually significant of unilateral nervous disturbance, but, as with the cutaneous reflexes, one or two cases were found where no such disturbance could be made out.

Dr. WEBBER said that it gave him pleasure to testify to the correctness of these observations, as they were made when Dr. Knapp was house officer, during Dr. Webber's term of service at the City Hospital. He was able to "control" many of Dr. Knapp's experiments, and was satisfied that they were thoroughly reliable. They constitute a valuable addition to our recorded knowledge upon the character of different reflexes under a great variety of conditions.

#### TENDON REFLEX AFTER FRACTURE OF THE PATELLA.

Dr. Walton also introduced a cast of a knee, which he felt sure would be of interest, not only from the rarity of the case, surgically consid-

ered, but also in connection with Dr. Knapp's paper. The cast was obtained (through the kindness of Dr. W. J. Otis) from a patient who was under treatment in the nervous Out-Patient Department of the Massachusetts General Hospital for another trouble, but who had an ununited fracture of the patella, with separation of the fragments measuring six inches when the knee was flexed, three and a quarter inches when extended. The only difficulty experienced in walking, by the way, was in going up and down stairs. The interesting point in connection with the subject was that, while no reflex could be obtained by striking below the knee, a distinct reflex followed the tap just above the upper fragment, the muscle being felt to contract, the patella fragment to be drawn up, and the skin over the joint to retract, although, of course, no motion of the foot followed.

Dr. EDES spoke of the varying results which will be obtained according as the blow is struck with a greater or less amount of force, and penetrates more or less deeply into the tissues. The study of the phenomena of the patella is very interesting. This reflex is entirely absent only in those cases in which the nervous centres may be supposed to be diseased.

Dr. PUTNAM moved that the report upon the recent epidemic of cholera in Paris, which the Secretary had been requested to prepare, be postponed to the next meeting. Adjourned at 10 o'clock.

### THE PHILADELPHIA COUNTY MEDICAL SOCIETY.

REPORTED BY G. BETTON MASSEY, M.D.

MEETING of November 26, 1881. Dr. W. C. HOLLOPETER read a paper on the INVERSE TYPE OF TEMPERATURE IN TYPHOID FEVER.<sup>1</sup>

Dr. J. C. WILSON, in opening the discussion, said: The paper of Dr. Hollopeter is very interesting and suggestive. It touches upon or suggests almost every important clinical problem relating to this disease. Its free discussion would be impossible in one, or indeed in many evenings. Two or three points call for special consideration.

First, The typical temperature-curve, and its variations. The well-known course laid down by Wunderlich as a standard is met with perhaps less frequently than strongly marked variations. Nevertheless, a knowledge of that course is the key to the understanding of the variations from it. Wunderlich, after describing the course of the first four or five days, lays down the law that every case which does not conform to this temperature type is not typhoid fever. This dictum has been the source of manifold errors in diagnosis. No more fallacious statement could be made. Cases of undoubted typhoid fever constantly occur, in which the range of temperature fails to conform to the typical curve, not only in the beginning of the attack but throughout the whole course of the disease. In fact, cases sometimes occur, the nature of which is fully established by the complexus

<sup>1</sup> See pages 28-32.

of symptoms and the existence of local epidemics, in which the temperature remains throughout even *sub-febrile*. The singularly labile temperature in this disease, rising and falling, as it does, under very slight disturbing external influences, makes it a matter of surprise, not that the temperature is not always typical, but rather that it ever closely conforms to the type.

Second, The inversion of the diurnal range, of which Dr. Holloper has given two instances, is not common. I have seen cases of it, to which I will briefly refer. I am not aware that any adequate theory of this curious clinical phenomenon has yet been advanced.

Third, House epidemics. The second part of the paper, which considers the details of this curiously circumscribed and localized outbreak, is very interesting and important. It is by the study of such house epidemics that a true insight into the aetiology of the disease is to be gained. I do not agree with the author of the paper, in ascribing the disease in the infected house to the percolation of waste-water, through the cellar-wall, from the adjoining premises. In order to establish this theory, it would be necessary to show, first, that such percolation, if capable of producing this disease, had not been going on for an indefinite time prior to the attack; and, second, that typhoid fever had existed in the neighbor's house, or at least that the dejecta of typhoid patients had been thrown into the pit from which the drainage into the cellar ran. These facts have not been shown. On the other hand, it appeared clear enough that the first case, the young woman who had come home sick from another house, had introduced the disease. An investigation of the house and neighborhood from which she came would doubtless shed light upon the subject. House epidemics are numerous in Philadelphia. Certain houses, however, seem to be the abiding-place of the infecting principle, seeing that cases occur in them from time to time during a series of years.

Dr. E. T. BRUN. I agree particularly with the remarks relating to the contagion. Two cases recently seen by me illustrate this: a washerwoman took home the clothes of a typhoid-fever patient. Within a week, her two children drooped and became feverish. They were taken to the Children's Hospital and one died there with no autopsy; the other was taken home, where it died, and I made a post-mortem examination. The typical conditions were present. No other cause was known. I am also interested in what Dr. Wilson has said about alterations of temperature from slight causes. We notice the same thing in diseases of the liver, in which cases the thermal wave fluctuates with the injection of food. If we admit these causes, I think we can readily admit psychic influences in the same rôle.

In diagnosing typhoid fever, it is to be distinguished from malarial fever and catarrhal fever. Malarial fever is *sui generis*, and can be controlled in this latitude by quinine. I believe that malaria will modify the initial stages of typhoid fever. Thus one of the groups of cases called typho-malaria takes its name. Neglected malarial fevers form another group of so-called typho-malarial fever, which is not a disease *sui generis*.

I have seen many cases of mild typhoid fever—the so-called typhoid ambulatorius. Throughout, these cases have shown a temperature of 100°, not over 100°, but I would not make the diagnosis of typhoid fever if the temperature after the fifth day fell below 100° in the evening.

Catarrhal fever is characterized by peculiar weakness, with various catarrhal conditions of lungs and bowels. The temperature runs from 99° to 100°, and is at times almost normal. Such cases should be classed as catarrhal fever, and are very similar to the specific forms of influenza. They may be recognized by the fact that the temperature is very irregular, and it is impossible to control this feature by quinine. I think these are the cases which have often been confused with mild typhoid.

Dr. B. TRAUTMANN. Niemeyer speaks of inverse temperature in typhoid fever, and says that these cases end, generally, fatally. This seems to disagree with the statements made here to-night. I have at this time a case showing this curve, in which a hæmorrhage of the bowels followed this morning.

Dr. KEVIN. I have also a case now under treatment showing inverse temperature.

Dr. ARTHUR V. MEIGS. With regard to the aetiology, I do not think Dr. Wilson's position is well taken. In the face of the authority of Murchison, that typhoid fever may arise *de novo*, it seems to me hardly fair to assume the germ theory as proved, although the medical mind seems at present to be inclined in that direction. Typho-malarial fever has always seemed to me a bad name, for it misleads; it means, in its proper sense, a hybrid, both malarial disease and typhoid fever co-existing in the body at the same time.

Dr. W. A. EDWARDS. In the case of a young man under my care whose temperature presented the peculiarities spoken of, a diagnosis of double quotidian was made. On the eighth day, signs of typhoid fever set in, and lasted four weeks; then again there was a typical double quotidian. If the case had not been so diagnosed, it would have been put down as a case of typhoid fever with inverted temperature. This, with other cases, I published in the *Medical and Surgical Reporter*, November 17 and 24, 1883, and mention it to-night to call attention to the fact that all cases of inverted temperature in typhoid fever are not due to the typhoid entirely, but frequently to a complication, this complication occasionally being almost unrecognizable except for its effect on the temperature.

Dr. WILSON. A clear comprehension of the mode in which typhoid fever is propagated from previous cases, by means of a specific infecting principle, is of the utmost importance. Murchison, it is true, held that it might arise *de novo*. Nothing in the literature of the subject is more brilliant than that great author's advocacy of this view, but the student of the subject knows that it was asserted in Murchison's day with a vigor scarcely inferior to that with which it has been defended here, with more success. To Dr. Wilson Budd, of Bristol, is due the credit of showing that Murchison's view was untenable. To-day it is no longer entertained.

Dr. MEIGS. I did not pretend to deny that a single case of typhoid fever may be the focus from

which any number of others may arise. I merely contended that, in the face of Murchison's opinion that the disease may arise *de novo*, we should be careful how we assume as proved the germ theory.

Dr. J. SOLIS COMEN. I do not rise to speak directly to the subject of the paper, as I do not see typhoid fever except in hospital practice. Many years' observation has convinced me that sudden rises of temperature in typhoid fever, as in other diseases, are often due to obstruction of the bowels even though diarrhoea may exist. A small dose of castor oil will usually quickly relieve the bowels and reduce the temperature. The ordinary milk diet is then to be modified by the addition of lime-water, or by substituting boiled milk for cold. My residents have for years had general instruction to pursue this plan without awaiting my daily visits.

The family epidemic recorded, reminds me of a similar one in a German family, the members of which were distributed to several hospitals, three of them coming under my own care. A marked local epidemic occurred among the sailors on board the Russian war-vessels which, several years ago, were lying off the wharf at Kensington, some sixty of whom came under my care, with the most typical demonstration of the true typhoid curves that I have ever seen. The temperature charts looked as though they might have been copied from a textbook. The cause, in these instances, was the drinking of water from the Delaware River, which the sailors, following an old custom, dipped from the side of the vessel within a few feet of the open outlets to sewers.

I was very much interested in the story of the poor washerwoman's family. Our duty in the presence of contagious disease is very clear, and is too much neglected by physicians. We should not allow our patients to send clothes out to be washed, until they have been thoroughly disinfected. Indeed, rather than subject a family to contagion, let the clothes be burned. Many a poor washerwoman in this city brings typhoid fever, diphtheria, and other diseases, to her household, through the carelessness or indifference of her customers.

Dr. HOLLOPETER, in closing the discussion, said: I had felt a certain uneasiness in presenting my cases of *inverse temperature*, as I could obtain but little authority for the same, yet I have recorded the simple facts, and am glad to learn that other members have also noticed similar cases. In a future paper I hope to give more of the literature of the subject. In answer to Dr. Wilson, as to the causation of the house epidemic, I would state that Mary, the first to take sick, was, at the time, not living at home, yet she frequently came home for a few days at a time. The family she was working in were all healthy.

—According to *The Dartmouth*, Dr. O. S. Taylor, of the class of 1809 of that college, living at Auburn, N. Y., completed his 100th year on December 17th. He also graduated from the Medical College in 1813, the second class that went out from that institution. As far as is known, he is the oldest living graduate of any American college.

## CHICAGO GYNÆCOLOGICAL SOCIETY.

W. W. JAGGARD, M.D., SECRETARY.

REGULAR meeting, December 19, 1884. The President, Dr. H. P. MERRIAM, in the chair.

Dr W. H. BYFORD read a paper entitled

### A CASE OF MURAL PREGNANCY.

The history of the case was obscure. The patient, twenty-eight years old, married seven years, had one child six years old. She supposed she became pregnant for the second time in February, 1883. In April she became fatigued, and had hemorrhage, which continued until May 9th, — about four weeks. On October 14th a discharge of yellow fluid, about one gallon in quantity, occurred. A putrescent, sero-sanguineous discharge followed, continuing three months. In January, 1884, a large brownish mass, with very fetid odor, was expelled. After this event menstruation occurred until July. In May she was quite large, and had bearing-down pains. She entered the hospital on October 6, 1884. She was tapped, October 18th, and about four quarts of thick, tenacious fluid, resembling the fluid of an ovarian cyst, were removed. This fluid coagulated, on the addition of nitric acid, and on boiling. Assisted by Dr. R. Filley, a microscopical examination was made, with negative results. The "Drysdale" cell was not found. Laparotomy was performed, and a fetus with placenta was removed without hemorrhage or difficulty. In order to secure perfect drainage, it was considered best to remove the uterus. The operation was performed on October 30th; the patient did not react, but died within twenty-four hours. Prior to the operation, the patient was extremely reduced by her protracted sufferings. Dr. Byford, in a similar case at the present time, would elect the vaginal operation. The specimens removed from the woman were exhibited as supporting the diagnosis of mural pregnancy.

This was the second case of mural pregnancy that had come under the reader's observation within a period of five years. The first case was reported to the Chicago Gynecological Society some time ago. The patient was in labor and moribund when Dr. Byford saw her. She had been in labor until exhausted. There was no difficulty in making a diagnosis. The head was low down in the pelvis, almost on the perineum. The os uteri was well-nigh inaccessible behind and above the symphysis. The body of the uterus, somewhat enlarged, could be felt, in the lower and anterior part of the abdomen, attached to the tumor containing the fetus. The fetus could be felt through the abdominal walls, surrounded by a thick involucre, apparently as thick as the uterine walls. Fetal extremities could be distinguished. When dissected, the sac, in which the fetus was contained, was found to consist of a thick layer of muscular fibres. These fibres were directly continuous with those of the uterus. The tubes and ovaries lay on either side of the lower portion of the sac. The fecundated ovum had made its way down the tube, became lodged in a diverticulum in the uterine wall, and was gradually extended into the cavity of the abdomen. The fetus was thus developed within the uterus, though not within the uterine cavity.

The resemblance to normal pregnancy is great in the presentation and position of the fetus, deep down in the pelvic cavity, behind the vagina. The head, in this case, was fixed by the concentric contraction of the uterine fibres, by which it was surrounded, and could be easily outlined as it lay there covered by the posterior vaginal wall.

The specimen presented is much less perfect than the one described, because of the numerous effects wrought upon it during the great length of time it remained in the maternal body, and the mutilation consequent upon enucleation.

The treatment of these cases ought to be considered apart from that of extra-uterine pregnancy at term. It is always a matter for special consideration, in connection with each case as it presents itself, whether or no the removal of the fetus, at term, in extra-uterine gestation, should be attempted. The dangers of laparotomy are greatly increased by the inability to remove the placenta. The surface to which it is attached has no contractile power, so that the divided vessels are left patulous. If hæmorrhage does not immediately prove fatal, the blood is a source of sepsis that must almost certainly destroy the patient. Laparotomy would more likely prove successful, if performed some days after the death of the child. In these cases of ectopic or interstitial uterine pregnancy the fetus may be easily removed through the vagina. An incision made through the posterior vaginal wall would completely uncover the presenting part and enable one to apply the forceps or attach it with the perforator and crotchet, as in ordinary labor. After the removal of the fetus, the placenta should be allowed to separate spontaneously. Since writing this report, Dr. Byford has seen a case, reported in the *Annales de Gynécologie* (July, 1884), occurring in the practice of Mr. Matheson, of England, illustrative of the execution of this plan. The case was reported to the London Obstetrical Society, under the title "Extra-uterine pregnancy, the extraction of a living fetus through the vagina." The child was slightly asphyxiated, but survived. A sponge, saturated with perchloride of iron, was introduced into the sac after removal of the placenta. The mother recovered. It would seem that the author did not suspect his case to be one of interstitial pregnancy. During the discussion that followed, only one of those present expressed the opinion that it was of that variety. Mr. Griffith thought it was either interstitial pregnancy, or one in which the fetus was developed in one portion of a double uterus.

#### DISCUSSION.

Dr. EDWARD WARREN SAWYER thought that interstitial pregnancy meant the development of the ovum in the uterine portion of one of the tubes. In Dr. Byford's case the uterine portions of the tubes were not involved. It reminded him of a case he had seen near Denver. In this case a secondary uterus, with muscular walls, had been developed, but, as the tubes were not involved, he did not feel justified in designating the case one of interstitial pregnancy.

Dr. D. T. NELSON said, with reference to the treatment of the placenta, that Dr. Byford's advice

was that usually recommended in the textbooks. The placenta should be left alone in those cases in which the walls of the secondary uterus were not muscular. He had seen a case in the museum of the Chicago Medical College in which no muscular fibre could be detected in the walls. When the walls of the adventitious uterus were muscular it was questionable whether or no the placenta should be left alone. If the placenta is removed there is danger of hæmorrhage; if the placenta remains there is danger of sepsis. When there was reason to suppose that contractions of the adventitious uterus would check hæmorrhage, he thought that the placenta should be removed. He had had no experience in these cases.

Dr. E. C. DUDLEY replied to Dr. Nelson. Women, in cases of extra-uterine pregnancy, in which the placenta has been allowed to remain, do not die of sepsis. He had seen two or three cases in which the sac had been united to the abdominal incision. Whenever evidence of sepsis occurred the sac was washed out, and the temperature immediately fell to the normal. The placenta, under these circumstances, is spontaneously eliminated in about three weeks.

It required phenomenal powers of diagnosis to tell in the concrete case whether or no the sac had sufficient muscular fibres to prevent hæmorrhage. The placenta should be permitted to remain within the sac.

Dr. J. H. ETHERIDGE thought that if, on microscopical examination, it was found that the muscular fibres of the normal uterus were continuous with those of the adventitious uterus, the case was one of mural pregnancy. In cases of abdominal pregnancy there was a line of demarcation between the normal and adventitious uterus.

Dr. A. REEVES JACKSON thought the members of the society were greatly indebted to Professor Byford for the presentation of such an interesting specimen. He thought, however, with Dr. Sawyer, that the results of the anatomical investigation did not support the author's diagnosis. The uterine portions of the tubes were not involved. So valuable a specimen deserved very close microscopical and macroscopical examination. It ought to be referred to a competent pathological anatomist.

Dr. JOHN BARTLETT thought the ovum had not passed through the tube, but had been developed in the broad ligament beneath the peritoneum, and had in this manner derived muscular fibres from the uterus.

Dr. W. W. JAGGARD referred to the fact that next to ovarian pregnancy interstitial pregnancy was of most infrequent occurrence. Up to the present time about thirty cases (in regard to which the diagnosis was positive) had been reported. Interstitial or mural pregnancy included other sites of development than the uterine portions of the tubes. Dr. Gilbert's case, reported in the *Boston Medical and Surgical Journal* (March 3, 1877), and alluded to by Professor Lusk, in his *Treatise on Midwifery*, was a case in point. The ovum in this case was developed in what seems to be a bifurcation of the Fallopian tube. In Dr. Byford's case the tubo-uterine orifices were not involved. The sac was extrinsic to the uterine walls. It was

probably a case of abdominal pregnancy, in which the ovum became attached to the posterior uterine wall, and derived muscular fibres from its locality. The fact that a continuity of muscular fibres from the normal uterus to the adventitious uterus might be ascertained upon microscopical examination would prove nothing as to the nature of the pregnancy. Dr. Byford's case resembled that of Janvrin, in which the ovum lodged on the posterior uterine wall, and developed in this situation, involving the posterior wall in its sac. The specimen was worthy of more exact investigation, and should be placed in the hands of a competent pathological anatomist.

Dr. SAWYER said that abdominal pregnancy, with location of ovum on posterior uterine wall, was not at all improbable. He then referred to Bischoff's and Leopold's observations and experiments with relation to the "external wandering over of the egg." Beigel had ridiculed this idea. It was like a blind man introduced into a large, empty room, with a thread in his hand, seeking to find and thread the eye of a needle, located in some indefinite quarter of the room. Notwithstanding this sarcasm, the fact of the external wandering over of the egg was a matter of positive knowledge. The egg may pass from one ovary to the opposite Fallopian tube through the abdominal cavity. He thought the specimen exhibited was one of abdominal pregnancy.

Dr. DUDLEY thought the fact of the external wandering over of the egg was not displayed at the present time. Playfair, in his Treatise on Midwifery, gave a clear exposition of the subject.

Dr. CHARLES WARRINGTON EARLE said that the fact of external wandering over of the egg was fully recognized twelve years ago.

Dr. SAWYER said the ovum in abdominal pregnancy might be attached to the posterior wall of the uterus, the mesentery, under surface of the liver, or to other viscera.

Dr. NELSON made the remark that in both of the cases cited by Dr. Byford decidua had been cast off by the uteri.

Dr. JACKSON said that Fräubel was of the opinion that the formation and extension of a decidua was a constant occurrence in extra-uterine pregnancy. It was pathognomonic of the condition.

Dr. W. H. BYFORD was not surprised that certain members did not agree with him in his diagnosis. He thought that in the first case the fecundated ovum passed through the tube, but had found some diverticulum in the uterine cavity, and had passed into the posterior wall, had developed in this region, pushing the wall before it. Some of the reasons for this position were as follows:—

The muscular elements of the sac were directly continuous with the uterine muscle. He did not believe that such a muscular sac could develop adventitiously in the abdominal cavity. He had seen cases of abdominal pregnancy, in which the sac contained no muscular fibre. The head presentation down deep in the pelvic cavity, in the direction of the resultant of the forces developed by uterine contractions, supported his view of the case.

It is not necessary for the production of mural

pregnancy that the tubes be involved. He thought there was much in the remarks of Dr. Nelson and Dr. Dudley. In cases in which there was sufficient contractility it was best to remove the placenta. Even under these circumstances it was not absolutely necessary. There was no danger in allowing the placenta to remain.

Finally, he was very positively of the belief that the two cases referred to in his paper were examples of mural pregnancy. The peritoneum was a boundary line between mural and abdominal or peritoneal pregnancies.

Dr. SAWYER asked the question: Is the peritoneum a boundary line of importance in the macroscopical or microscopical differential diagnosis between abdominal and mural pregnancies?

Dr. JAGGARD, in reply, said that the peritoneum was no barrier. What was the peritoneum? Dr. Etheridge, in an article on "Chronic adhesive perimetritis," published in a recent number of the *Chicago Medical Journal and Examiner*, had ably sketched the anatomy of the membrane. It was developed out of connective tissues, according to Kündeleich and other distinguished anatomists. It offered absolutely no barrier to the attachment of the ovum to the posterior uterine wall, and its development in this situation, with the derivation of muscular elements from the normal uterus.

On motion, Doctors Byford, Merriman, and Jaggard, were appointed a committee to select a competent pathological anatomist, who did not belong to the Society, to examine the specimen and report at the next regular meeting. It was specified in the resolution that the pathologist should be amply paid for the labor.

#### PLACENTA WITH CALCAREOUS DEPOSITS.

Dr. ETHERIDGE then exhibited a placenta with calcareous deposits. The placenta was removed from the body of a woman, pregnant for the first time, who had probably carried the fetus 292 days. The calcareous deposit was probably the result of fatty metamorphosis of the upper layers of the *decidua serotina*.

Dr. SAWYER said the placenta was interesting but not uncommon. It has been erroneously believed that such placenta are of syphilitic origin. He thought the connection with prolonged gestation was established.

Dr. DUDLEY referred to the calcareous deposit in the walls of the arteries supplying an ovarian cyst, which he had removed some years previously.

Dr. JACKSON related the history of a case, in which he had removed a mass of calcium carbonate situated in the recto-vaginal septum, one and one-half inches from the vulvo-vaginal orifice. There was no fatty metamorphosis in this case.

Dr. EARLE thought there was an unreasonable tendency to ascribe such cases to the effects of syphilis. Hydatidiform degeneration of the chorionic villi and hydrops amnii received a similar erroneous aetiology.

Dr. ETHERIDGE said that the deposits were composed of phosphate and carbonate of calcium. These salts had an affinity for albumens and fatty acids present in the cotyledons. Similar calcareous deposits were met with in fibroids, thrombi, encysted

trichinae, and in the lithopædia of extra-uterine pregnancy.

Dr. W. H. BYFORD thought the connection between prolonged gestation and calcareous deposits in the placenta was established. He thought that Dr. Etheridge would find on microscopical examination that the changes had occurred exclusively within the vessel wall.

The Society then adjourned to meet on the third Friday evening in January, at the residence of Dr. E. C. Dudley, No. 2317 Indiana Avenue, at eight o'clock.

The business of next meeting will consist of:—

(1) Report of the pathologist, Dr. Christian Fenger, on Dr. Byford's specimens.

(2) Exhibition of specimens from a double ovariectomy, by Dr. E. C. Dudley.

(3) Discussion of certain methods by which the second stage of labor may be rendered easier, by Dr. Henry F. Byford.

#### FIRST MEETING OF THE AMERICAN SOCIETY OF PUBLIC ANALYSTS.<sup>1</sup>

##### ELECTION OF OFFICERS.

DECEMBER 4, 1884. At the meeting of the American Society of Public Analysts, held at the rooms of the Brooklyn, N. Y., Department of Health, the following officers were chosen for the ensuing year: Dr. E. H. Bartley, of the Brooklyn Health Department, President; Dr. Cyrus Edson, of the New York City Health Department, Vice-President; Prof. E. W. Martin, Assistant Dairy Commissioner of New York, Recording Secretary; and Dr. Wm. K. Newton, Milk Inspector of New Jersey, Treasurer. There were twenty members present.

##### THE EFFECT OF COWS' FOOD, ETC., UPON THE MILK.

There was an extended discussion upon the relation of the sanitary condition of cows and cow stables to the public health, and upon the effect of the different foods, especially brewery grains, upon the milk. In regard to this last question the recent experiments at the New York Agricultural Experiment Station at Geneva, N. Y., are of exceptional interest. The cows there fed upon *fresh* brewers' grains have given as high as 21.43 per cent. of milk solids and 12.53 per cent. of fat, while 2.97 per cent. of fat has been the lowest. Upon the different feed the cows have averaged over fifteen per cent. of milk solids. In the opinion of the director, *fresh* brewers' grains seem to have no injurious effect upon milk. In this opinion several of the analysts did not agree, although it would seem to be supported by experience in Massachusetts.

There was also a diversity of opinion as to whether a food containing an organic acid, such as acetic, produced an acid condition of the milk, or whether it acted, as is well known lemon juice does, upon the urine to produce a neutral or even alkaline condition, from being decomposed into the carbonates. The discussion upon these subjects was adjourned to the January meeting, which will be held at the rooms of the New York City Health Department.

For the February meeting are especially assigned the subjects of the proper legal minimum limits of quality for milk and of the methods of assay. All analysts particularly interested in these subjects are invited to attend and take part in the discussion.

#### Recent Literature.

*Manual of Dermatology.* A. R. ROBINSON, M.B., L. R. C. P. & S., Edinburgh. Published by Birmingham & Co., N. Y. 1884.

"This volume is intended to be the basis of a future, much larger, more pretentious, and more original work. In its present form an effort has been made, not so much to write an original work with an elaboration of my own personal views, as to present to the subscribers of 'Birmingham's Medical Library' a concise account of our present knowledge of the subject of Dermatology." The foregoing extract from the preface gives the author's views of the scope and *raison d'être* of the book, and his well-known and excellent work in the normal and pathological histology of the skin, renders the portions of the book devoted to these subjects of more than ordinary value, and justifies the expectation and hope, that in the "future, much larger, more pretentious, and more original work," this part of dermatology will receive more extended and detailed attention than is permitted by the limits of the present volume. The anatomy, physiology, and diseases of the skin are discussed after the conventional manner and scheme of the textbooks, the classification used being that of Hebra, and the work, although well done, gives evidence of having been done to order, with limitations of time and space, conditions which are not conducive to the highest degree of excellence. The diseases omitted from consideration in this book are Myxodema, Pityriasis Rosea, Erythrasma, Pellagra, Framboesia, Xeroderma pigmentosum, and Dermatitis papillaris capillitii, mention of which at least should be included in any treatise upon diseases of the skin. This is the only treatise upon dermatology in the English language, however, in which we have seen stated, with the fulness which they deserve, the characteristics of syphilitic eruptions as selected and arranged by Kaposi, there being nothing which so facilitates the diagnosis of cutaneous syphilis as an intelligent appreciation and application of the rules laid down by the eminent professor of dermatology in Vienna. The drawings of the pathological histology of the skin are excellent, but those showing the gross appearances are not good. The volume is not a creditable specimen of the publisher's art, possessing a fault which is much too common in American publications, the fault of being very heavy and awkward, and in this respect anything but a "manual." It is an octavo of 655 pages and weighs two pounds and twelve ounces avoirdupois; while a similar volume of Ziemssen's handbook, containing nearly one hundred more pages, weighs one ounce less, and one of the volumes of Trousseau's "Clinique Médicale" containing over two hundred more pages, weighs six ounces less.

<sup>1</sup> Reported by B. F. Davenport, M.D.

# Medical and Surgical Journal.

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## VIVISECTION OR ANTIVIVISECTION; WHICH IS THE MORE HUMANE?

The letter from our London correspondent, printed in another column, calls attention to an event well fitted to stir the emotions both of the profession and of the public. It is sure to interest the profession, because it constitutes the first realization of the hope that certain forms of brain tumor, one of those dread diseases which sap the sources of happiness by attacking the sacred contents of the cranium, are likely to show themselves amenable to the swift cure of the surgeon's knife. And the public—the English public at the least—cannot fail to lend a respectful ear to the signal and speedy vindication of the physiologist to whose labors this result is largely due, when it remembers that only three years ago he was held up to popular indignation, in the public courts, on account of the very experiments, without which—or the like of them—this avenue to the relief of human suffering would never have been opened.

The first of the brilliant series of investigations in this department of cerebral physiology was made and published in 1870, by Fritsch and Hitzig, in Berlin.

Through them the fact was established, which the theories of Hughlings Jackson and the anatomical studies of Meynert had already foreshadowed, that one part of the ganglionic mass spread over the surface of the brain is the breeding-place of the impulses which move the muscles of the body, each muscle or group of muscles having its representative spot within the cortex cerebri, and responding by its contraction to the localized stimulation of its motor centre by electricity.

It needed but one step further to show that, in like manner, the sensory surfaces of the body are represented in other portions of the cortex, which thus, in Meynert's phrase, deserves the name of the ultimate "projection surface," on which all the actions and reactions of the body are, as it were, depicted.

The investigations of Ferrier, though not made public until several years later, had been in reality

carried on independently of those of the German observers and simultaneously with them, and he has continued ever since to hold a prominent place among the many able investigators who have labored in the same field.

Most of our readers are aware what an impulse was given to the study of localized convulsions and paralysis, under the able lead of Dr. Hughlings Jackson, by this discovery of the motor functions of the cortex cerebri; and how the teachings of comparative anatomy were invoked to aid clinical and post-mortem observation, in the patient effort to apply to man the facts won from experiments upon the lower animals.

Nor was it long before surgery began to seek its share in the brilliant results. Careful charts have long since been prepared to show the relation of the motor and sensitive centres in the cortex to the outer surface of the skull, in order that the exact position of splinters of bone or of abscesses might be diagnosed before trephining, by a study of the symptoms which they produced. The hope that tumors might be localized and removed has been canvassed as a possible prize for the surgery of the future, but the present case, in which the diagnosis was made by Dr. Hughes Bennett, and the operation performed by Mr. Godlee, is, so far as we know, the first realization of this dream.

We quote a few extracts from the dramatic story, as it is given in a letter by an F.R.S. to the *London Times*: "While the Bishop of Oxford and Professor Ruskin were, on somewhat intangible grounds, denouncing vivisection at Oxford, last Tuesday afternoon, there sat at one of the windows of the Hospital for Epilepsy and Paralysis, in Regent's Park, in an invalid chair, propped up with pillows, pale and careworn but with a hopeful smile on his face, a man who could have spoken a really pertinent word on the subject, and told the Right Rev. Prelate, and great art critic, that he owed his life, and his wife and children their rescue from bereavement and penury, to some of those experiments on living animals which they so roundly condemned. . . . The patient had the position in which he stood faithfully explained to him. He was told that he labored under a malady which medicines were powerless to touch, and that if left unassisted he must die in a few months at latest, after prolonged sufferings similar to those which had already brought him to the verge of exhaustion, and which could only be partially alleviated by drugs; but that one outlet of escape, narrow and dangerous but still an outlet, was open to him in an operation of a formidable nature, and never before performed on a human being, under which he might perhaps sink and die, but from which he might perhaps obtain complete relief. The man . . . eagerly chose the operation. On the twenty-fifth ultimo, accordingly, Mr. Godlee, surgeon to the University College Hospital, in the midst of an earnest and

anxious band of medical men, made an opening in the scalp, skull, and brain-membranes of this man at the point where Dr. Hughes Bennett had placed his divining finger. . . . In the substance of the brain, exactly where Dr. Hughes Bennett had predicted, a tumor the size of a walnut was found—a tumor which Mr. Godlee removed without difficulty. The man is now convalescent, having never had a bad symptom. . . .

"He has been snatched from the grave and from much suffering, and there is a good prospect that he will be restored to a life of comfort and usefulness. In that case he will be a living monument of the value of vivisection. The medical profession will declare with one voice that he owes his life to Ferrier's experiment. . . .

"Many men and women will henceforth, there is reason to anticipate, be saved from prolonged torture and death by a kind of treatment that has been made practicable by the sacrifice, under anaesthetics, of a few rabbits and monkeys."

The thrust against the antivivisectionists contained in the last paragraph is a fair one.

It is a truism to say that we sympathize with the *motives* of those gentlemen who in England have been seriously retarding the advance of physiological knowledge, but the question is not of their motives: it is of their wisdom and their judgment, and it must be admitted that their position has been illogical, and the results of their action, on the whole, mischievous. Their position has been illogical because *à priori* arguments against vivisection were untenable, and yet there were no other arguments which they could fairly claim the right to use. No one could assert that it is never allowable to inflict pain on animals; the argument is thrice every day refuted. Neither is it germane to the subject to say that some experiments are cruel and unnecessary. It would be remarkable if this were not so. The only real question is the practical one: "Do the results, on the whole, justify the means?"

Many English laymen—not generally conspicuous for their hostility to "sport," but assuming themselves to have more humanity than the medical profession, whose business it is to relieve suffering, and more ability to judge of the probable outcome of physiological investigations than the men who make these studies their life-work—have sought to answer this question sweepingly in the negative.

In this instance the facts are sternly and reprovingly against them.

In November, 1881, Professor Ferrier was summoned before the Bow Street Police Court<sup>1</sup> to answer the charge of violating the Vivisection Law, in demonstrating before some members of the International Medical Congress certain of the monkeys which had previously been operated on by Professor Yeo in the course of the experiments above alluded to.

The charge was not sustained, and the case was dismissed; but the verdict of cruelty, which was rendered against him by many of his countrymen, has stood unreversed until now, when history, with timelier justice than it is her wont to show, comes forward to testify publicly in his behalf.

Of course some physiologists are cruel, and we ought to be grateful to any one who says, not that because of the exceptional cruelty, all investigation by vivisections must stop, but that in order that investigation may go on the cruelty must stop. The question as to what investigations are worth making can only be decided, as it is daily being decided, by the voice of men who are the peers of the investigators themselves. Meantime it will not do for the public to stigmatize the chariot of science as the car of the Juggernaut, simply because there are stains of blood upon its wheels.

#### PHARMACOMANIA.

This felicitous term was invented by Dr. Austin Flint, and employed by him in his recent address before the New York State Medical Society, to indicate "a form of mental aberration affecting alike certain physicians and patients." The pharmacomaniacal practitioner has unshaken faith in the power of medicines. He does not believe in the *laissez faire* system, which credits nature with a large share in the cure of the patient. The natural evolution of disease, and the mighty struggle toward recovery, notwithstanding even the opposition of congenial and obstructing remedies, are subjects to which he has devoted little attention. The sick-room is his opportunity, the vast resources of the pharmacopœia his means. He goes for every symptom with a corrective, and for every congeries of symptoms with a specific.

The formidable array of bottles and glasses at the bedside of the patient testifies to the assiduity and zeal, and the long bills of the apothecary after the sickness is over also bespeak the unsparring devotion, of the medical attendant. He changes his medicines often, just as often as he sees that they are doing no good, or as new symptoms arise, and he diligently and early tries all the new remedies, especially such as bear the strong endorsement of the proprietors. In fact, he prides himself on being a progressive man; reads his medical journals to find what recent discoveries have been made in the treatment of disease; and "runs" every new medicine till something never appears.

The pharmacomaniacal patient also has great faith in dosing, and demands when sick a liberal administration of drugs. Even his slight ailments—a cold, a sore throat, must receive the earnest attention of his family physician, who is called out of bed to order repeated small doses of aconite or

<sup>1</sup> See this Journal, vol. cv. p. 592, London Letter.

a mild laxative. Individuals of this class are always taking medicine, for they always have, or fancy they have, some physical derangement which, if neglected, may prove serious. This morbid craving for drugs is fostered by homoeopathy, and the unfortunate victim finds satisfaction only in a practitioner of that school; in fact when pharmacomania ceases to have existence, there will no longer be any place for homoeopathy.

The above address of Dr. Flint gives some excellent hints as to the conduct of the physician in the presence of his patient. There are some physicians that are naturally optimistic; they are sanguine and hopeful, and inspire hope, cheerfulness, and confidence. They believe that, despite certain discouraging symptoms, their patients will get well; they emphasize all the favorable indications and are slow to recognize the unpropitious features of the case. Such practitioners will lose patients and be blamed for a wrong prognosis; they will also meet with success where nothing but the confident assurance with which they managed to inspire the patient, and the powerful stimulus to the vital forces of persuasive hope, could have turned the scale in the direction of recovery. The picture illustrative of the opposite extreme is that of a practitioner "who assumes the responsibility of a case always anticipating the worst that can befall a patient." "His solemn manner and melancholy mien inspire nothing but forebodings."

Such pessimists in medical practice exist in every community. They will be successful in cases when they expected to fail. On the other hand a gloomy prognosis and a discouraging demeanor may, by their influence on the mental state of the patient and the loss of appetite and of sleep, the depression of the organic functions generally which follow, take from him his only chances of recovery.

The whole subject of non-medicinal therapeutics, and especially of mental therapeutics, is of the utmost importance, and claims the earnest study of the practitioner who would be something more than a dispenser of drugs; who would intelligently employ every agency on which the restoration of his patients may depend.

#### DR. JEFFRIES' AERIAL VOYAGE ACROSS THE ENGLISH CHANNEL IN 1785.

In connection with the recently announced, though not yet practically demonstrated, discovery by a Frenchman of a method of steering balloons, and, by thus enabling them to beat against the wind, for utilizing them for aerial navigation, the first successful attempt to cross from England to France in a balloon one hundred years ago yesterday has a peculiar interest. This attempt and its success were mainly due to the scientific enthusiasm

and nerve of a Bostonian and a medical man, Dr. John Jeffries, who provided the necessary expenses — about £700 — and personally superintended the preparations, and shared the dangers and novelties of the voyage with a Frenchman named Blanchard, whom Dr. Jeffries had accompanied on one of his three previous ascents over *terra firma* in England.

Hitherto nothing of a scientific character had been attempted by any of the balloonists, but Dr. Jeffries, in his own words, "wished to see the following points more clearly determined: first, the power of ascending or descending at pleasure while suspended and floating in the air; second, the effect which oars or wings might be made to produce toward the purpose, and in directing the course of the balloon; third, the state and temperature of the atmosphere at different heights from the earth; fourth, by observing the varying course of the currents of air or winds at certain elevations, to throw some new light on the theory of winds in general."

In his experiments he was aided by Sir Joseph Banks, the then president, and Dr. Blagden, the secretary, of the Royal Society, to which learned body his experiences on these voyages were subsequently detailed. On the voyage across the channel the balloon left the cliffs of Dover on a favorable day at a quarter past one, and after various adventures landed in France, twenty miles from the sea, at a quarter before four. One little item showing the professional ingenuity of Dr. Jeffries is not amiss in the pages of a medical journal. At one period the balloon threatening to descend, in spite of everything in the way of ballast or incumbrance having been discarded, the doctor proposed to his companion that each should take a bladder and pass as much as he could, and "reserve the throwing it away at the very instant of descent to break the force of the shock."

Those who would follow all the incidents of this voyage, and the ovation which the travelers met with in Paris, are referred to a very entertaining article by Dr. B. Joy Jeffries, in the *Magazine of American History* for January, largely made up of extracts from his grandfather's diary.

Since this attempt, on January 7, 1785, steam and electricity have yielded up many of their mysteries, and the course of travel and commerce has been revolutionized through their instrumentality, but "the effect which oars or wings may be made to produce toward the purpose of ascending or descending at pleasure while suspended and floating in the air, and in directing the course of a balloon," is nearly as far from a solution as it was then.

Were our quondam townsman and professional ancestor alive now, he would probably be no less astonished at what has not been done in this direction than he would be at what has been accomplished with the other agents.

## MEDICAL NOTES.

## NEW YORK.

— A very sad case of the cutting short of a brilliant professional career in its early prime has occurred in Brooklyn. Dr. George H. Atkinson, one of the most prominent of the younger practitioners of that city, died on the twenty-seventh of December, of cerebral syphilis, which was contracted by means of a scratch on the finger, received while operating on a patient in August last. Dr. Atkinson was born in Portland in 1851, and was graduated at Dartmouth College in 1871. He received the degree of M.D. from the Long Island College Hospital, Brooklyn, and was soon afterward appointed assistant surgeon to the hospital. More recently he was made surgeon, and also became a lecturer on surgery and genito-urinary diseases at the college. Just at the time of Dr. Atkinson's death, a man died in New York from septicæmia, caused by a poisonous animal virus taken into the system in handling hides, after receiving an abrasion of the arm from a fall.

— The annual meeting of the managers of the Mount Sinai Hospital was held on December 28th, when it was announced that 2,078 patients, of whom 95 per cent. were free, were treated during the year. In the out-door department there were 40,300 consultations.

## CHICAGO.

— During a number of years past students attending Rush Medical College have had their physical endurance taxed to the extreme limit of listening to an average of between seven and eight lectures daily. The time-card has recently been rearranged, and the number of daily lectures reduced by one.

— The new administrative building of the Cook County Hospital was formally opened on Thanksgiving day by a public reception, a supper, and a dance. The building is a magnificent structure in its architectural appearance, and in all its appointments for the purposes which it is to serve. It contains the general offices of the institution, reception-rooms for visitors and for patients, the residence of the warden, etc., etc. Considerable public criticism has been made on the lavish expenditures incurred in fitting up this building and in furnishing it, but the county commissioners do not appear to be greatly disturbed by them.

— Prof. Germain Sée, in the chapter on the Pathogeny of Influenza (Grippe) in his forthcoming volume on the diseases of the chest, summarizes his observations into the following ætiological definition (*La France Médicale*, November 27, 1884): "Influenza is an epidemic, non-contagious disease, independent of conditions of warmth, appearing to be due to an atmospheric agent, and having for its essential characteristic a contracted irritation or true inflammation of the respiratory tract and organs."

## Correspondence.

## LONDON LETTER.

[FROM OUR LONDON CORRESPONDENT.]

LONDON, December 17, 1884.

THOUGH not in the habit of intruding my communications upon the notice of your readers very frequently, I feel there is now real occasion for me to write. About three years ago I furnished you with some account of the scandalous criminal persecution, under the misnomer of prosecution, which was abortively attempted at Bow Street, and from which our honored confrères, Professors Ferrier and Gerald Yeo emerged technically scathless. No one who knows the prejudice of a large section of the British public, and is conversant with the unprincipled persecuting slander of antivivisectionists, can doubt but that Professor Ferrier's professional income would have been destroyed had not the professional appreciation of his great worth tended to counterbalance the prejudice against him which was excited in the minds of the public at large; who, of necessity, from their consummate ignorance of physiological matters were too easily impressed by the plausible clamor of the loud-sounding antivivisectionists.

The wheel of time, or Sir Walter Raleigh's wheel of fortune, has indeed made its half turn with most happy and scarcely anticipated speed.

The current has changed; we may now almost predict as hearty and general a condemnation of the senseless outcry against vivisection as we have experienced in the opposite direction. The unmistakable evidence of this prompts my letter to-day. Enclosed is a letter which appeared in the *Times*<sup>1</sup> of yesterday, the 16th inst.

It is hardly necessary to inform your readers that, after its comic contemporary *Punch*, the *London Times* has no serious rival in the influence it sways over British public opinion.

This letter was made the subject-matter of a two-column leading article in yesterday's *Times*, which ably, argumentatively, and authoritatively exposed the untenable and irrational position occupied by the antivivisectionists, and set forth the necessity, usefulness, and righteousness of vivisection. It can no longer be doubted that the accession of statesmen to the responsible positions now occupied here by politicians will result in an enlightened and really liberal modification of the legislative acts which now so restrict vivisection as to all but "Burke" its practice in England. The *Times* scored a point in publishing the fact that a justly eminent English physiologist and medical practitioner, when told by the Home Office "to wait some months before again applying for the license which could not just then be granted," had listened to the dictates of his conscience and had expatriated himself until he could return to his benighted and native land after having concluded that research which the lives and interests of fellow-creatures forbade him to delay.

THE MILLER MEMORIAL HOSPITAL AT GREENWICH.

This hospital was opened to-day by the lord mayor of London, who, by virtue of his office, is

<sup>1</sup> See editorial pages 41, 42.

the chairman of the Metropolitan Hospital Sunday Fund. The hospital, which is an extension of, or rather an addition to, the Royal Kent Dispensary, has been founded by funds raised to perpetuate the memory of the late Canon Miller, D.D., vicar of Greenwich, particularly in connection with his origination of the Hospital Sunday movement.

Exceptional interest attaches to this most recent development in hospital construction; for now for the first time in modern times is the opportunity furnished for testing the practical working of the system of circular wards. The hospital committee have distinguished themselves as being the first of such bodies to promptly recognize the great claims of this novel system, and to boldly afford it a complete trial. The awkwardness and limited area of the available site doubtless had much influence in securing an acceptance of the circular system of wards. Indeed, it was soon evident that no other scheme would enable the site to accommodate a hospital which satisfactorily met modern requirements.

The Hospitals Association held its first general meeting to-night, and very appropriately devoted the occasion to the consideration of hospital circular wards. The objects of the Association are: (1) to facilitate the consideration and discussion of matters connected with hospital management, and, where advisable, to take measures to further the decisions arrived at; and (2) to afford opportunities for the acquisition of a knowledge of hospital administration.

Under the presidency of Dr. Buchanan, the chief medical officer of the Local Government Board, the official successor to Mr. John Simon, a representative gathering listened to an instructive and interesting discussion. Prof. John Marshall, F.R.S., senior surgeon to University College Hospital, delivered an address on Hospital Circular Wards, which in 1878 he was original in advocating in England. With characteristic frankness he to-night gave the completest history he had been able to deduce concerning the priority of the idea of circular hospital wards. With him the idea was suggested by the many difficulties experienced in endeavoring to devise a sufficiently commodious new hospital, up to modern ideas, and capable of standing on the site of the present University College Hospital. His views were furnished in a paper read before the Cheltenham meeting of the National Association for the Promotion of Social Science, in October, 1878. This paper speedily appeared in print, with valuable remarks and illustrations by Mr. Gordon Smith, the architect to the Local Government Board. This publicity presently brought to Professor Marshall's knowledge the fact that some four or five years earlier the foundations for a hospital with circular wards had been laid at Antwerp. The architect who furnished the designs for this Belgian circular-ward hospital had succeeded so far in imbuing others with his belief in the soundness of the principle as to be able to occupy the site with the foundations of his hospital building. However, a too-cautious spirit then prevailed, and the work was stopped through fear to sink the necessary money on an "experimental" construction of such magnitude. At the same time the architect, bold in the consciousness of the excellence of the

principle, declined resolutely to depart from it. His perseverance was ultimately rewarded, and the hospital has now been practically complete for some little time, though it is still unopened. Professor Marshall has visited this hospital, and with much feeling described the very great satisfaction with which he had critically viewed in substance the realization of his ideas. He had not dared to anticipate that he would see them carried out, though he had from the first felt that the scheme would not be permanently neglected in the face of its numerous unique advantages. He was most struck with the power and general diffusion of daylight, which permeated every portion of even the largest circular wards. No surgeon could expect a better daylight illumination in any hospital ward than was present in every part of these Belgian circular wards.

The *système circulaire*, mentioned by certain French authors on hospital construction, had proved to consist of nothing more than a circular arrangement of the ordinarily shaped buildings of a hospital. Professor Marshall had learned from Sir Andrew Clark (not the physician, but the scientific soldier, the director of fortifications) that the latter had more than once designed circular hospital wards for military purposes, but that political and military rather than medical or other grounds had hindered his plans being carried out. Professor Marshall clearly established then that, so far as he knew, the Belgian architect, Sir Andrew Clark, and himself had separately and entirely independently deduced the principle of circular hospital ward construction.

Professor Marshall considered a diameter of about sixty-five feet the greatest that could in practice be recommended for circular wards. He advocated, where possible, only single floors of wards; but did not disallow a second floor of wards, while, however, he considered that three tiers of circular wards would prove to be the limit that should ever be sanctioned. The top of the circular-ward towers might be used, as in the Belgian hospital, for a sun-room under suitable climatic conditions. Referring to octagon wards, an example of which is to be found at Bristol, not to go farther, he remarked that the angles of a rectangular were its worst features, and that in an octagon ward the angles were doubled in number. He did not consider any polygonal ward could possess the advantages which were essentially peculiar to the truly circular ward. He recommended a somewhat domed ceiling, with central ventilation outlet, and quoted various experiments to prove how a flat ceiling hindered the exit of foul air. He had been struck with the cheerful, homelike, well-lighted, workable appearance of the circular wards, which, having been opened at Greenwich to-day, are believed to be the first in occupation which have been constructed for hospital purposes. Professor Marshall read a letter from Lady Strangford accompanying a plan which showed that her extensive practical and devoted service in the East had resulted in the design of a hospital with four central, circular, windowless, one-floored wards. This construction she had found to be the most comfortable, cool, convenient, and suitable under the climatic conditions obtaining in Egypt. The ventilation outlet was in the dome, while air

entered by three doorways, so that an agreeable draught was favored, without heat or glare being unduly admitted. Mr. Keith Young, the architect of the Miller Memorial Hospital, gave a succinct description of the building. This gentleman has on various previous occasions rendered himself conspicuous among architects by the intelligent painstaking and unprejudiced care he has taken in developing every worthy suggestion upon hospital construction, regardless of the crude form in which it may have emanated from the medical officers using hospitals. To this architect the London Fever Hospital is indebted for the approximate perfection of its newest structural addition.

The Miller Memorial Hospital, which is necessarily of modest dimensions, may be briefly described. The plan includes a central administrative block, complete with its various offices. At either end, a circular-ward tower, though only one such has at present been constructed. This ward tower contains a ground and first-floor ward, each thirty-five feet in diameter, designed to accommodate ten beds, each of which will thus have ninety-six feet of free floor-space, ten feet of wall-space, and 1,128 feet of cubic space; the height from floor to ceiling being twelve feet. A slightly greater allowance per bed obtains in the upper ward, where the wall thickness is less. There are eight windows in each, giving the proportion of one foot of glass to every seventy-three feet of cubic space. Three hot-air ventilating boyds are arranged in the centre of the ward, around an equilateral triangle with each angle truncated; the separate smoke-flues are partitioned by thin metal from the up-cast ventilating-shaft, wherein a current is assisted by the proximity of the warm smokestacks. The floor boards are rendered impervious by the paraffin process. All the angles in floors, ceilings, windows, and doors, are rounded, and no mouldings of any kind are used in the wards. The necessary ward offices are in a projecting building cut off from the ward air by a cross-ventilated lobby. The construction throughout has been fireproof, and the drainage on the most approved principles. The total cost of the building has been £3,842, or about £160 per bed. This cost per bed, however, will be materially reduced when the second ward tower is constructed. It is noteworthy that the actual cost has come rather within the estimated outlay. The architect does not claim the hospital to be a fair example of the many advantages afforded by the circular system of wards, but as clear evidence that circular wards can be successfully planned on a site where no commendable rectangular ward would be possible.

The circular form in itself is of pleasing appearance, and the lighting has the effect of being much greater, in proportion to the ward, than it really is.

Sir Andrew Clark furnished the following most interesting data upon the subject under debate. His thoughts were turned to the feasibility and desirability of circular hospital wards by the earnest suggestions of Dr. McKenna, a Scotchman, practising in Melbourne, who, in 1854, was interested in urging the adoption of circular wards in the design for a hospital then in contemplation at Melbourne. Dr. McKenna's advocacy of circular

wards had been suggested by his clinical observations during an extended medical and surgical experience amidst the sick and wounded of the rival factions contending in rebellion in South America. There he treated his sick and wounded in the convents and convent-churches of the country. The convent-rooms, his wards, were roomy but rectangular; the convent-churches were invariably circular and domed. In the former his cases did badly; in the latter they fared marvellously well. Comparable cases occurring simultaneously differed so much in their progress, according to whether they were guarded in rooms or churches, that he became convinced of the structural superiority of the latter for hospital purposes, and was unable to trace the difference to any factor other than the circular shape and domed roof of the churches.

Pondering on Dr. McKenna's experience, Sir Andrew Clark investigated the relative sickness per individual bed in rectangular barrack-rooms. As a result, he was led to abolish corner beds, as these showed an unquestionably excessive sick-rate. Sir Andrew Clark was in Rome during the war of liberation, and, finding very large numbers of the sick and wounded quartered in the Pantheon, he immediately bethought him of shrewd McKenna's teaching. At such a time it was difficult to attain accurate statistics; however, the able and patriotic physician whom Italy highly honored expressed himself as surprised and satisfied with the progress made by cases under treatment in the Pantheon.

Regarding the ventilation of domed circular chambers, Sir Andrew Clark had a curious accidental experience. When visiting the Taj Mahal, that splendid domed circular tomb at Delhi, with a large party, in the hot weather, he let fall from his card-case a slip of tissue-paper which, much to his surprise, he presently saw floating steadily upward toward the centre of the dome. This phenomenon he noticed repeatedly when he subsequently tried the same experiment in various parts of the large circular-domed temple at Calcutta. He was convinced of the fact of a natural air current setting upward in the midst of such shaped chambers, but was completely at a loss to find an hypothesis in explanation. At the present time he is constructing two military hospitals with circular wards, one at Milton, the other at Seaforth. The situation and circumstances of the latter would be such that there would be every opportunity for giving facilities such as Dr. George Buchanan had coveted for the purpose of carrying out experiments with a view to devising a system of automatic hospital-ward ventilation, such as had proved invariably impracticable in rectangular wards, but such as there was now reasonable ground for supposing might prove applicable to circular wards.

At the present time additional poor-law infirmary accommodation is being provided at Hampstead by the erection of a circular tower of wards, while some Manchester architects are putting up a circular-ward hospital at Burnley, and Sir Andrew Clark has in hand a large hospital of similar design at Valetta, Malta, where the building promises to present an imposing and pleasing effect. Thus, with the early occupation of the Belgian hospital, we shall soon be in a position to judge of the prac-

tical working of circular wards, both large and small, in both civil and military practice, under various conditions of climate, and with the details independently treated.

Though adverse, not to say hostile, criticism was freely forthcoming in to-night's discussion, it turned very markedly against its authors, who, without exception, were driven to confess that they had never visited a circular hospital ward. On the other hand, Dr. George Buchanan, than whom it would be difficult to discover a more discreetly cautious official, announced that his visit to the Miller Memorial Hospital had sufficed to dissipate his forebodings concerning circular wards. He found them light, cheerful, snug, convenient, and presentable. He ventured to surmise that possibly the circular form of ward would give such advantages as might warrant some reduction in what was now considered the minimum of space appropriate per bed.

To-night's meeting proved an auspicious inauguration of a society from which much ought to result, if their work is useful in proportion as their objects are pretensions. Time must settle this; but just now this overlegislated little territory is everywhere studded with organizations proposing to regulate the business of other persons, and contriving to aggrandize a few honorary officers, while feeding an official who seems to take hearty and disinterested concern in the vitality of the society of busy-bodies.

## Disseclamp.

### OBITUARY.

DR. HENRY A. MARTIN.

DOCTOR HENRY A. MARTIN, who died in Roxbury, Massachusetts, December 7, 1884, was born in London in 1821, was graduated at the Harvard Medical School in 1845, and immediately entered upon an active and successful career as a physician and surgeon. Of a daring and ambitious temperament he soon made his name known in local circles as a skillful accoucheur and surgeon. He had, at an early date, become practically acquainted with variola and vaccinia, and eventually became the leading authority on these subjects in America; so that when, in 1870, he introduced the Beaugency animal virus into this country, it at once became widely known, and effected a revolution in vaccination which has added immensely to the efficiency of its protection. In 1877, as chairman of the committee on animal vaccination in the American Medical Association, he made a full report on that subject, which appeared in the published volumes of the "Transactions," and was widely quoted from and reviewed by the Edinburgh and other influential journals.

It was, however, as a surgeon that his name became best known, and in 1862, on the breaking out of the War of the Rebellion, after an examination before a medical board in Philadelphia he was appointed staff surgeon. In that capacity he performed long and efficient service, at Fort Monroe, then as medical director of the department of Southeastern Missouri, where, in that fever-laden country, he became ill, and was

obliged to accept a leave-of-absence to regain his health; next, as medical director at Norfolk, Portsmouth, and Newbern, and then in the army of the Potomac, as surgeon-in-chief of the first division of the second army corps, under General Miles, which position he held until near the close of the war. On his resignation he received a brevet lieutenant-colonel for "gallant and meritorious services," the expression being a compliment rarely paid to a medical officer.

In the "Medical and Surgical History of the War" his name is referred to in connection with a "Ligation of the femoral artery after a gun-shot contusion of the femur," a "Primary resection of the upper third of the femur," and many other important operations; and an illustration is given of an apparatus invented by him for "Extension after excision of the humerus," an instrument which was reported upon favorably by a board consisting of Drs. Woodward, Curtis, and Otis.

On his return home an extensive general practice awaited him, but he paid particular attention to surgery, and gained great repute in diseases of the rectum and hemorrhoidal tumors. In 1877 he brought before the profession the use of the rubber bandage in the treatment of ulcers of the leg, and the value and efficacy of this method were soon acknowledged in this country, and still more generally abroad. In England he first called attention to it by an article in the *British Medical Journal*, of October 25, 1878, and its use became very extensive and gave him a wide reputation there and on the continent. In 1878 he made public his operation of "Tracheotomy without tubes," which he many times successfully performed.

By invitation, he attended the meeting of the British Medical Association, in June, 1881, and was courteously and warmly received by the eminent members of that body. He also took part in the meetings of the International Medical Congress of that year, and there read a paper on the use of the rubber bandage after aspiration of the knee-joint for synovitis, based upon more than one hundred and forty successful cases in nine years, necessitating more than four hundred punctures, all performed without antiseptic precautions other than cleanliness of the needle.

Dr. Martin was gifted with remarkable conversational powers, and was a fluent and ready speaker in public—frank and outspoken in the expression of his opinions, generous in his acknowledgment of the merits of the inventions of others which he believed worthy, but unsparing and scathing in his criticism of all that he judged unworthy. Proud and imperious by nature, and often impatient in temper, he brooked no personal affront, and knew no fear of personal consequences in his bold and vigorous attacks on opponents. His knowledge of the old medical and surgical writers was very great, and his memory so retentive that it was easy for him to quote their views and statements in support of his positions.

In writing, as in speaking, he was forcible and argumentative, often denunciatory, and at times diffuse, but always evincing a straightforward purpose and will, which did not dally with elegancies of style, but sped to unassailable conclusions. His

published articles were numerous, and appeared in many quarters, often being solicited by editors. It is not necessary here to enumerate them, but they came out in the *London Lancet*, the *British Medical Journal*, and other magazines in England, as well as in the *North American Review*, the *Medical Record*, the "Transactions" of the American Medical Association, and many other journals in this country.

As a physician he was facile and skilful in diagnosis and fertile in resources of treatment. As a surgeon he was deft in manipulations and the use of instruments, decisive and unhesitating in urging the necessity of an operation, and indefatigable in its execution. Bold in these as in all matters, he persevered in the care of a case so long as he thought relief possible; but never flattered patients with false hopes when he thought death inevitable.

Of fine literary tastes, and well-versed in *belles-lettres* and art, he had a wonderfully varied knowledge of bric-à-brac and ceramics, and still more so of sculpture, paintings, etchings, and engravings. He was familiar with the lives and works of the best artists in each department, and his glowing explanations and vivid descriptions of works of art were a delightful treat to those who heard him. He had acquired a private collection of admirable engravings, whose beauties he would enthusiastically point out and dilate upon in showing them.

His love for choice or rare editions of books, costly bindings, and other artistic embellishments, gave him a constant pleasure in all libraries and collections, and he became the possessor of many curious and valuable volumes.

But when at last, in the early summer of 1883, he became aware that a grave disease, whose incurable nature he fully recognized, had fastened itself upon him, and he began to experience the fatigue, the *malaise*, and the prostration attendant upon its strides, he felt his inability to struggle much longer against its power, and took less interest in his favorite studies, and he became at times more irritable and less able to bear the annoyances of medical practice. Yet he fought a brave fight, and to the very end held himself proudly to the duties of his profession. And in the last weeks of his life, to those who had known well that handsome figure and noble presence, it was a sad sight to see him with wan and dejected look, but firm lips and erect form, slowly pacing the few steps that remained between him and the tomb. His was a life in which there was much to criticize, as in whose is there not? but much also to honor, to imitate, and to admire.

J. S.

### INFLUENCES DETERMINING SEX.

PROF. W. K. BROOKS, of the Johns Hopkins University, contributes a paper on this subject to the January number of the *Popular Science Monthly*, in which he discusses the views lately advanced by Carl Düring in some articles on the laws which determine the sex of the embryo in mankind, in animals, and in plants. "From these observations and from many others quoted by Düring," Professor Brooks says, "we may safely conclude that among animals and plants, as well as in mankind,

a favorable environment causes an excess of female births, and an unfavorable environment an excess of male births.

"I have tried to show, in another place, from evidence of another kind, that the female is the conservative factor in reproduction, and that new variations are caused by the influence of the male. While the environment remains favorable no change is needed, but, as the conditions of life become unfavorable, variation becomes necessary to restore the adjustment, and I believe that we have, in Düring's results, an exhibition of one of the most wonderful and far-reaching of all the adaptations of Nature—an adaptation in virtue of which each organism tends to remain stationary as long as no change is needed, and to vary when variation is demanded.

"That this is the true view is shown, I think, by the contrast between domesticated animals and captive animals. The fact that an animal has become domesticated shows that it finds in captivity a favorable environment, and Düring says that domesticated animals are unusually fertile, and that they produce an excess of females. Animals which are kept as captives in menageries and gardens have, as a rule, no fitness for domestication, and their conditions of life are unfavorable. Geoffroy Saint-Hilaire says that individuals born in menageries are usually male, while skins sent to museums are usually female, and that the attempt to domesticate a wild animal increases the number of male births. Düring states that captive birds of prey and carnivorous mammals are very infertile, and that the young are nearly always male."

### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 27, 1884, TO JANUARY 2, 1885.

McPAILIN, THOMAS A., lieutenant-colonel and assistant medical purveyor, is granted leave of absence for three months, on surgeon's certificate of disability. S. O. 301, A. G. O., December 24, 1884.

GERARD, A. C., captain and assistant surgeon, ordered from Department of the Missouri to the Department of the East. S. O. 301, A. G. O., December 29, 1884.

JOHNSON, HENRY, captain and medical storekeeper, directed, in addition to his present duties, to perform the duties of assistant medical purveyor in New York City. S. O. 301, A. G. O., December 24, 1884.

EWING, CHARLES B., first lieutenant and assistant surgeon (Fort Stanton, New Mexico), granted leave of absence for two months. S. O. 301, A. G. O., December 29, 1884.

APPOINTMENT.—DR. M. F. GAVIN has been appointed surgeon to out-patients at the Boston City Hospital.

DEATH.—In Fall River, January 5, 1885, Andrew Marion William White, M.D., M.M.S.S., aged forty-two years.

### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The *Section for Clinical Medicine, Pathology, and Hygiene*, will meet at 19 Boylston Place on Wednesday, January 14th, at 7.45 o'clock. The election of a chairman for the ensuing year will take place, and the following papers will be presented: Dr. B. O. Kinnear, "Cholera and its Treatment by Dr. John Chapman's Method, with twelve Cases." Dr. W. B. Mackie, "A Case of Typhoid Fever complicated by Intestinal Hemorrhage, Embolism of the Femoral Artery, and Gangrene of the Foot." Dr. F. Minot will open the discussion.

ALBERT N. BLODGETT, Secretary.

## Original Articles.

REMARKS UPON CHRONIC CONTRACTED KIDNEY WITH NORMAL URINE.<sup>1</sup>

INCLUDING ACUTE GOUTY DEMENTIA, WITH A PERFORATING RECTO-VAGINAL ULCER, AND DEATH FROM SUDDEN PULMONIC OEDEMA.

BY H. C. WOOD, M.D.,

*Clinical Professor of Nervous Diseases in the University of Pennsylvania, and Neurologist to the Philadelphia Hospital.*

Mrs. L., whose case forms the basis of the present article, was a very intelligent lady, about forty years of age, the mother of five children, of gouty ancestry. At regular intervals of four years she was accustomed to have very violent acute attacks of gout or rheumatism, associated with great systemic disturbance and depression of spirits. As the last gouty sickness was in the early spring of 1880, she was in the spring of the present year in great fear of another attack, and an attempt was made, under the direction of her medical adviser, Dr. Tomlinson, to ward off such sickness by careful diet and free horseback exercise. For the early notes of her case I am indebted to Dr. Tomlinson. An exposure to cold during the night of April 20th was followed by severe eryza, vague pains, and great hebetude, with a very pronounced desire to sleep. Even when moving about she seemed unable to keep her eyes open. Under treatment she improved temporarily. Dr. Tomlinson writes concerning this period: "I could discover nothing wrong with the urine, which she passed in usual quantity. A week later she began to have difficulty in expressing herself; she would use irrelevant words and then correct herself; her gait also grew uncertain, and in walking she would pitch forward as though she were going to fall. April 28th, Mrs. L.'s mother died; Mrs. L. was greatly shocked, and rapidly became worse; she was greatly depressed, lachrymose, hysterical, had hallucinations, and ceased to recognize those around her. She lost her appetite, and became constipated. The uncertainty of movement now affected the arms, and there was great failure of memory. Her symptoms continually deepened, the speech became more and more incoherent, until it was a confused, senseless jargon. She now refused food, and finally stayed in bed in a state of perpetual stupor. The tongue was heavily coated, the breath very offensive. There was no elevation of temperature, or pains, or local soreness."

I was first called to see Mrs. L. May 8th; I found her in bed in a sort of stupor, out of which she was with difficulty wakened at all. Getting her partially aroused, I ordered the nurse to put on a wrapper; then commanding and leading the patient, succeeded in getting her to the head of the stairs, then downstairs. It was necessary to hold her very forcibly, as every few minutes her knees would seem to give way, and she would "dop" to the floor. All this time she said nothing other than incoherent protestations. When she finally was in the parlor I upbraided her loudly and severely for her dishabille and general appearance. On asking her if she was not ashamed of herself, she said she was, and that

she had better go upstairs and change her clothes. On my acquiescing she stood up, and taking the hand of her nurse walked upstairs, dressed herself with assistance, and came down recognizing people, but saying very little. I left her eating her breakfast. Her urine was examined at this time; it was loaded with uric acid and urates, although she had been eating very little; had a specific gravity of 1024, and contained no tube-casts, and not the faintest trace of albumen.

She came to the city May 11th. She was now completely demented, knowing no one, and not recognizing in any way her surroundings. The pupils were contracted and immobile. She ate no food except milk, which was forcibly given her at regular intervals. Much of the time she lay in a stupor in bed; then she would have spells of wandering restlessness; again distinct maniacal outbreaks accompanied by violence and indecent speech, or sometimes attacks of muttering delirium. The tongue was brown, dry, coated to the last degree. The teeth were loaded with sordes; the breath horribly offensive; the bowels were obstinately constipated. She was treated with purgatives, quinine, chloral, and morphine, when excited.

During these days there was general tenderness, so that whenever she was taken hold of roughly she would scream out, even rousing from a stupor. There was also on movement distinct pain not located in the joints, but seemingly in the muscles. There were very bad hæmorrhoids, and at times the patient lay stupid but moaning, with knees drawn up, as though there was abdominal pain. The pulse was quick, never much under a hundred, small and feeble rather than strong. Her mental condition grew worse, she took no note of anything, had to catheterized, etc.

By May 16th the general tenderness had become very pronounced; the pupils were dilated and movable; the intelligence somewhat improved, in that she began to take notice. Salicylates and digitalis were at this time being used freely. On 17th severe diarrhoea, with involuntary passages, set in; also the pulse altered suddenly its character, becoming excessively irregular, from 110 to 150 per minute, with beats of all sizes and rates, and many complete intermissions. General tenderness very marked. Auscultation of the heart showed the first sound very weak over the right base; at the left apex the first sound was very weak, the second decidedly accentuated. Over the middle cardiac region the sounds were singularly confused, with a peculiar watery and occasionally grating sound "believed to be cardiac friction, but no clear positive to-and-fro friction rale." [Note at the time.] A blister was applied over the head and one over the heart.

May 18th, menstruation had been established; the pulse had become perfectly regular, 100, and the peculiar middle cardiac sound less distinct. Her mental condition so far improved that she indicated when she desired to pass water, but she could not give a coherent answer to the simplest question.

On the twentieth she, when roused, answered simple questions with some rationality. Severe diarrhoea again manifested itself with involuntary passages and lasted many days, indeed off and on

<sup>1</sup> Read before the College of Physicians of Philadelphia, November 5, 1884.

almost to the end; remedies simply kept it in check. There were no maniacal outbreaks, and a slow but progressive improvement in her mental condition began very distinctly directly after the violent diarrhoea of the twentieth. The first change was in the recognition of her husband; then when she had a desire to stool, she would insist on getting out of bed to the commode, although she never said why she got up. Then she resisted food and medicine, clearly because she had a will not to have them. On the morning of the twentieth she took food herself, knew where she was, and wondered greatly as to the way in which she had got there, having no memory of past events.

June 23d it was first noticed that something was wrong with the vaginal discharge, but a vaginal examination failed to detect any abnormality. On the morning of June 25th faeces were plainly passed per vaginam, and there was discovered a perforation of the recto-vaginal wall very low down, sufficiently large to admit easily the whole forefinger into the rectum. The edges were soft and not well defined. There was no hæmorrhage, local swelling, or pain during the formation of this opening, and it was not distinctly sore.

The mental condition of Mrs. L. continued to improve until about the first of June. At the same time her tongue cleaned and her breath became sweet. June 1st she was entirely rational, recognized her surroundings and friends, servants, etc., in their proper relations. She spoke very sensibly about her own illness. The memory was very much improved, but by no means normal, and there was an absolute lack of power of mental exertion; but the only thing a casual observer would have noted as peculiar was the character of her voice, which remained very unnatural.

The first indication of a relapse occurred about the first of June in a renewed coating of the tongue; then she began to talk irrationally at night, and her memory rapidly to fail. Then a tendency to drop or elide words from her sentences came on and was very pronounced. Her talk in the night began to be irrational and incoherent. At times she was quiet during the day, and at other times very restless. At night she was very wakeful and restless, getting out of bed, wandering about rooms, etc. Much of the time she had an almost uncontrollable desire to pick at her nose and genitals; some days she refused food, others took it. The pulse ranged from 100 to 120, and her physical strength distinctly increased.

From this time onward her mental state deteriorated rather than ameliorated. She lost power of knowing things about her, although she still recognized her husband; the memory was entirely lost; in a word, she was in a condition of almost complete dementia. July 18th the breathing became suddenly accelerated, and some fine subcrepitant râles were heard posteriorly; on the morning of eighteenth her breathing grew much worse; the whole upper lobe of right lung was full of very fine crepitation, the left lung also containing râles. This continued for two days with some slight dulness of percussion on left apex, and then gradually subsided. Some days after this she had an equally sudden attack of oedema of the feet. June 21th

she was taken about 11 p. m. with violent dyspnoea accompanied by fine crepitation anteriorly and superiorly in both lungs, and almost complete absence of breath-sounds over the posterior lobes. The dyspnoea steadily increased and she died asphyxiated after twenty-four hours of struggle.

*Autopsy.*—Kidneys large, plainly in the early stage of chronic interstitial nephritis. Other abdominal organs normal. Heart somewhat hypertrophied; valves normal. Much excess of fluid in pericardium, but no exuded lymph. Lungs highly oedematous; considerable peritoneal as well as pleural serous effusion.

*Brain.*—Basilar arteries; walls very much thickened, sufficiently so to distinctly interfere with lumen; smaller arteries also showing signs of similar endarteritis; the upper and to some extent the basal sub-membranous spaces everywhere distended with exuded fluid; fine vessels of the membrane somewhat congested; a very little lymph in some spots in the membranes. Brain substance very anæmic; the convolutions appeared shrunken; consistence normal, no spots of softening or microscopic changes to be detected; microscopical examination of the convolutions failed to demonstrate anything abnormal, although the cells were perhaps more granular than normal.

There are certain points about this very remarkable case to which it may be worth while to direct the attention. The cause of the dementia cannot positively be asserted; but I am very strongly inclined that it was, at least in part, due to gouty irritation.

It seems to me well established that gout is capable of causing almost every form of insanity; indeed, insanity is only an increase of the mental conditions frequently seen in lithæmia. Carrol in 1859 said: "Gouty mania is occasionally seen," and in 1875 Dr. P. Berthier (*Des Névroses Diathésiques*, Paris) published a collection of forty-six cases of nervous disease attributable to gout; one, hallucinations; one, migraine; four, tetanus; three, chorea; one, hypochondria; seven, epilepsy; one, paralysis, and twenty-six of mental affection including in these dementia, melancholia with stupor, mania. Although in some of these cases the evidence is not at all positive that gout was the *materies morbi*, yet in others the relation seems to have been clearly made out.

In his paper before the International Congress of London (vol. iii. 640), Dr. Raynor supported the following conclusions:—

1. Protracted gouty toxæmia when not very intense usually results in sensory hallucinations or melancholia.
2. Sudden and intense toxæmia results in mania or epilepsy.
3. Intense and protracted toxæmia usually results in general paralysis.
4. If there be a tendency to vascular degeneration from plumbism, alcoholism, etc., varying degrees of dementia are produced.

In the discussion which followed the reading of Dr. Raynor's paper, Drs. Savage and Crichton Browne, of London, both expressed the belief that gout does cause insanity, the latter, however, quali-

lying by the statement — only where there is hereditary predisposition to insanity.

Further proof of the connection between gout and insanity may be found in the Paris Thesis of M. Belliard (1882, No. 269), in which are detailed various cases.

The facts that in Mrs. L. the attack was at the time when an explosion of gout was to be expected, that in all her previous attacks mental depression was a distinct feature, that her urine was loaded with lithates, although she was taking very little food, and that there was widespread exquisite tenderness and soreness to movement with febrile reaction, appear to establish a gouty aetiology. The contraction of the lumen of the basilar arteries was seemingly sufficient to check the freedom of blood-supply to the brain. Brain anæmia certainly existed, as was proven by the autopsy, and no doubt it aided in causing mental weakness.

It is certainly worthy of remark as confirmatory of the generalizations made by Dr. Raynor that the type of mental disturbance exactly corresponded with his conclusions. There was a pronounced tendency to vascular degenerations, and the mental disturbance partook of the nature of dementia.

Passing from the discussion of the aetiology of the case, we note the rapid formation of a recto-vaginal circular ulcer as most extraordinary; its occurrence was entirely spontaneous. It seems to resemble in its nervous pathology the rapid eschars which sometimes form upon the buttock and extremities in severe myelitis, or perhaps even more closely the so-called perforating ulcer of the foot.

The temperature sheet of this patient was remarkable owing to the differences between the two axillæ; although, as the autopsy showed, there was no focal brain lesion to account for such difference.

Irregularities of local temperature are well known to occur in focal diseases of the brain, and the temperature in the two axillæ in the present case was first tested for diagnostic purposes. The result shows that we may have such irregularities of temperature when there is no local lesion. In a case now under my care at the Philadelphia Hospital believed to be suffering from an acute myelitis, the temperature for many days varied in the two axillæ from 0.2° F. to 1.5° F. To my mind it is evident that we need careful bilateral studies of temperatures in various diseases.

The point to which I want to direct especial attention, however, is that the urine was examined various times by Dr. Tomlinson without his finding any evidence of contracted kidney, although such lesion existed. My first glance at the patient made me think that she had chronic Bright's disease, but a very careful examination of the chemical reactions, the specific gravity, and the microscopic deposits of the urine so entirely failed to justify any suspicion that I was entirely misled in this feature of the case. I should here state that my own examinations of the renal secretion were so entirely in accord with the statement of Dr. Tomlinson, that they were not, as they ought to have been, repeated upon various specimens of the urine. As already stated, the aspect of Mrs. L. suggested the existence of chronically contracted kidney, but there was no increased arterial tension, the heart's action whilst she was under my

care being uniformly feeble. It is many years since I ceased putting confidence in the absence of albumen as being of much value in disproving the existence of contracted kidney, but I have hitherto believed that reliance could be placed upon the specific gravity of the urine. The importance of examining the specific gravity of the urine cannot be overestimated; and the import of a persistent specific gravity of 1010 or under can scarcely be mistaken; but in addition to the case just detailed the following is of great interest as indicating that normal urine may accompany a fatally diseased kidney.

Mrs. —, aged fifty-eight, the mother of two healthy children, consulted me in the month of April, 1883, on account of certain spells which afflicted her. The history she and her daughter gave was in brief as follows: the attacks first began in 1876 about the time she ceased menstruating, and had continued ever since; they always came on when the stomach was empty and were sure to happen if at any time during the day she was more than three hours without food, also if she does not get breakfast upon rising she is sure to have a seizure; excessive fatigue increases the tendency to attacks. The spell commences with extreme pallor of face and dark rings under her eyes; if walking her gait becomes very slow, if talking her speech slackens and then ceases; she looks around in a dazed bewildered manner, but does not fall, and is not convulsed at all; she does not become completely unconscious, but does not know where she is or what is going on about her; if a mouthful or two of food be forced down her she arouses immediately, but has no memory of what has occurred during the spell. A careful examination of Mrs. — resulted in complete negations so far as organic disease was concerned. The urine was normal; there was no failure of mental power, choked disk, palsy, headache, or other local symptom discoverable, and I finally settled down to the diagnosis of gastric vertigo. Under appropriate treatment the patient improved, and I saw her at my office for the last time June 4, 1883.

In April, 1884, I was hastily summoned to her bedside, and found her comatose, with a history of distinct convulsions, which were said to have been diagnosed as hysterical by a neighboring practitioner, who, I was also told, after examination of the urine had stated positively there was no disease of the kidneys. On post-mortem examination the brain was found normal, but the kidneys presented the gross appearances of advanced contracted kidney; and careful microscopical examination by Dr. G. A. Piersoll proved that the condition of the organ was as it appeared.

A second case bearing upon the matter in hand is that of —

Mrs. I. W. T., a large, stout woman, who came to my office early last March on account of failing eyesight. Her appearance and description of her symptoms led me to think that she had albuminuric retinitis, but without any examination I sent her to Dr. Harkn, who reported that she had unmistakable albuminuric retinitis, and that no local treatment would be of service.

Her urine had, the day of her return to me, a

specific gravity of 1020, and with the nitric acid gravity test yielded no cloud, or one so faint that I could not be sure that it existed, and noted, "believed to have a trace of albumen." According to her estimate, she was passing two and one-quarter pints a day.

*April 3d.* She passed three and a half pints, having a specific gravity of 1010, and totally free from albumen.

*21st.* Urine three pints, specific gravity 1015; no albumen.

The symptom of increased arterial pressure and cardiac hypertrophy, upon the diagnostic value of which stress has been laid, afforded in the group of cases here narrated no aid. The patients were all large, stout, middle-aged, married women, with full busts, making the recognition of a slight degree of hypertrophy exceedingly difficult, and the circulation in the two more serious cases was certainly enfeebled.

The practical conclusion to be drawn from these cases is that reliance cannot be placed upon a single examination of the urine, but that in any doubtful case of chronic disease it is our duty to examine the renal secretion repeatedly, noting whether albumen appears after a heavy meal of flesh, and whether the urine of abstinence is of abnormally low specific gravity. I have seen patients who certainly did not have Bright's disease, but in whom an irritant drug or an alcoholic excess would produce albuminuria. It is to my mind very probable that such people will eventually develop renal disease. At any rate these cases have suggested to me that possibly as we employ purgatives to make a so-called therapeutic test in a case of suspected typhoid fever so we might use cantharides, turpentine, or other irritant drug in a case of suspected Bright's disease. If on trial it should be found that a slight irritation would seriously affect the urine, the case should be looked upon with the greatest suspicion.

## CONGENITAL PHYMOSIS AND ITS CONSEQUENCES.

BY HORACE G. WETHERILL, OF TRENTON, N. J.

CONGENITAL phymosis is a malformation not uncommon in male children otherwise perfectly formed, and is too frequently regarded as unimportant, and neglected because, as sometimes happens, it gives no immediate inconvenience; yet it is often accompanied or followed by diseases, general and local, for which it, and it alone, is entirely responsible, and which are not infrequently very serious in their consequences.

That this condition is not discovered till some malady is established, that its pernicious influence is not properly appreciated, and that means to correct it are not adopted, or are postponed too long, are evident facts, and it is to this neglect or procrastination on the part of the parents or family physician that many distressing cases of chronic vesical or renal trouble are due, and from which many otherwise healthy nervous systems are directly or indirectly ruined, to the end of destroying the com-

fort of the individual and his family, and sometimes making it necessary that he should spend the remainder of his life in an asylum.

My object in preparing this paper is to renew the interest of those who may meet with it in this apparently trivial matter, and more especially to call attention to some of the nervous conditions induced by it; but to show it a subject worthy the attention I give it, and the importance I attach to it, it will not be amiss to call up some of the severe local diseases to which we know it may give rise, and which are not infrequently forerunners of the disturbance of the nerve centres, which is more properly my theme.

Sometimes this elongation of the prepuce and contraction of its mucous lining is so marked at birth that it nearly or quite prevents a free evacuation of the bladder; the urine, passing freely through the urethra, is obstructed by this contraction, accumulates about the glans penis, and, as I have seen in one or two instances, distends the elongated foreskin to the size of a walnut, which distension is only relieved by this accumulation dribbling away or by its being slowly and painfully ejaculated by powerful and spasmodic contractions of the bladder and abdominal walls. The child affected in this way is often wet, and will almost always cry out with pain when urinating, for aside from the difficulty of evacuation the mucous lining and glans become inflamed and excoriated very soon, and if the prepuce is not already tightly constricted it soon becomes so, and increases the difficulty.

The effects of an obstruction of this kind are evident to every physician, for it is quite as potent in causing inflammatory action in the deeper urinary tracts as a urethral stricture could be, and urethritis, prostatitis, cystitis, and sacculated bladder directly result, and it may even extend beyond the urethra and establish in the kidneys themselves chronic and incurable progressive disease.

This is a serious train of secondaries, and should alarm all to an extent that none of these cases should escape observation and correction; but when we know the bad habits and line of dangerous nervous diseases which are directly or indirectly traceable to this trivial cause, and which could be so easily averted, it becomes even more important that it should not be overlooked.

As a sort of text from which to make deductions it will not be amiss to relate a few points from a case which I have had for some time under observation, which illustrates very well the local and general trouble which a congenital phymosis may set up.

The boy was received into the asylum on October 25, 1882, was removed by his father on March 16, 1883, and readmitted on May 13, 1884, being now under my care. He is aged thirteen years, said to have been deranged nearly five years, and has had epileptic attacks since he was six years old, and is believed to have had no injury or accident which could in any way account for his condition. He has always "wet himself," and cried with pain when urinating. He has not slept well, of course, and has now frequent short epileptic attacks. On examination, he was found to have a tightly contracted prepuce,

which obstructed the free passage of the urine; firm adhesions were present between the glans and foreskin, and the meatus was inflamed and gummed together with a viscid mucus.

On June 21, 1884, he was etherized, the adhesions broken up, and the elongated prepuce amputated and retracted. A large accumulation of hardened and stinking smegma was found lodged back of the corona glandis, and the whole mucous membrane had an inflamed and irritated look. His urine on examination was found to be turbid and ammoniacal, and evidently issued from a chronically inflamed bladder; it was of normal specific gravity, however (1015), and free from albumen or sugar.

There is no history of hereditary tendency to epilepsy or to insanity, and no cause could be given by his family why he should be a victim to this malady.

Now, to me it is evident that this condition of phymosis in his case is responsible for his impaired physical and mental condition, and also for his epilepsy.

The line of thought followed out to this end is briefly this: When born he was, to all appearances, a strong and healthy child, but as he grew older he was noticed to have some urinary trouble. His phymosis is evidently congenital. He presumably had, even at this early day, some obstruction to the free flow of his urine, and so firm was his constriction it could not do otherwise than accumulate and distend the foreskin, he then backed up through the urethra and retained in the bladder in spite of strong efforts at expulsion by the bladder and abdominal walls.

From this the road is straight to cystitis, and sacculated and hypertrophied bladder, which is still remaining and is still distressing him.

He loses his natural sleep from pain and the necessity to rid the irritated bladder of an ammoniacal and irritating urine, is constantly wet, and in a frequent condition of sexual orgasm, and, in fact, is the victim of a perpetual irritation upon and in a set of nerves we know to be intimately connected in their physiological and pathological relations with spinal and cerebral functions and disorders, and to the irritability of which we trace many of our cases of neurasthenia, hysteria, etc., in females, and toward which we may well look in seeking a cause for epilepsy in both sexes. He fails in bodily health and vigor, becomes anemic and dull, and, as before said, when six years old, becomes an epileptic without other assignable cause. The inference is plain: the cause of his epilepsy, idiocy, and physical breakdown, is primarily only a congenital phymosis.

It may be said this is a rare case, but it is so only in being an extreme one; it has many minor parallels, the unfortunate followings of which are serious but perhaps only delayed.

What can be hoped for from the operation done upon him? Very little aside from the relief of the local discomfort to which he has been so long a victim, and even that, I fear, cannot be entirely remedied, for in an examination made July 2d he was found to have his urinary meatus much inflamed, and gummed together with a sticky, viscid mucus, and a prostate gland so much enlarged

and hypertrophied as to obstruct the passage of a number five steel sound, showing a prostatitis and prostaticorrhea of no small degree. It is, however, but just that he should be placed under the most favorable circumstances for recovery, and particularly so when it involves only so trivial an operation. "The epileptic habit" (as it is called), once established, and long maintained, is seldom broken by the simple removal of a peripheral cause, as the disease induces changes in the nerve centres and membranes which the removal of the primary cause (if distal) cannot effect.

A very long prepuce, even free from constriction, I should regard as a malformation and advise its amputation. It interferes with cleanliness and induces sexual orgasm in very young children, attracting attention to the penis at a time when they should know it, simply as a urinary appendage, without other function, and is doubtless instrumental in making onanists.

Echeverria, in his famous work on epilepsy, says: "Congenital phymosis, in the case of males, renders them specially prone to onanism. This malformation is not necessarily incompatible with health, though it may become a frequent source of troublesome local and general derangement."

Althaus, in an article in *The Lancet* of February 16, 1867, upon "The relation of phymosis to epilepsy," speaks of meeting with the malformation in eleven out of twenty-five consecutive male cases of epilepsy, admitted at the London Infirmary for Epileptics and Paralytics (nearly 40 per cent.).

Echeverria did not find so great a proportion, and in my own investigations among the epileptics in the New Jersey State Lunatic Asylum a smaller proportion was also found (36.5 per cent.).

Thirty-three male epileptics are at present (July 3d) in the institution, and out of that number twelve were found to have phymosis and ten elongated foreskins to an extent which might be mischievous. Twenty-one of these men are known to be, or admit having been, habitual onanists, and the actual number addicted to the habit is probably much larger.

It would not be proper to infer that this habit has, in all these cases, arisen from the malformation, for no doubt in some cases the elongation may have been induced by a long continuance of the practice, and in the same way we know it to be true that the practice is often a result of mental disturbance and consequent abandon. Still in many of these cases we know that the phymosis is congenital and responsible wholly, or in part, for the vice.

As to the potency of masturbation in the induction of mental derangement and causation of epilepsy, we have many celebrated authorities who set forth in their strongest possible words the great influence they believe it to have in causing them. Marshall Hall, Brown-Séquard, Van der Kolk, Echeverria, Maudsley, and Sheppard, agree that "epileptic attacks, like every reflex or direct action of the spinal system, are always excited": "that epileptiform convulsions may be constant consequences of slight irritations upon certain nerves," and that specially is a continued spinal irritation (like that present in the class of cases we are considering) likely to be followed by the kinds of

disease now common in our overcrowded asylums and homes for the feeble-minded.

There is a peculiar form of melancholia common in asylums, and recognized and described by nearly all authorities upon psychology, which has its origin in a long-continued habit of masturbating. In looking into the matter as bearing upon this question of phymosis, I find the greater number of such cases with which I have met have either a complete phymosis, or such a long prepucial, as in my judgment may have interfered in early youth with cleanliness, physical and moral.

The solitary vice soon leads to a desire to be alone at all times; the victim becomes depressed, and, as Van der Kolk says: "In a word, the depressed tone of mind here passes over into religious melancholia; all afflictions have a religious color." "This peculiarity I have so often and constantly noticed that I venture to express my conviction that we should rarely err if in a case of religious melancholy we assumed the sexual apparatus to be implicated, either through onanism or through other causes."

In examining the works of many of the best authors of the later days, I find more or less a common expression of opinion in relation to this matter, which my own experience verifies, as it is in general about this. That many forms of mental derangement from mania to dementia may be caused by habitual onanism, and that a large proportion of the epileptic and melancholic cases we find in our asylums are results of some sexual irregularities.

That phymosis (or great elongation of the prepuce even) induces a desire to onanize, I regard as proven and axiomatic; so we can easily trace many of these various maladies to a very easily avoided cause.

To correct a phymosis, or amputate a long foreskin in infancy, is a simple operation, done without risk daily by men without medical education, as a religious office, and in obedience to the Mosaic law. It should not be omitted by any, where necessary as a wholesome and cleanly measure.

Moses, if not inspired, had some very good notions regarding wholesome food and hygiene in general, and the so-called Mosaic laws prohibit many things besides pork, which modern science has shown we are better without, and directs many things which we of this enlightened age would find advantageous and wholesome; and this office of circumcision is not the least important of them all.

There is one more point worth considering in this connection, and it is this: circumcision materially decreases the risk of contracting venereal diseases, as where impure connection is had; not so good protection is afforded the specific virus and a much less liability to absorption is present, and in this age of promiscuous and free adultery, and prevalence of these loathsome maladies, all will admit it to be important that we do what we can to prevent what it is always troublesome and sometimes impossible for us to cure.

Note of case made August 4, 1884.

From the time this patient was operated on (June 21st) until July 3d, there was very little change in his general condition. He continued having many

short and not severe epileptic attacks, varying in number from twenty-three to three or four in twenty-four hours, but on no day being entirely without them. During this time the incisions healed nicely, without hindrance or accident, and some improvement was made in the condition of the bladder, as evidenced in a better control of its contents; the sexual orgasm was not so annoying, and his nights were more comfortably and quietly spent.

On July 3d he had a chill, followed by considerable fever, refused food, and was evidently very ill, the cause of which was apparent on the next day in an attack of erysipelas of the face, which soon became very severe, but ran the usual course, and was over in about two weeks; he then became much brighter and more vigorous than he had been for many months, and continues up to this time in an improved condition. During the time from July 3d to July 26th he had no epileptic seizures whatever (an entirely new state of affairs), as at no time during his previous stay in the house had he been more than two or three days without them, and even now they are much less frequent and severe than formerly, and he has had none up to this writing since August 1st.

Ever since his admission the bromides in various forms and combinations had been used in all available ways, but with no benefit. At the time of the operation they were discontinued, and a stimulating and chalybeate treatment was adopted, which is still continued.

He is now in a much more comfortable condition in respect to his genital irritation, as orgasm is seldom noticed, and he controls his bladder for many hours at a time, and is apparently free from pain during micturition, as he no longer cries out or complains. His progress is very satisfactory, and better than I had looked for, as his case is an unfavorable one of a class in which we are compelled by many failures to hope little from treatment, medical or surgical.

## REPORT ON OTOTOLOGY.

BY H. L. MORSE, M.D.

### TREPANNING THE MASTOID.

AMONG the papers read before the International Congress of Medical Sciences, last summer, at Copenhagen, was a concise and clear article by Professor Schwartz, of Halle, on the indications and contra-indications for the operation of opening the mastoid process of the temporal bone.<sup>1</sup> He says:—

The operation is indicated:—

(1) In acute inflammation of the process with retention of pus in the osseous cells, if, after the application of antiphlogistics and Wilde's incision, the oedematous swelling, the pain, and the fever still persist.

(2) In chronic inflammation of the process, with subcutaneous or subperiosteal abscess, or with fistula leading into the bone, whenever symptoms of such a character as to render recovery impossible are not at the same time present.

<sup>1</sup> Annales des Maladies de l'Oreille, du Larynx. November, 1884. Tome x., No. 5.

(3) When the surface of the mastoid process being healthy, there is a cholesteatomatous mass, or a collection of pus, in the middle ear, which cannot be removed by the ordinary methods, and symptoms appear which cause one to fear a fatal complication; or if an abscess has formed from congestion in the posterior superior wall of the external auditory canal.

(4) When the mastoid process externally showing no sign of disease, and there being no collection of pus in the middle ear, nevertheless it is the centre and point of departure for severe and persistent pain, to relieve which all other means have been tried and have failed.

The value of the operation is doubtful in cases of incurable middle ear disease which has existed for years, and where there are no indications of inflammation in the mastoid process, nor of retention of pus in the middle ear.

The operation is contra-indicated, when it is certain that metastatic abscesses have already formed, or when positive evidence of a secondary meningitis or abscess of the brain is present.

#### REMARKS.

(1) The operation of laying open the mastoid process is a valuable remedy in the most severe and dangerous of the diseases of the ear.

(2) The danger attending the operation must be considered as trifling when compared with that of the disease which it is intended to cure.

In this connection an analysis of the report of fourteen cases of chiseling of the mastoid process by Dr. Arthur Hartman, of Berlin,<sup>1</sup> will prove of interest. To quote Dr. Hartman's most interesting article:—

"Of the fourteen cases which required the opening of the mastoid, there were four in which the mastoid disease was the direct result of acute inflammation of the middle ear. The outer surface of the mastoid process was sound in two of these four cases at the time of the operation; in the other two, abscesses and fistulas had already developed. In one of the former the suppuration traveled through the inner surface of the mastoid process, as first described by Bezold. The remaining ten cases presented complications of chronic suppuration of the middle ear as follows: Formation of sequestra in four (two adults, two children); one case of formation of polypi in the middle ear and mastoid process, and one case of cholesteatomata in an enlarged mastoid antrum.

"Death resulted in two cases, in one of which facial paralysis and symptoms of meningitis had developed before the operation. In the second case the operation was performed as a last resource, pyæmia and thrombosis being present, so that the prognosis was in the highest degree unfavorable."

Both of these cases would come under that class in which, according to Schwartze, the operation is contra-indicated. Of the other twelve cases, eleven resulted in cures, and one passed out of observation before the wound had entirely healed. After giving the history of each of these fourteen cases, Dr. Hartman calls especial attention to several points, namely: He advises that the incision of the skin

and the opening into the bone should be made at the line of attachment of the auricle, or immediately behind it, on account of the danger of injuring the transverse sinus, if the incision is made more posteriorly.

He says that the transverse sinus not infrequently makes a sharp curve forward toward the posterior wall of the external auditory canal, and to guard against such cases he makes his incision at the line of the attachment of the auricle. To avoid penetrating into the middle cranial fossa, he does not allow the opening into the bone to extend higher than the level of the upper wall of the external canal. He advocates the use of a chisel instead of a drill or trephine, because with the chisel the bottom of the wound is easily examined during the whole operation, and if one comes upon the sinus he can recognize the danger in time and avoid it, whereas with the drill or trephine the injury to the sinus in these cases is inevitable. The opening in the skin and in the bone should be large enough to allow free inspection of the wound during after-treatment.

Sequestra, cholesteatomatous masses, and granulations, are to be removed at the time of the operation: the latter are best scraped out with a sharp spoon. The wound must be kept open with drainage tubes until the wound cavity has diminished in size concentrically, by the development of sound granulations, and in the meantime all profuse and soft granulations are to be removed by the sharp spoon or cauterized. The wound is to be frequently syringed and dressed with powdered iodoform. He considers this dressing valuable in preventing inflammatory reaction, and in none of the cases reported did inflammatory reaction follow the operation. In most of the cases the pain and other serious symptoms improved immediately and strikingly after the mastoid process was opened.

A case of

#### ROUND-CELLED SARCOMA OF THE EAR

is reported in the *Archives of Otolaryngology*,<sup>2</sup> with a wood-cut.

"The case is of interest from the rarity of such growths in this situation," from the size to which the tumor attained, "eight inches in length, six in breadth, and four in thickness over the mastoid; in addition, it extended below and in front of the auricle." . . . "The patient died from exhaustion." No autopsy could be obtained, but microscopic examination of a portion of the tumor showed it to be "a sarcoma of the round-cell variety."

#### AURAL SYMPTOMS OCCURRING IN HYSTERIA,<sup>3</sup>

and the hysterical element in aural disease, with a report of two cases.

"There are unquestionably numerous cases in which the subjective symptoms of an existing aural disease are increased to an extent which gives them undue importance in the mind of the practitioner by the co-existence of functional cerebral disease evidencing itself in the train of symptoms to which collectively we give the name of hysteria." . . . "It is

<sup>1</sup> *Archives of Otolaryngology*, vol. XIII., No. 2.

<sup>2</sup> *Archives of Otolaryngology*, vol. XIII., No. 2. J. Orin Green, M.D.

<sup>3</sup> *Annales des Maladies de l'Oreille, du Larynx, et de la Voie*, tome X., No. 4. C. J. Blake, M.D., and G. L. Walton, M.D.

also true, since the ear is most intimately connected with the central nervous system, that it may play an important part as an aetiological factor in nervous disease, and for this reason a careful consideration of its symptoms in disease and an investigation into its condition, even when no marked symptoms of aural disease are present, are of great importance to the neurologist." . . . "Of the two cases here reported, the first illustrates the extent to which an aural disease, severe in its objective as well as its subjective symptoms, may be simulated in an hysterical patient; the second the influence which an existing aural disease of comparatively mild character may have in originating marked hysterical symptoms in a case already of hysterical tendency, and, reflexly, of exciting symptoms leading to the apprehension of graver aural disease."

The aural symptoms, which in the first case simulated mastoid disease, and later on a possible extension of the inflammation to the brain, were as follows: "The head was held stiffly to one side, the expression was one of pain and anxiety, there were slight redness and swelling behind the left ear." . . . "The patient complained of severe pain in the left mastoid and temporal regions, and of great tenderness over the whole surface of the mastoid upon even slight pressure. The external canal was normal, but both membrane tympani, while normal in general color, transparency, and light reflex, showed marked congestion of the manubrial plexus; there was also a general congestion of the tympanic mucous membrane as seen through the transparent membrane tympani."

About two months after the first examination of the patient she was found "lying on the floor unconscious, with cold extremities and very feeble pulse; consciousness soon partially returned, and there was then found an incomplete left hemiplegia." Still later on she complained of intense nausea and vertigo on raising her head, pain in the ear radiating to the vertex, and tinnitus aurium, both nausea and pain being increased by pressure over the mastoid region. Although the case presented so many symptoms which seemed to point to aural disease, the diagnosis of hysteria was made from the presence of many other symptoms of a more clearly hysterical character than those given above, and the subsequent history of the case proved that the diagnosis made was correct.

In the second case the picture presented to the aurist when called in consultation was the following:—

"The patient, who is extremely emaciated, lies on her back, seemingly unconscious of her surroundings, rolling occasionally from side to side slowly, with arms extended above the head, sometimes rising on hands and knees without special rigidity. There is no indication of great pain. The patient takes no notice when first addressed, but responds dreamily to repeated questioning. After urging opens the eyes, protrudes the tongue somewhat, and finally drinks with difficulty. The pupils are alike, and respond normally to light. No strabismus exists or paralysis, either ocular or elsewhere. The tendon reflex is greatly exaggerated on both sides. Pressure over the ovarian region causes apparent distress, while pressure over the mastoid and tem-

poral regions causes none. No difference of sensation is discoverable on the two sides of the body, the prick of a pin being evidently everywhere disagreeable. There is no deviation of the tongue. There is no projection of the auricle, nor is there swelling over the mastoid region. The temperature is normal, the pulse 120, the respiration 30. Neither vision nor hearing can be accurately tested, but both the voice and the watch-tick are heard on both sides."

The exciting cause for these serious and alarming symptoms was an inflammation of the middle ear, giving rise to a serous effusion, for which the membrane tympani was perforated by the attending physician; this was followed by a profuse sero-purulent discharge, for which a drainage wick was used. Three days after the consultation the patient gave evidence of the hysterical nature of many of her symptoms by going into hysterical convulsions, grimaces, fits of laughter, and crying. The stupor diminished, the strength improved. At the same time the purulent discharge from the ear steadily diminished. At the time of the consultation no treatment was advised beyond that required locally for the purulent inflammation of the middle ear, "but the importance of abundant nourishment by artificial means, if necessary, was strongly urged." . . . "The interesting feature of this case was that, while a slight hysterical tendency" (a slight irritability since the birth of a child two years before) "perhaps existed before the onset of aural disease, this disease was itself apparently the exciting cause of the severe hysterical symptoms here reported, and which gave rise to the suspicion of meningeal trouble."

## Therapeutic Memoranda.

### COCAINE AND CURETTE.

BY G. H. TILDEN, M.D.

The patient presented a superficial epitheliomatous ulceration of the temporal region, just in front of the ear. The ulcer had existed for three years, and was about the size and shape of a ten-cent silver piece. The subcutaneous tissues were involved, the borders of the ulcer supple, and its base was composed of soft, pale, and flabby granulations. Four drops of a four per cent. solution of muriate of cocaine were placed upon the ulcer, which held the fluid like a little cup, the patient's head resting upon a pillow. During the next quarter of an hour two more applications were made, each of the same quantity, and the diseased tissue was then thoroughly scraped out with a sharp spoon, the patient suffering no pain whatever. When the scraping was finished a fourth application of four drops of the solution was made, and a few minutes afterward the wound was vigorously cauterized with a stick of  $\text{Ag NO}_3$ , the insensibility to pain being no less marked than before.

The application of the cocaine seemed to have a slight tendency to check the bleeding, but not to any marked degree, and the wound healed quickly and without disturbance of any kind.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION OF OBSTETRICS AND GYNECOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

NOVEMBER 19, 1884. DR. JAMES R. CHADWICK in the chair.

DR. STEPHEN W. DRIVER, of Cambridge, by invitation of the Society, read a paper entitled

#### AN ANALYSIS OF ONE THOUSAND SUCCESSIVE OBSTETRICAL CASES.

DR. HARLOW remarked that, in cases where the head had ceased to advance, some of the older authorities recommended waiting for four hours before applying the forceps, but more recently others said wait but two hours; he would like know Dr. Driver's rule in such cases.

DR. DRIVER replied that with his earlier cases he was undecided just how and when to act, but later, and at the present time, he considered that the condition of the patient would not warrant his interfering unless he was perfectly satisfied that all progress had ceased. It might take one half-hour to decide this point.

DR. HARLOW mentioned that he had observed in several instances that progress had ceased for two or three hours, and then returned and the labor was terminated without any interference being necessary.

DR. DRIVER said in cases where the natural powers could not finish the labor, delay involved danger to the child, which might be saved by the use of the forceps. There is no harm in using the forceps even when the labor is easy.

DR. FRANCIS MINOT asked if the reader had observed any relation between the use of forceps and post-partum hæmorrhage.

DR. DRIVER replied that, with the exception of one case in which he had used long forceps, the woman being in a state of exhaustion at the time, he had noticed no relation whatsoever. He also said that he preferred to, and generally did, use the forceps without administering ether, and he considered that the non-use of ether had much to do in avoiding hæmorrhage.

DR. MINOT said the question whether the use of ether in forceps cases had any influence in causing post-partum hæmorrhage was one of great importance, and difficult to settle. The patient is usually already more or less exhausted, and therefore predisposed to bleed. The comparison of a large number of observations would be necessary to determine the point. One thing he had always considered remarkable—the rarity of death from post-partum hæmorrhage. Dr. Driver did not have a single fatal case. Dr. Minot had had but one death from this cause in the course of his obstetrical practice, which, however, was not large. He had come to the conclusion that recovery was, in most cases, a natural result, and less often due to the treatment employed than was generally believed. Dr. Minot then asked if Dr. Driver had made any examination after delivery to determine the condition of the cervix.

DR. DRIVER replied that he had not, but when attending women a second time he had failed to find any lacerations.

DR. MINOT asked Dr. Driver his method of dealing with the placenta.

DR. DRIVER said that he always had the nurse follow the uterus down firmly. After the birth of the child he waits for two good and firm contractions, then grasps the uterus and stimulates it to contract, and he has never failed to find an edge of the placenta protruding unless there was some morbid condition existing. He never pulls the cord, nor delays more than ten to fifteen minutes before expelling the placenta.

DR. REYNOLDS remarked that the fourteen instances of high application of the forceps which had been described seemed to him an extremely uncommon use of these instruments. What was the average duration of these operations?

DR. DRIVER replied that ordinarily he was from one half to three fourths of an hour in high cases. He imitated nature as much as possible, and never hurried unless there was some necessity for so doing, as in a case where convulsions were present.

DR. REYNOLDS said that such an employment of forceps was not in accordance with his opinions or with his habit. He thought he ought not to detain the Society by bringing up the much debated question of the grounds of choice between version and forceps in operative obstetrics. He would venture the remark that partisans on either side have not infrequently based their preferences upon their entire list of cases. No valuable conclusions are reached if this be done. Under conditions wholly favorable version becomes delightfully easy,—its results most admirable. Quite as much can be urged in praise of the every-day applications of forceps. We approach the real question, when we place side by side the truly hazardous cases of difficult extraction following version and forceps deliveries, like those under consideration, where both the time required and the otherwise formidable character of the procedure put two lives in peril.

The fact that anesthesia, when in operative obstetrics it is necessarily prolonged to deep unconsciousness, introduces an element of danger should not make us loath to acknowledge that in ordinary childbirth its rational use is an inestimable comfort. Thus employed it presents absolutely no drawback. The continued endurance of suffering induces more surely than all other causes combined exhaustion of nervous supply, consequent uterine relaxation, and the tendency to alarming loss of blood. To abolish this suffering with its many attendant risks is the one great service of anesthetics. It is true that even moderate anesthesia rarely fails to lengthen the duration of labor; but to a patient from whom the remedy has taken all intelligent appreciation of time the added hour or half-hour is of no moment. Rare instances are observed in which ether does its very best work by making women who, under agonizing pain long continued have grown unmanageable, tractable and helpful. In an opposite, very small, minority of patients anesthesia arrests uterine contraction. When this

occurs the one indication for the remedy is gone. It cannot then safely be continued.

He who withholds from women in labor a blessing so great as this, who implies that the resort to it is unsafe and even dangerous, ought to be held to the most convincing proof of his assertions, at the peril of being arraigned as both selfish and cruel.

Dr. BOWDITCH said that many years ago, when in general practice, he had met with two cases of fatal umbilical hæmorrhage. They occurred in the deliveries of a perfectly healthy lady, and at intervals of seven years. She had several other but healthy children, and none have shown this hæmorrhagic tendency, nor has it occurred in her descendants of the next generation.

In both of the cases alluded to, there was a slight oozing around the umbilical remains before they finally came off on the third and fifth days, leaving the navel and parts around them apparently sound. In the first case, on the fifteenth day after delivery, there having been only a slight oozing previously, and easily checked, the oozing was renewed. In spite of astringents, nitrate of silver, and finally a surgical operation by Dr. George Hayward, by the transfixing of a circle of healthy skin beyond the umbilicus, and ligature of the whole mass, the child died on the twentieth day from birth, the sixth from the time the hæmorrhagic oozing became permanent.

The second child, seven years afterward, went through a similar course with death on the thirteenth day of life and the third day of hæmorrhage. Dr. Hayward finally used the actual cautery after all other remedies had proved of no avail. Hepatic disease was found at the autopsy.<sup>1</sup> Dr. Bowditch then asked the reader if he used any treatment for convulsions besides forceps.

Dr. DRIVER answered that it depended upon the time that he was called to the case. His practice was to empty the uterus. If he had to wait one half-hour or so for instruments or assistance, he was in the habit of giving a small quantity of chloroform. In one case only, which lasted for forty-eight hours after delivery, had he used any medicine. Ether, opium, and the acetate and bromide of potash were given. Both the woman and child lived.

Dr. BOWDITCH mentioned a case of a healthy, strongly built, large young woman, who was very recently confined with her second child. Puerperal convulsions came on, and bromide of potassium was freely used. Death ensued. Dr. Bowditch thought that possibly venesection, to the amount of sixteen or twenty ounces, while it would not have injured one of her form and health, might have saved life. Dr. Bowditch regretted that venesection had not been tried, as he had known of cases of puerperal convulsions, and also of *acute* cardiac and pericardial affections, in which great dyspnoea had come on, which were entirely relieved by venesection. Our fathers used venesection inordinately and absurdly, and we, in modern times, are with equal absurdity giving up *wholly* a remedy which, if used properly, is of immense value and power toward saving life.

Dr. BRIDG said that he gives ether if the patient

demands it. He found that in the first stage if much ether was used the pains stopped, while later it does not interfere with them.

Dr. MARION spoke of the remarkably low death-rate in Dr. Driver's cases, and then reported the following three cases:—

CASE I.—Mrs. L. Fourth pregnancy. Three hundred days from cessation of last menstrual period she fell in labor, having felt for a week previous as if she was in labor without the real labor pains. She was seen during the forenoon, when an examination showed the os fully dilated, patulous and shortened as usual. The head could be easily felt, but it was not easy to make out and distinguish the sutures; no fontanel was detected. When the uterus contracted the head would move over the pelvis, reminding me of trying to force a croquet ball through a cylinder of less diameter. At 5 o'clock the following morning the pains becoming less frequent and of less force, the os oedematous and the patient much exhausted, after emptying the bladder, I applied long forceps; my brother, Dr. O. H. Marion, assisting. It was with the greatest difficulty the head was delivered, and then not without fracture of one of the frontal bones by compression. The head as a whole, was much distorted. The child lived twenty-four hours. The shock was severe; the patient remaining in a state of collapse several hours. The first urine that was drawn, about twelve hours after delivery, was bloody, suggesting a vesical fistula, which was afterward found to exist. She had a long and tedious convalescence complicated with general pelvic cellulitis, with symptoms of septicæmia. Later when an enema was given to relieve the bowels, water was noticed to flow from the vagina. Suffice it to say she eventually got up and all that could be demonstrated was a lacerated cervix extending above the vaginal junction at the bottom of which was a small opening into the bladder. I might add that this patient in twenty months gave birth to a five months fetus, and again fifteen months later gave birth to a fetus under seven months, which lived and is living to-day. In the following November I was called to

CASE II.—Mrs. M. Multipara. When first seen, at midnight, the os was fully dilated, and the head presenting but not engaged. The fetal heart could not be heard. The antero-posterior diameter was much shortened. Pains continued good, but the head still remained disengaged. At daylight no progress having been made, I applied long forceps but they slipped. I then decided to perform craniotomy, my brother assisting. Braun's instruments were used, and delivery was easily accomplished. The child was estimated to weigh twelve or fourteen pounds. Patient made an uninterrupted recovery, and in nineteen months I again delivered her, under similar circumstances, in the same manner as before, except the forceps. The weight of this child was thirteen pounds.

Following close upon this was

CASE III.—Mrs. D. Multipara. At my first visit I made out, with great difficulty, the os pretty well dilated; the head presenting. The abdomen was pendulous and the pains ineffectual, although the patient was advised to lie upon her back. At

<sup>1</sup> For these cases and a paper on the subject see Am. Journal Med. Sciences, Philadelphia, January, 1886.

midnight the patient, as well as myself, being tired out, and there being no one to send for assistance, after an ineffectual attempt to apply forceps, I introduced my hand and produced podalic version, but it was with the greatest difficulty I delivered the head of a twelve-pound still-born child. No anæsthetic was used. Patient made a good recovery, but prolonged somewhat from excessive loss of blood. This patient has since passed through a normal labor under my care, but with a child weighing but eight and three-fourths pounds. In this connection I might refer to a case sent to the Lying-in Hospital, and reported by Dr. Boardman.

Dr. DUNN said that since his first 550 cases, which extended up to January 10, 1882, he had had 260 more, making a total of 810 up to the present time. All of these cases occurred in his own practice with the exception of fifty-two, which he attended for other physicians. A very large percentage of the cases have been normal in almost every condition. Among the abnormalities and accidents were, of breech presentation eight cases; of feet, two; head and funis, three; arm, one; placenta prævia (complete), one; (partial), one; face, one; transverse, one; putrid at birth, four; occiput posterior (right or left), eighteen; exhaustion due to excessive use of chloral, by nurse, one; death, one; forceps, ninety-six; version, eight; twins, five; knee, one; resuscitated after an interval of three fourths of an hour, two; after one half-hour, three; thrombus of vulva after forceps, one; excessive œdema of anterior lip, two; primary post-partum hæmorrhage, two; severe secondary hæmorrhage after seven days, one; ante-partum hæmorrhage, three cases: one occurring at four months, one at seven months, and one at eight months. These three patients conceived at term. There was one case of pelvic abscess; one of excessive vomiting, in which it was necessary to induce labor at the eighth month; two cases of phlegmasia alba dolens, and two of adherent placenta. The weight of the smallest infant was two and one-half pounds, and of the largest twelve and one-fourth pounds. Both children are now living. Two children were born with a lower central incisor; one with imperforate anus; one with imperforate anus and absence of the rectum, upon which colotomy was performed; and there was one case of spina bifida. Emphysema of trunk, neck, and face occurred in one case one day after labor.

Dr. C. M. GREEN said it was his firm belief that in a great majority of the cases, in which either the long forceps operation or podalic version must be performed, the latter operation should be elected in the interest of both mother and child. Of course, in certain cases version was contra-indicated; as, for example, in labor with twins, and when the uterus was in a state of tonic contraction. In considering this subject he had reference entirely to those cases in which the head was either above the brim or just within it, and not to cases in which the head was in the cavity and could be reached with the ordinary forceps of Simpson or Brann. He thought the introduction of forceps within the uterus and the extraction of the head through an os not entirely dilated was a serious procedure for both mother and child, especially if there was any disproportion

between the pelvis and the fetal head. Moreover, as long forceps must necessarily be applied with reference to the pelvis and not with reference to the fetal head, it naturally followed that compression exerted in the transverse diameter of the pelvis would cause a corresponding increase in the diameter of the head, which occupied the antero-posterior diameter of the superior strait; since a slight contraction in the superior conjugate constituted in many cases the obstacle to descent, the use of long forceps to overcome that obstacle, whereby the relative disproportion was increased, seemed to him entirely illogical. On the other hand, after podalic version the bimastoid diameter of the after-coming head is substituted for the suboccipito-bregmatic diameter of the fore-coming head, and in this way a head would often pass like a wedge through a contracted conjugate, which could be extracted with long forceps only with great danger of serious injury to the maternal soft parts, and perhaps fatal compression of the fetal head. In performing version the speaker believed it to be very important to fully dilate the os with the fingers before passing the hand into the uterus and attempting extraction; otherwise there may be serious delay to the passage of the head, or a considerable laceration of the cervix. Dr. Green asked the reader if in any of his cases he had observed secondary hæmorrhage from the umbilical cord.

Dr. DRIVER replied, very seldom unless from large, thick cords. He has never lost a child from hæmorrhage. It is his custom to tie the cord three times, and if there should be any hæmorrhage he ties it again. If the cord is large it shrinks within the ligatures. He said he did not agree with Dr. Green regarding the operation of version. He prefers the forceps in utero and above the brim in all except a few cases of irregularly shaped pelvis that some call "the figure of eight" pelvis, some cases of placenta prævia, and cross births that cannot be otherwise replaced. He has had two cases of death in children that he considered were due to the grasp of the forceps.

Dr. ROYAL WHITMAN reported the following:—

#### A CASE OF PLACENTA PRÆVIA; DELIVERY BY VERSION.

On July 18, 1884, I was called to attend my patient, a primipara, thirty-five years of age, who gave the following history: Her last menstrual period had terminated on October 12, 1883, and during the several ensuing weeks she had suffered considerably from nausea and vomiting. She had felt the fetal movements for four months, and during the past few days had had irregular pains, varying in intensity, for several hours each day. On the evening preceding my visit she had the usual pains, which, however, continued during the night, and at two in the morning she had a moderate hæmorrhage, sufficient in amount to saturate several napkins. At five she had a second similar hæmorrhage, and immediately sent for a physician. Examination showed a small amount of clotted blood in the vagina, the os rather high up, of about the size of a quarter-dollar, and on the left side a rounded, slightly projecting mass, evidently the placenta. The position was occiput, right posterior. The

placental soufflé was heard with greatest intensity just to the left of the pubes and the fetal heart below and to the left of the umbilicus. The condition of the mother was good. The uterine contractions were weak and rather irregular, coming on at intervals of about ten minutes and were not accompanied by any considerable amount of hæmorrhage. Dr. Thorndike was called in consultation, and advised non-interference while the hæmorrhage was small in amount, but that the membranes should be ruptured if it increased. Until noon the pains continued weak and irregular. There was no hæmorrhage, and the os had dilated little, if at all.

Soon, however, the uterine contractions became more regular and frequent, and were accompanied by a small amount of bleeding, sufficient to saturate one napkin an hour. At five p.m., the os had dilated to about the size of a half-dollar, and the hæmorrhage was gradually increasing with the increased force of the uterine contractions, though not considerable in amount. Shortly after the last examination, the patient became very pale, vomited, and exclaimed that she was dying; and on finding a considerable quantity of blood in the bed, I at once gave ether. On removing the mass of clotted blood from the vagina, the os was found to be flaccid and almost completely filled with the partially detached placenta. This was pushed aside, the hand readily introduced and the membranes ruptured. The cord was not pulsating and no uterine contractions were present. The child was easily turned and extracted, the only difficulty being caused by a slight extension of the head, which was remedied by the introduction of a finger into the mouth and pressure on the occiput.

The child was cold, blue, and pulseless, but after some moments of artificial respiration, direct inflation of the lungs and applications of cold douches, began to breathe. Meanwhile subcutaneous injections of brandy were given the mother, and the uterus contracted firmly after the expulsion of the placenta, which followed the delivery of the child.

During the night the mother's pulse was very weak and rapid, from 120 to 140, and she complained of great thirst. Iced champagne was given, and she slept at intervals. Her recovery was uninterrupted. Catheterization was necessary for a few days. The temperature never rose above 100°, and there was no rupture of the cervix or perineum. The weight of the child, a female, was seven pounds.

There had been no previous hæmorrhage.

Dr. VICKERY reported the following case of

#### PLACENTA PREVIA CENTRALIS;—

The patient, aged thirty-eight, and pregnant for the seventh time, had had six normal confinements—except that in her first labor forceps had been used and the perineum moderately torn, the laceration remaining ununited. In this seventh pregnancy there was, at the end of seven months, a slight flow of blood; one month later a more considerable one, and at term a sudden and profuse hæmorrhage. Although she had previously engaged a midwife, she now went for Dr. Roche, of Chambers Street, who made the correct diagnosis, plugged the vagina, and asked Dr. Vickery to see the case in consulta-

tion. The vaginal plug had in some degree checked, but had not controlled, the loss of blood. Dr. Vickery being asked to operate, ether was given, and the hand introduced into the vagina. The os, which was about three inches in diameter, was easily sufficiently dilated to admit detachment of the left edge of the placenta, rupture of the membranes, and immediate turning, upon the left foot. As blood still gushed out with every pain, extraction was proceeded with, and, thanks to the aid of Dr. Roche, successfully terminated. Both the mother and the child, a girl of six or seven pounds weight, survived, and are still doing well after the lapse of ten weeks.

Owing to circumstances beyond the control of the reporter, the only antiseptic precautions previous to delivery consisted in the thorough washing of the hands with soap and hot water. There were no symptoms of infection afterward.

Dr. E. W. WARREN reported

#### TWO CASES OF MISCARRIAGE,

and exhibited the specimens.

Mary T., forty-six years old (began to menstruate at fifteen), has been pregnant sixteen times with easy labors, thirteen of them running to full term, two were miscarriages and the present case. The last confinement occurred a year ago last February, and the last miscarriage over seventeen years ago. She told me that she had considered herself about six months along. All went well till the third month, when she got a fall. This brought on flowing, accompanied by pain and the passing of clots, which confined her to bed for a week. Then all trouble ceased and everything went on well for another three months, when she began to have pains like labor pains, accompanied by some hæmorrhage, till on the third day, while trying to lift a washtub, the contents of the uterus was expelled, accompanied by rather severe hæmorrhage and some clots. This was controlled by ergot and rest, and three days afterward she was in a very fair condition but feeling rather weak, and there was still a slight oozing of blood. When seen again, two months afterwards, she complained of some pain in the back and bearing-down pains, and said she had what she considered her regular monthly sickness a week before. I had an opportunity to carefully look over herself, husband, and two children, and no sign of syphilis was to be found, but the tubercular trouble was very pronounced in the husband, who since has died of phthisis, and in one child seven years old. Other children had died of tubercular meningitis as far as I could make out from the history. The specimen was two and a half inches long; membranes intact. About one tenth of area was membranous. On opening carefully under water no trace of a fetus could be found; the contents consisting of a bloody fluid. The inner wall was nodular; the nodes being about one fourth of an inch in height and diameter. Microscopical examination showed diffuse blood extravasation in some cases so old that the blood-coloring matter had separated out. There were very few decidual cells left. His opinion of the case is that the extravasation took place at the time of the first accident, and the fetus dying was entirely absorbed before the

expulsion of the sack. Being rather an ignorant woman her dates were probably a month too soon.

In connection with this specimen I show one which Dr. J. R. Chadwick gave me to exhibit at the same time. He received it some years since, from another physician, and without its history. The same condition was present as in the case mentioned, except it was localized, there being four or five pockets three fourths of an inch in diameter filled with coagulated blood. The most interesting part of this specimen is the presence of a fetus one fourth of an inch in length, attached by a cord of about the same length to the walls. The entire sack was about three inches long and showed how it may continue to grow after the death of the fetus.

#### CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

STATED meeting Saturday, December 20, 1884, Dr. Benjamin F. Dawson, in the chair. Dr. M. Putnam Jacobi opened the discussion upon diphtheria as follows:—

MR. PRESIDENT,—I propose in these remarks chiefly to give an account of the recent experiments which have been made in regard to the parasitic etiology of diphtheria. That this poison is due to a living organism, there can, says Loeffler, be to-day no doubt; and it is unnecessary to repeat reasons for this doctrine which have been already so often alleged. The question is simply to find and isolate this organism, and then to prove its causal relation to the disease by a demonstration of three fundamental conditions. First, The organism must exist in typical abundance at the seat of the characteristic lesions of the disease. Second, It must be isolated and submitted to a "pure" culture. Third, By inoculation of products of this culture, it must be possible to excite the typical disease in one or more species of animal.

The remark has often been made that an almost irresistible tendency to the acceptance of the "germ" theory of infectious diseases arises from observing how completely it harmonizes with the great doctrine of the universal struggle for existence, which is the philosophical achievement of the nineteenth century. In accordance with that doctrine, one may easily seem to discern the rise and fall of vast empires of micro-organisms intersecting the course of human history as successive epidemics. Thus the flourishing period of one such empire, now extinct, would be represented in the plague of Theueyides. Another empire of infinitesimals appeared to human eyes as the Black Death, which ravaged Europe for three years, and swept off one half of its inhabitants. The migrations of the barbarians are simulated exactly by the migrations of cholera, emerging like them from Asia. Darwin tells of the disappearance of certain breeds of antelopes from the pampas of South America, when a certain minute fly gained the ascendancy in the vital struggle, an insect which was accustomed to lay its eggs in the navel of the superior animal. Human beings disappear as readily before even minuter organisms; the destiny

of either is determined by a question of nutrient soil and of adaptation to it of the larger or smaller species of living things. It is said that Laycock, in 1858, first suggested that a vegetable organism excited diphtheria; but he supposed this unknown plant to be a product of the *oidium albicans*. The majority of observers who have looked for such organisms in diphtheritic membranes have found micrococci in them. Minute micrococci were described in 1867 by Buhl; in 1868 by Hunter and Oertel; by Nassiloff and Eberth in 1872; by Rosenbach in 1877; Graham Brown in 1878; and Letzerich in 1880; while in 1882 Wood and Formad found and cultivated numerous micrococci, but considered them to be merely the transformation of the ordinary micrococci of the mouth, from a latent to an active state.

On the other hand Cornil and Ranvier (1881) observed both micrococci and rods in the diphtheritic pseudo-membranes, and Klebs (1883) communicated to the International Congress the description of a species of bacillus, with which Loeffler's most recent researches essentially agree.<sup>1</sup> But in 1881 Talamon created a sensation in France by the alleged discovery of a fungus with a mycelium composed of long tubes mingled with short rods, and also with round or oval spores: whose cultivation and inoculation upon animals, caused death with various lesions. On the other hand, Senator (1872) insisted that the micrococci were accidental complications, foreign organisms, implanting themselves on the favorable soil of diphtheritically inflamed tissues, and that it was on this account that they were found limited to the most superficial part of these, or even of the pseudo-membranes. The most sweepingly negative experiments were made by Satterthwaite and Curtis (1879), who found that inoculation with fragments of diphtheritic membranes yielded such varying results that no positive conclusions could be drawn as to the etiological relation of the membrane to the disease. Sometimes the inoculated animals remained unaffected; sometimes they presented local inflammations and abscesses; sometimes died with symptoms of general infection, but never with either symptoms or lesions characteristic of diphtheria.

Heubner (1883) published experiments tending to establish the relation to be expected between pseudo-membranes and bacteria which might be present in the circulation. He produced non-specific pseudo-membranes upon the mucosa of the bladder of rabbits by tying a temporary ligature around its neck, so as to completely interrupt the circulation for about two hours. On withdrawing the ligature, the circulation was restored; but the interruption had sufficed to destroy the vitality of the epithelium, which desquamated, and to impair the integrity of the blood-vessels, so that fibrine transuded on the abraded surface, and a pseudo-membrane was formed resembling that of diphtheria in every respect except in the presence of micrococci. The lesion remained local, and the health of the animals scarcely affected. In a second series of experiments at the time the pseudo-membranes began to form, Heubner injected into the jugular vein fluid holding in solution anthrax bacilli. The animals died of anthrax, and at the

<sup>1</sup> Mittheilung aus dem Kaiserl. Gesund. Amte, 1884.

autopsy the pseudo-membranes of the bladder were found infiltrated with the bacilli, which were also present in great abundance in the subjacent blood-vessels.

Henbner concludes that if in diphtheria any micro-organism which our present resources enable us to recognize were really present in the circulation, it would be found in abundance in the blood-vessels subjacent to the pseudo-membranous exudation; whereas none have been found in this locality.

Loeffler sums up the results hitherto obtained from investigations as follows:—

All observers have found bacteria in diphtheritic pseudo-membranes, although many have contented themselves with searching for it by means of the dilaceration method, which prevented the exact relations of the tissues from being ascertained. In the majority of cases the bacteria described have been micrococci, usually in colonies, and these nearly always on the most superficial part of the membrane. Only occasionally have they been found in the lymphatics of the affected parts; still more rarely (Letzerich) in internal organs. To examine these the modern resources of aniline staining, Abbe's condenser, and oil immersion lenses, have, so Loeffler asserts, been only insufficiently employed. Cultures have been made in fluid media, and thus it has been impossible to isolate from each other the different species of bacteria, of which every diphtheritic pseudo-membrane contains several. In the coincident evolution of these different species the physiological action of each becomes neutralized, and even the development of some completely hindered by that of others. This circumstance accounts for the negative or atypical results of inoculation with the products of such fluid cultures; and similarly, for the uncertainties consequent upon inoculation with fragments of the membrane itself, as in the experiments of Satterthwaite and Curtis. The lesions produced by experimental inoculations, among which those obtained by Talamon are among the most celebrated, include hemorrhagic inflammation of muscles, localized oedema, serous and hemorrhagic effusions into serous cavities, with reddish-brown hepatization of the lungs, radial keratitis, but neither the pseudo-membranes nor the local necrosis of tissue characteristic of diphtheria.

Loeffler's own experiments were divided into three parts:—

(1) Histological examination of the tissues of patients who had succumbed to diphtheria (tonsils, pharyngeal and laryngeal mucosa, internal organs).

(2) "Pure" cultures on solid substances of two species of bacteria discovered during above examination; namely, micrococci in chains and a species of bacillus.

(3) Inoculation, subcutaneous, muscular, corneal, or tracheal, of products of such cultures, from the fourth to the twenty-fifth generation, upon several species of animals (mice, Guinea pigs, rabbits, pigeons).

The micrococci sufficiently resembled those which have been so often previously described, but were found not only in colonies, but in long chains. These were abundant in cases of diphtheritic ulceration without pseudo-membrane, but coincided also with that, and then were found on its outer surface. On sec-

tions from ulcerated tonsils, colored with aniline, the micrococci were found in a narrow blue border lying on the outer side of a broad zone of uncolored tissue. Associated with them were numerous bacteria and rods. The uncolored zone was marked by blue streaks, where colored bacteria had penetrated.

This uncolored zone represented tissue necrosed under the influence of a poison produced by the layer of bacteria.

In many, but by no means in all, cases the capillaries of the internal organs were filled or even obstructed by chain micrococci, and these were sometimes found in the lymphatics of the lungs; sometimes in the lymphatics of the tonsils, or pharynx, though in many cases these tissues were expressly declared to have been free from them. Still, in the general summary of his results, Loeffler admits that the micrococci entered the organism through the open portals of the local lymphatics.

But these micrococci are morphologically identical with those found with any infectious disease associated with lesions of mucous membrane, such as variola, typhus, or puerperal fever. In these diseases they are unquestionably accidental complications, and must therefore be supposed to be so in diphtheria. They are frequent in scarlatinous diphtheria, whose "pultaceous" exudation differs from that of true diphtheria in containing very little fibrine, consisting chiefly of epithelial cells, leucocytes, and fat globules.

The other principal form of micro-organism observed consisted of bacilli considered by Loeffler to be identical with those described by Klebs, in 1883, at the International Congress. These are motionless rods, partly straight, partly curved, about the length of the tubercle bacillus, but double the breadth, coloring intensely with methyl blue potassa solution, discoloring again with dilute iodine, except at both extremities, which remained blue. These blue poles were thought by Klebs to be spores, but Loeffler denies this.

These rods are present in great abundance in diphtheritic pseudo-membranes; they do not lie on the surface as a mass of heterogeneous accidental bacteria, but underneath this outer layer, and accompanied by a rich abundance of cells. Both cells and bacilli disappear from the deeper broad fibrinous layer placed directly upon the enormously dilated blood-vessels.

These bacilli are never found in the internal organs, in the blood-vessels, or in the lymphatics. Thus there is no reason to suppose that they act by penetrating the organism, but they perhaps produce a poison at the seat of their implantation, which first causes necrosis of the tissues in immediate contact with them, then enormous dilatation of paralyzed vessels, through whose injured walls the poison passes into the circulation, causes parenchymatous congestions, fibrinous exudations on free surfaces, and ultimately paralysis of nerve centres and death.

In a certain number of cases of typical diphtheria no such bacilli were found, although other bac-

<sup>1</sup> Thirty cm. of concentrated alcoholic methyl blue solution to 100 cm. of a watery solution of potassa, 1:10,000. Pseudo-membranes were cut on a freezing microtome, then hardened in alcohol, and stained by a few seconds' contact with the solution, washed in one-half per cent. acetic acid solution, and mounted as usual in balsam.

ria were present. Loeffler suggests that they have died and been eliminated before the death of the patient.

The micrococci were isolated by the usual devices, and cultivated upon meat-water-peptone-gelatin. When taken from internal organs, the latter were previously washed, first in a five per cent. solution of carbolic acid, then in a one per cent. solution of corrosive sublimate. The results of inoculation with the products of the culture were negative upon Guinea pigs. In mice and rabbits death usually occurred after subcutaneous injection; not after inoculation, nor after injection into veins. Injection into the lung was followed in one mouse by death only on the thirty-fourth day. Fibrinous purulent exudations were frequently observed over the spleen, liver, lungs, and over the intestine when injections were made into the peritoneal cavity. The exudations contained many micrococci, and they were also abundant in the visceral capillaries. In some rabbits after injection into the aural vein, a multiple arthritis resembling that of scarlatina was developed; and when the animals were sacrificed, purulent masses, infiltrated with micrococci were found in the joints.

Loeffler concludes: "Since the chained micrococci excited in no animal an artificial disease even resembling diphtheria: since they were only observed in a limited number of cases of human diphtheria, and then associated with bacilli: since they exactly resembled the micrococci of erysipelas and other infectious diseases, we must conclude that they are only accidental complications of diphtheria, but may sometimes excite a disease resembling it."

Cultures were then made with the other microorganisms, the bacilli were isolated and cultivated upon stiffened blood serum. They will not develop on the meat-water-peptone-gelatin, partly at least because this softens at a temperature about 20° C., and a temperature higher than this is essential to the development of this species of bacilli. A temperature of 60° C. kills them. The duration of their life seems to be about three months.

The result of experiments conducted with these new bacilli is summed up by Loeffler as follows: They were found in thirteen cases of diphtheria with fibrinous exudation; they lay in the oldest part of the membrane and penetrated further toward the tissues than the other bacteria; products of the cultures of them, carried to the twenty-fifth generation, when inoculated under the skin of Guinea pigs and small birds, kill the animals, after the production of a whitish or hemorrhagic exudation at the point of infection, and extensive subcutaneous edema. The inner organs remain intact, as do those of diphtheric patients. Pseudo-membranes are generated by inoculation of the trachea of rabbits, chickens, and pigeons, or of the vagina of Guinea pigs. There are then also evidences of several vascular lesions, manifested by hemorrhagic edema, by hemorrhages into lymphatic glands, and effusions into the pleural cavity. The bacilli have thus the same effects on the animal organism as the diphtheric virus.

Dr. G. B. HORN said that the subject of diphtheria came more under the notice of the general practitioner than that of the specialist. Yet, recently

he had seen a case in a boy of seven years who, without constitutional symptoms, had presented, on the tonsils, two distinctly diphtheritic patches as large as a ten-cent piece. The speaker applied a strong solution of nitrate of silver, 5iss. - ʒi., and afterward learned that the boy died several days later with diphtheritic croup, the patches in the fauces never having extended. The case was of interest on account of this independent development of membrane upon the two parts.

Dr. E. S. DANA remarked that, as is well-known, diphtheria causes paralysis more often than any other infectious disease. This paralysis may be accompanied with permanent muscular atrophy, as in the following case which he had under treatment: The patient, a young man of twenty-two years, with the appearance of good health, presented himself, one year ago, stating that he was a bar-keeper and that he could stand without inconvenience seventeen hours out of the twenty-four, but that if he sat down he could not get up without using his hands to assist him in rising from his seat, and that, if he were thrown upon the floor, he could not get up at all without assistance. Upon examination, wasting of the quadriceps extensor and of the leg muscles upon both sides was found. There was, in these muscles, a diminution of electrical excitability, slight to galvanism, but to faradism very marked. There was no diminution of the sensibility. There was no bladder or rectal trouble. He was married and had children. Five years previously he had had diphtheria, following which he had pains in the arms and legs with a loss of power which affected principally the lower extremities. At the end of two or three weeks he got up, and at the end of three or four weeks commenced to walk. He never fully regained his power, and it was after this time that the atrophy occurred. He had had no other disease. It seemed probable that, connected with the diphtheria, he had had a myelitis of the anterior horns like that which occurs in infantile paralysis. It should be borne in mind that during epidemics of diphtheria cases of diphtheritic paralysis occur where there have been no local signs of the disease.

Dr. W. O. MOORE said that in eye practice two classes of cases of diphtheria were encountered, the first and more rare being an acute affection of the conjunctiva, characterized by the formation of a pseudo-membrane on its surface, and also an infiltration of the lid substance. This diphtheria of the conjunctiva is very rare in this country, although quite common in Germany, especially in Berlin. Out of 36,302 cases of conjunctivitis, treated during thirteen years at the New York Eye and Ear Infirmary, only sixty-nine were diagnosed as of diphtheritic origin, and he had no doubt some of those were improperly so called. He had himself only seen fifteen cases that were positively of this form. When seen they present an entirely different appearance from the ordinary membranous forms of purulent conjunctivitis. The lids are hard and branny, more or less pale, hard to evert, with very little secretion. Chemosis and moderate injection of the conjunctiva exists, and the palpebral conjunctiva is covered by a grayish-white membrane that extends into the tissue beneath the mucosa.

The prognosis is bad unless seen early. The treatment differs from the more ordinary purulent conjunctivitis in that we use no astringents, simply keeping the parts clean with bichloride solutions 1-400, or a saturated solution of boracic acid. Later in the disease, after the disappearance of the pseudo-membrane, we treat exactly as in other cases of conjunctivitis. Most reliance is to be put in general tonic treatment.

The more common affections of the eye resulting from diphtheria are the pareses that occur. Paresis of accommodation may occur shortly after diphtheria or, in rare cases, at the same time that the paresis of the throat occurs; it usually happens in both eyes, due to disturbance in the short root of the ciliary ganglia.

In other cases the motor-oculi is affected, and more rarely the abducens. These usually yield to treatment in a short time, tonics and applications of electricity being of great service.

The chairman in the New York Foundling Asylum had had an outbreak of puerperal fever in the maternity at a time when there was diphtheria in the children's wards. It was required that the internes should change their clothing and bathe carefully before going from the diphtheritic patients to the puerperal patients. The first case of puerperal infection had dated from a violation of this rule. He considered that poison had been carried in this way, although three hours had intervened between the visits to the two wards.

DR. FRANK B. CARPENTER presented a specimen accompanied by the following history: The patient, a child of about two years of age, had been in his usual good health until Tuesday, the ninth instant, when slight coryza and cough appeared. These symptoms increased, until on Wednesday the nasal discharge had become mucopurulent, the cough had become stridulous, and dyspnea was noticed. From that time the respirations grew gradually more obstructed, being only slightly relieved by the emetics and other domestic remedies that were used. When he first saw the case on Friday, the fourth day of the disease, the dyspnea was severe, the character of the respirations clearly showing laryngeal stenosis. The submaxillary and cervical glands were but little enlarged. The tonsils were somewhat swollen and the whole throat congested, but did not have the dark-red congestion occurring in patches usually found in diphtheria. A careful examination for the fauces and nares failed to reveal any diphtheritic membrane in those parts, nor did any develop there during the course of the disease.

In short, this case presented the clinical features of membranous croup, as it is usually described, rather than those of diphtheria.

In view of the prevalence of the latter disease the unsanitary condition of the place and the belief which he entertains that there exists between croup and diphtheria a very intimate relation if they are not in fact identical, the case was treated as diphtheria taking the precautions usually deemed necessary to prevent the spread of the disease. Subsequent events seem to have justified this course. On the following day a child in the same family, seven months of age, began to show symptoms of diphtheria, which developed rapidly. The submaxillary

and cervical glands became swollen, characteristic membrane appeared on the tonsils, together with other symptoms which showed conclusively that the case was one of diphtheria.

The child first attacked grew gradually worse, and tracheotomy was advised, but not allowed by the mother. Death occurred on Sunday, the sixth day of the disease, from apnea.

In a disease like this which has no typical course, which is so insidious in its advent, so uncertain in its development, and so fatal in its results, no delay is admissible and no detail of treatment that offers any hope of success can safely be ignored.

The nasal cavity should be thoroughly cleansed with a mild antiseptic solution, and all mucus cleared from the throat, so that a clear view of both can be obtained. If any patches of diphtheritic membrane can be seen, they should be brushed with some mild antiseptic preparation; care being taken not to irritate the already inflamed membrane of the throat. The oil of eucalyptus answers the indication here, being unirritating and remaining in contact with the mucous membrane. As this oil is also a good deodorizer, it is especially useful in cases where the discharges are fetid. Hot fermentations or poultices should be applied to the neck and covered with oil silk to retain the heat and moisture and prevent chilling the patient.

The medicated steam spray should be freely used. As to constitutional treatment, *pure air* at an equal temperature of about 75° F., a plain, nutritious diet, and tonics such as the tinct. ferri chloridi and hydrarg. bichlor., which also produce a local effect in the way they are now prescribed, appear to meet the indications. Stimulants should be commenced as soon as the slightest evidence of cardiac weakness appears.

I have given these points in treatment not as anything new but only to emphasize the importance of early and thorough treatment, feeling confident that we can sometimes prevent the development of constitutional symptoms, and often forestall the disease and mitigate its severity.

DR. H. M. GILD, of Vermont, considered the infection of diphtheria to be by direct contagion, frequently through the sputa, the hand touching the mouth, and, later, the door-handle or other object. He relied upon frequent syringing with salt water or lime-water, using a tube which was passed into the nostril, the operator standing behind. If he could have but three remedies to combat this disease, he would choose a syringe, water, and whiskey. In cases where the temperature had been 103° and 103½° he had, by injection in the nasal passages and throat, reduced it 2½° to 3° in one hour.

DR. THOS. E. SUTTERTHWAITE, commenting on the experiments cited by the speaker of the evening, said that they had utterly failed, by injecting the diphtheritic deposit into irritated air-passages and by inoculation beneath the skin, to produce results which in any way differed from those which are obtained from the injection of any putrid material. As a rule abscesses were produced in animals with a residual cheesy mass. The animals emaciated but did not always die. He then exhibited a series of microscopic specimens taken from a diphtheritic

larynx and showing the membrane *in situ*. He also showed sections taken from a larynx in which a diagnosis of membranous croup had been made by a well-known authority on children's diseases. He could not discern any essential difference in minute structure between the two membranes, and in this view he believed he was sustained by the general opinion of pathologists in New York. He also called attention to the old-time definition that a croupous deposit is one which reposes upon the surface, while the diphtheritic deposit is one which also infiltrates the mucous tissue of the part so as to be separated with difficulty. As a point of fact, he held that every diphtheritic membrane would at times be found tightly attached at some places and loosely at others. In Dr. Carpenter's specimen the membrane was tightly attached upon the epiglottis and larynx, but below it could be easily removed. The speaker considered that this loosening had been largely due to the action of the muciparous glands, as had been pointed out by Dr. Jacobi, the glands being absent where it still adhered. Specimens were exhibited showing how this separation was accomplished. He did not consider that the mucous membrane was materially altered where the exudation occurred. He had seen the ciliated epithelium immediately underlying the membranous deposit.

(To be continued.)

## Recent Literature.

*Anatomy, Physiology, and Hygiene: A Manual for the use of Colleges, Schools, and General Readers.* By JEROME WALKER, M.D., etc. etc. With original and carefully selected illustrations. New York: A. Lovell & Co. 1884.

The author of this book states in the preface that its pages are based upon his lectures in the public schools of Brooklyn, during the last eight years, holding as he does the appointment of lecturer at the Central School upon the three subjects discussed. The different chapters, he also tells us, have been carefully reviewed in manuscript and proof by well-known and capable specialists in the various branches of medicine of which they treat.

Such a preparation should make a reliable and useful book, and we think it may be regarded as such. The term "manual" has been respected. Although there are 415 octavo pages, divided into twenty chapters, some appendix notes, and an index, convenience of size as a textbook has been secured. A certain number of the cuts are original, but the majority are taken from Sappey's Descriptive Anatomy, and most of them are decidedly good. There are a good many footnotes of elucidation, and at the end of each chapter a series of questions to aid the teacher.

The author has, as a rule, cleverly achieved conciseness without dogmatism, and whilst not neglecting what is new in physiology and hygiene, has kept pretty clear of still disputed theories. We can recommend the book for the purposes for which it is designed.

## Medical and Surgical Journal.

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## THE OFFICIAL REGISTER OF PHYSICIANS IN ILLINOIS.

We have recently received the third edition of the Official Register of Physicians and Midwives in Illinois. The State of Illinois is naturally looked upon as the leading State of the Union in the regulation by law of the practice of medicine, and the official reports of the Board of Health, to which is entrusted the execution of the laws, must be of interest to all who have at heart the good of the profession and the protection of the community from those who would make man's necessity the prey of their selfishness.

This register contains the names of 5,585 physicians to whom certificates have been issued. Of these certificated practitioners there are 4,780 who hold certificates based upon satisfactory proof of having received diplomas or licenses from legally chartered medical institutions in good standing; 402 have received certificates after passing satisfactory examination before the board; 703 are non-graduates who have voluntarily taken out certificates based on ten years of practice prior to the passage of the regulating act, although not required so to do by law. To this number, to make up the total number engaged in the practice of medicine in the State, must be added 300 practitioners who are exempt from the provisions of the law, having practised in the State ten years prior to July 1, 1877, and who are simply registered in the office of the county clerk of their respective counties. The comparative statistics of the three editions of the register seem to show an improvement in the character of the practitioners, as the following table will indicate:—

	1880, June 14.	1881, Dec. 29.	1884, Dec. 1.
Graduates and Licentates of Medical Institutions . . . . .	4,282	4,488	4,780
Licentates upon examination of the State Board of Health . . . .	191	183	102
Exempt non-graduates, certified . . .	948	899	703
Exempt non-certificated . . . . .	538	420	
Total number engaged in practice	5,958	5,987	5,585

The change in the status of practitioners since the Medical-Practice Act went into operation is

best shown by percentage. In 1877, at the passage of the Act, the number of non-graduates was 52 in the hundred. On December 1, 1884, the non-graduates were reduced to 15 in one hundred. One naturally inquires what class of graduates have made up this large percentage. A comparison of the number of graduates from the institutions which have furnished the greatest number of practitioners to the State, as given in the register of 1879, and in that of 1884, gives, on the whole, cause for congratulation. The following table will illustrate:—

GRADUATES PRACTISING IN ILLINOIS.

	In 1884.	In 1879.
Rush Medical College . . . . .	822	719
Chicago Medical College . . . . .	289	268
Hahnemann Medical College, Illinois . . . . .	274	221
Eclectic Medical Institute, Ohio . . . . .	240	248
College of Physicians and Surgeons, Iowa . . . . .	228	210
St. Louis Medical College . . . . .	196	213
Missouri Medical College . . . . .	190	185
Jefferson Medical College, Pennsylvania . . . . .	179	169
Bennett Coll. of Eclectic Med. and Surgery, Ill. . . . .	178	141
Medical College of Ohio . . . . .	176	158
University of Michigan . . . . .	137	107
Bellevue Hospital Medical College, N. Y. . . . .	108	89
American Medical College, Missouri . . . . .	89	77
Homeopathic Medical College, Illinois . . . . .	87	43
Physio-Medical Institute of Ohio . . . . .	25	26
Physio-Medical College of Ohio . . . . .	8	7

Even with the slight decrease in the total number of practitioners, the income of a physician in Illinois is not of necessity a large one, as a comparison with the population, as shown by the census returns of 1880, shows one physician to every 523 inhabitants.

That the licensing power maintains a careful supervision is evident from the list of thirty-one licenses that have been revoked, some of them for fraudulently using diplomas to which they had no rightful claim, if our understanding of the word *alleged* is correct.

That this work of the Board of Health is not permitted to go on without occasional remonstrances is shown by a recent newspaper item to the effect that, in the Superior Court, arguments were heard in the case of the State Board of Health against Dr. L., charged with practising medicine without a license, the board having revoked its certificate. The defence held that after the board once passed upon the eligibility of a practitioner to do business, they had no further power over him, and could not revoke their license. The judge held that they could, and imposed a fine of \$50. An appeal was taken, and the case will go to the Supreme Court.

#### NEW REMEDIES.—EUPHORBIA PILULIFERA.

A good remedy for asthma will always find a welcome. Quebracho seems to have had its day, though still deservedly held in estimation. The new candidate for favor, which promises speedy and sure relief for the dyspnoea of spasmodic asthma,

of chronic bronchitis, and emphysema; which will better than stramonium and the iodides right the hobbling machinery of hæmotosis, is *euphorbia pilulifera*. Extraordinary testimony, chiefly from foreign sources, comes to us respecting the efficacy of this herb as a respiratory stimulant. Certain Australian physicians, Drs. Matheson and Shephard, also Carr-Boyd, have reported wonderful success with this remedy in asthma and all affections of the air-passages attended with difficult breathing. We are told that this plant is not merely indigenous in Queensland, but is abundant also in the tropical regions of Asia and Africa, and in South America. One case is reported in which the patient had been a victim of asthma complicating bronchitis for eight or nine years, to such an extent that he found himself unable for many nights in succession to sleep, except in a sitting posture. The administration of *euphorbia pilulifera* was followed by immediate and permanent relief.

This case would seem from the communications of these physicians to be typical of multitudes of cases within their experience where individuals, long sufferers, have derived lasting relief from the free use of a simple decoction of the pill-bearing spurge.

This decoction, according to the directions of the *Pacific Medical and Surgical Journal*, is made by simply steeping one ounce of the fresh weed—or one half-ounce of the dried plant—in two quarts of water, and reducing it by simmering to one quart. Of this decoction the dose is a wineglassful. This plant, according to Dr. Boyd, is as common in Australia as the pig-weed is in this country, and is largely resorted to by the natives in pulmonary complaints. Other testimony of a similar kind comes from Jamaica; notably that of Dr. Bancroft. During the past year Dr. Tison, a practitioner, of Paris, has published several interesting papers on the euphorbia, in which he details his own favorable experience of the antiasthmatic properties of this spurge, and quite lately has appeared the instructive *thèse* of Dr. Marsset, late of the Hôpital Clermont-Ferrand, in which he reports twelve cases, nine of which came under his own observation, where the most signal benefit was obtained in organic or spasmodic dyspnoea by the free use, after the evening meal, of the infusion or aqueous extract of *euphorbia pilulifera*. He strongly recommends the dried plant, infused in the manner above described,—dose three or four wineglassful,—or the aqueous extract in the dose of one or two grains a day.

Some of these patients who were so remarkably relieved of all their breathing troubles—and one gentleman (Case IV.) who had been unable for several months to work, or even to lie down, was cured in a few days' time by euphorbia—were patients in the care of Dr. Dujardin Beaumetz, of the Hôpital Cochin, and their cases seem to have been reported with fidelity and much pains.

Dr. Marsset relates with great minuteness the numerous physiological experiments which, while a student in the laboratory of the Hôpital Cochin, he performed on animals to ascertain the toxic effects and mode of action of the euphorbia. He used, for the purpose of experimentation, the aqueous extract of the dried herb, well diluted in water, and either poured it down the throats of his animals (frogs, Guinea pigs, hares), or injected it under the skin of the back. He found the medicament inert in small, and quite toxic in large, doses, the symptoms of fatal intoxication being marked distress and agitation, acceleration, then slowing, of the heart's action, and especially of the respiratory movements; finally collapse. The necropsy, revealing some congestion of the lungs and bronchi, a well-proportioned injection of the gastric mucous membrane where the poison was administered by the mouth, and distention of the gall-bladder and bile-ducts. The symptoms and post-mortem appearances, he affirms, resemble those where death takes place from section of the pneumogastries, and the drug is believed to act by modifying the vagus centre in the medulla oblongata. The toxic action is somewhat irritant to the mucous membranes; it seems to be chiefly eliminated by the liver.

As for the active principle of the euphorbia, it would appear to be a gum resin, soluble in water or dilute spirit; no alkaloid has yet been discovered.

It has not yet been determined what remedial principle this particular euphorbia (the pill-bearing spurge) has which the other euphorbias have not, or whether the same antiasthmatic properties may not be possessed by other members of this large botanical family: a family which comprehends more than twenty-five hundred different species, all characterized by their acrid, milky juice (in which the toxic principle resides) and their singularly anomalous inflorescence.

If this new remedy should really prove to be what the foreign testimonials above referred to seem to justify us in expecting, it will be a most valuable addition to our materia medica.

#### BRAIN-SURGERY AND VIVISECTION.

WE regret to learn from the London papers that the patient operated upon by Mr. Godlee for brain-tumor, as reported upon in our last issue, has finally died, after a favorable convalescence of four weeks, "from one of those complications by which any surgical operation may be attended."

The case will none the less retain its historical importance as being one of the first to inaugurate a new departure in surgical treatment, and as signally illustrating the practical service that physiology is able to render to therapeutics.

In our late editorial we said we were not aware that a *cerebral-tumor* had previously been removed.

The correspondence to which this late event has given rise has, however, developed the fact that Mr. Macewen, of Glasgow, has, within the past five or six years, twice successfully removed foreign growths, the position of which had been diagnosticated by means of the discoveries in cerebral localization to which we last week referred.

Mr. James Whitson, assistant surgeon to the Glasgow Royal Infirmary, in a letter to the London *Times* of December 26th, gives a brief sketch of these cases of Macewen's, and, besides them, of a number of others, of localized abscess, effusion of blood, etc., which the same surgeon had diagnosticated and successfully treated by operation.

Even before Macewen, however, Broca (in 1871) and Lucas-Champonnière (in 1874) had successfully applied the principles of cranio-cerebral topography in operations upon cases belonging to this latter group (in the case of Broca pus was sought and found over the speech-centre), so that the interest of novelty really attaches to the removal of *tumor* alone. It may be of interest to recall that Dr. E. C. Seguin, in a paper published in the *Archives of Medicine* (volume viii., December, 1882), gives a thorough and careful statement of the lessons contributed to surgery up to that date by the physiological and clinical discoveries in localization, citing the two last-mentioned authors and others; and Dr. F. C. Fuller, in 1884 (*Archives of Medicine*, volume xi, page 262), reports four new cases of his own, besides analyzing numerous cases of other observers.

The London *Spectator* of December 27th, with a characteristically narrow bigotry, tries to belittle the value of the contributions made to therapeutics through Dr. Ferrier's experiments, by pointing out that Mr. Macewen had already learned all that was required for the localization and removal of tumors, by post-mortem examinations alone. It is enough to excite one's impatience and indignation to see an intelligent writer stoop to use any argument, if only effective, without asking himself whether or not he is in a position to understand its bearing. The letter from Macewen's assistant contains no such claim, and it is one that is utterly unjustifiable. Whether post-mortems alone would ever have given us our present knowledge of cerebral localization is doubtful; that they in fact did not is certain. It is an easy but an ungenerous task for the landsman, standing safely on the shore of a newly discovered country, to trippingly criticize the action of the mariners who brought him thither.

The antivivisectionists, as a class, are ready to allow torture and indignity to man or beast to protect the pockets of the nation; and they foster a system of terrible attack upon the life and liberty of individuals — whom they call criminals — solely on grounds of practical expediency. Yet they are either too illogical to allow the physiologist the right to the same argument, or else so unjust that they deny him the privilege of bringing the question

of expediency before a jury of his peers. And this in face of the almost unanimous judgment of the medical profession, who stand between the *suffering portion* of the community and the physiologists, and declare that a decent regard for humanity demands that the community shall not be deprived of the splendid results which these men are achieving, until the cost shall be shown to be greater than now.

So far from its being necessary that physiological investigations should commend themselves at every step to non-experts, it would be, in most cases, a warrant of the shallowness of the research that such a ratification was possible, when one thinks of the infinite intricacy of the labyrinth through which physiologists and physicians are trying, by the guidance, now of experience, now of trained instinct, to force their way. Physiologists may well listen to appeals to their humanity, from whatever source, but they should not listen to dilettante criticisms of their investigation.

... "For he made me mad  
To see him shute so brisk and smell so sweet,  
And talk so like a waiting-gentlewoman  
Of guos and drums and wounds (God save the mark!);  
And telling me the sovereign'st thing on earth  
Was parmaceti for an inward bruise;  
And that it was a pty, so it was,  
That villanous saltpetre should be digged  
Out of the bowels of the harmless earth,  
Which many a good tall fellow had destroyed  
So cowardly; and but for these vile guns  
He would himself have been a soldier."

## Correspondence.

### LETTER FROM SAN FRANCISCO.

215 Geary St., SAN FRANCISCO, December 18, 1884.

MR. EDITOR, — In your issue of November 27th, under the head of "Proceedings of the Boston Society for Medical Improvement," I note the discussion had upon the present unusual prevalence of Scabies, and confess much surprise at the remarks made by Dr. J. C. White upon that occasion. He says: "Before the war of the Rebellion, it was so little seen as not to be recognized by practitioners, and during the war it was regarded, in the armies, as an unusual form of skin affection, and extended from them over the whole country." Possibly this statement may be true as regards the recognition of the affection by the profession, but it was sufficiently well-known among the people under the title of "Itch;" and the treatment necessary for its cure was well-known, namely, the thorough immersion, before a warm fire, of the entire body, with sulphur ointment, for three consecutive nights, followed by thorough bathing and boiling of the clothing in hot water. The first fourteen years of my life were spent in Bolton, Worcester County, Massachusetts; for five years of this time, Professor R. T. Edes, of Harvard Medical School, and myself attended school together. During that period it was not an uncommon thing for some of the pupils to have a case of "itch," not bad, and at once attended to at home, but at the same time genuine,

and which could be demonstrated by the plucking out of the insect from the *sillon* which he had made, and placing it upon a piece of glass, where its movements could be seen with the naked eye. Among my early boyhood recollections is that of carrying a piece of roll-sulphur in my pocket as a prophylactic against "itch."

As sustaining, however, the statement of Dr. White with reference to the non-recognition of the affection by the profession generally, I send you the following:—

In the early fall of 1863, the writer, then in charge of the United States General Hospital at Madison, Indiana, was ordered to report for duty to General Burnside, commanding the department and army of the Ohio, at Knoxville, Tennessee. Soon after reporting for duty he was assigned as medical director of the Ninth Army Corps. Three or four days after assignment the assistant surgeon Second Maryland Volunteer Infantry reported the breaking out of a peculiar skin disease in his regiment which had spread very rapidly through the brigade to which his regiment was attached. He stated that it had resisted all treatment, and that nobody had been able to say what it was; furthermore, the men were rapidly becoming unfit for duty, and that, unless something was done speedily to check it, the entire brigade would be disabled. Riding down to the surgeon's quarters, several of the worst cases were brought in for inspection, and from their condition no one could be surprised that the affection should be regarded as "unusual." Being stripped naked these cases presented nothing but a continuous mass of diseased skin, from the crown of the head to the soles of the feet, and every conceivable type of skin disease was present—squamous, vesicular, bulla, pustular, etc. etc.

Sending out again for a case that had only just begun to show traces of the disease, the use of my penknife speedily dislodged a specimen of the *Acarus Scabiei* which was displayed on my thumbnail before the astonished doctor's eyes. Of course the diagnosis was plain, but the next important question was: "What shall we do with it?"

By this time the little army under Burnside in East Tennessee was practically cut off from supplies; the only route open was by Cumberland Gap, and everything had to come by this long route by army wagons. Even this route was to be speedily closed by the great disaster to our army under General Rosecrans at Chickamauga. A council of doctors was had to settle our problem or conundrum. All were agreed that the affected portion of the command should be quarantined; but when the question was mooted as to treatment nearly all were equally unanimous in recommending "sulphur ointment." There was, however, no sulphur, and none to be had; no lard, and none to be had. One thing after another was proposed, only to be abandoned as impracticable. The question was finally left in the hands of the writer for solution.

The solution was as follows: All the affected portion of the command, including the officers, was removed to the banks of a small stream, about a mile distant, and a guard placed around them.

A "detail" was sent through the neighboring country with wagons to bring in thirty or forty of

the large iron kettles, used by the people of that section for washing purposes. At the same time, the "detail" was instructed to obtain from the citizens eight hundred to a thousand pounds of tallow, of which there is always to be found a supply.

When these had been brought in and the kettles placed in position a quantity of blank cannon cartridges was obtained from the ordnance department. Our medical stores were drawn upon for all the sweet and castor oil that could be spared, and the work of preparing *gunpowder ointment* was begun. Many camp-kettles full were prepared, and then the men were ordered to strip and be "anointed." They entered heartily into the thing, and a more comical sight than was presented by these twelve to fifteen hundred men, stark naked, and black as the ointment could make them, dancing around and cutting up all sorts of pranks, one could scarce ask to witness. This process was kept up twice daily for three days, at the end of which time, the men were carefully washed and the clothes thoroughly boiled.

This ended the whole thing, and a calamity that was assuming very serious proportions was averted. The writer afterward ascertained that the "itch" was almost indigenous to the soil in the valleys of East Tennessee, and that no one thought much about it. That the affection was thought to present unusual appearances must be explained by the failure to recognize it till the irritation, scratching, and filth, had developed secondary skin affections, completely concealing the real disease.

True Scabiei, as we all know, can only be caused by the *Acarus Scabiei*, and the result of this little creature's work must always be the same.

There are probably many of the participants of the above-described experience still living as witnesses of the truth of my statements, to whom I extend cordial greeting. Very truly yours,

A. M. WILDER, M.D.,

*Late Surg. and Brevet Lt.-Col., U. S. Volunteers.*

### DR. DARLING'S POEM.

PHILADELPHIA, January 3, 1885.

MR. EDITOR,—In your issue of the 1st inst., in the notice of Professor Darling, the writer states that he was the author of the celebrated poem known as "Lines in a Skeleton," or "To a Skeleton," beginning "Behold this ruin! 'T was a skull." It would be interesting to know on what authority the statement is made. It appeared, so the notice usually runs, in the London *Morning Chronicle*, and was found near a skeleton in the Museum of the Royal College of Surgeons, London,—not in the cavity of a young girl's skull. If, as stated in the *Cyclopædia of British and American Literature*, it was published in 1807, Dr. Darling could not have been the author, and the secret of this beautiful poem remains unrevealed.

Yours very truly,

WILLIAM OSLER.

The poem of which Professor Osler quotes the first line in the above communication, and that referred to in our New York notes, are probably

not identical. Our New York correspondent informs us that the poem attributed to Dr. Darling was privately printed and a proof-slip was seen in his possession by an old friend and pupil, who received from him the impression that it was for the name of the author of this poem that the sum mentioned had been offered. — [Ed.]

## Miscellany.

### OBITUARY.

WILLIAM H. THORNDIKE, M.D.

DR. WILLIAM H. THORNDIKE, whose recent death has left a large void in the medical profession of Boston, exemplified so well for thirty-five years the life of a good physician that it is difficult to do his character justice in an obituary notice.

Modest in bearing, Saxon in speech, reticent of many words, his calm judgment, clear perception, and entire honesty, commended him to the confidence alike of friends and patients.

He was the type of unselfish devotion to his calling. He pursued medicine as a profession, and not as a trade. Too careless, perhaps, of pecuniary returns, he lived in his cases, gave himself wholly to his sick, and was death-struck while attending a professional call.

Beginning to practice in a somewhat isolated community at East Boston, he early learned to rely wholly on himself, and never hesitated to undertake anything he was called on to do. Thus was developed a peculiar roundness and completeness of character usually found only in the country doctor. To this he added the wide experience and versatility generated in great cities, and both were concentrated and widened by seventeen years' service as surgeon of a great hospital. All departments of medicine and surgery, many of which are now consigned to specialists, he practised without hesitation and with success.

He belonged to the older school of surgeons. Natural taste, acquired dexterity, long practice, had made him a deft, intrepid, and successful operator. He loved his art. With him to see clear was to do. Diagnosis was followed by action. Expectation in surgery he well recognized as of less value than in medicine. For twenty years, both in private practice and in the hospital, he did an enormous number of operations, surgical, gynecological, obstetrical, ophthalmic. An enumeration would be tedious, and we will allude only to the unusual ones. He tied the internal iliac artery, behind the peritoneum, for secondary hæmorrhage from a perforating wound, and the patient lived to attend the funeral of his surgeon. He tied the external iliac vein for primary hæmorrhage from a stab with success. He tied the gluteal artery at its emergence from the sciatic notch for a traumatic aneurism in the nates. In this he boldly imitated Bell, who so graphically describes the rush of blood and clots and the difficulty of seizing the vessel. He removed a cobblestone, five inches by three, and weighing two pounds,

from the peritoneal cavity with success. In this remarkable case the patient had inserted the stone into his rectum, thence it had ulcerated through the rectum and colon into the peritonæum. Dr. Thorndike passed his hand into the rectum, but the stone escaped beyond his reach. He then opened the peritoneal cavity by an incision five inches long, parallel to the rectus muscle, and removed the stone. The patient recovered.

He opened the gall-bladder, and removed calculi by incision.

Among the surgical feats he prized the most were two operations for evacuating pus from a retro-peritoneal abscess near the cæcum. The symptoms in his first case were constitutional more than local, but very intense. He made the incision to tie the iliac artery, pushed back the peritonæum, found a mass of induration in the iliac fossa, plunged in a trocar,

and was rewarded by evacuating pus, and the perfect recovery of his patient. Most of these operations were done before the days of antiseptic surgery. The removal of Meckel's ganglion for neuralgia, amputation at the hip-joint, many lithotomies, Cock's operation for perineal section,—which he valued highly,—many large tumors, might be added to the list. He also had practised every operation of modern gynecology except Battery's operation.

A large, continuous, and exacting private practice gradually wore him out; but his constitution was also sapped by a poisoned wound received three years ago. He sank rapidly under a double pneumonia, and died in forty-three hours from the primary chill, apparently unconscious of suffering.

DAVID W. CHEEVER, M.D.

# REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 27, 1884.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York	1,340,114	664	278	19.05	21.90	1.35	7.65	3.30
Philadelphia	927,995	390	133	22.62	11.18	1.01	14.08	2.34
Brooklyn	644,526	306	109	18.15	24.09	1.00	6.27	3.33
Chicago	632,100	290	118	22.80	14.82	1.11	11.40	3.42
Boston	423,800	210	68	14.84	22.54	.48	7.68	2.40
Baltimore	408,529	158	62	19.27	10.71	1.26	9.45	1.89
St. Louis	400,000	152	58	21.89	8.49	1.32	9.24	1.98
Cincinnati	272,400	154	85	20.80	12.35	6.50	5.20	2.70
New Orleans	234,000	97	19	17.51	8.24	—	6.18	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	82	30	11.07	20.91	1.20	3.69	3.09
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	29	11	17.25	17.25	6.90	6.90	—
Nashville	54,400	20	5	5.00	30.00	—	—	—
Charleston	52,286	27	1	11.13	11.13	3.71	—	—
Lowell	71,415	17	5	11.72	17.58	—	11.72	—
Worcester	69,442	24	11	16.61	24.36	—	16.61	—
Fall River	62,671	14	8	14.28	14.28	—	—	—
Cambridge	60,995	28	10	3.57	32.13	—	—	3.57
Lawrence	45,516	15	—	—	20.00	—	—	—
Lynn	44,895	12	4	16.66	—	—	—	—
Springfield	38,090	7	1	14.28	—	14.28	—	—
Somerville	31,350	10	3	30.00	10.00	10.00	20.00	—
Holyoke	29,515	10	5	20.00	30.00	—	—	10.00
New Bedford	30,414	15	8	13.33	20.00	—	6.66	—
Salem	29,503	10	—	10.00	—	—	10.00	—
Chelsea	24,347	14	4	21.42	7.14	—	—	—
Framton	22,633	11	1	18.18	—	—	18.18	—
Glocester	21,400	5	2	10.00	—	5.00	—	—
Haverhill	20,965	3	1	—	—	—	—	—
Newton	19,421	6	1	—	16.66	—	—	—
Brookton	18,323	6	3	—	33.33	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,917	3	0	—	—	—	—	—
Fitchburg	13,433	11	2	9.09	—	—	—	—
St. Massachusetts	—	43	7	9.32	21.33	2.33	1.66	—

Deaths reported 2734 under five years of age 1056; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 513, lung diseases 189, consumption 377, diphtheria and croup 232, scarlet fever 57, typhoid fever 19, diarrheal diseases 42, measles 25, malarial fever 34, whooping-cough 18, erysipelas 18, cerebro-spinal meningitis 14, malarial fever 10. From *diphtheria and croup*, 4, Cincinnati 10, New York nine, Philadelphia four, Brooklyn, Chicago, and Chelsea three each, Baltimore and St. Louis two each, Boston, District of Columbia, Charleston, and Holyoke one each. From *measles*, New York 20, Cincinnati six, Chicago four, Philadelphia and St. Louis three each, Brooklyn, Boston, and Gloucester one each. From *malarial fever*, Brook-

lyn ten, New York seven, New Orleans six, Baltimore four, St. Louis three, Philadelphia, Nashville, Charleston, and Springfield one each. From *whooping-cough*, New York six, Brooklyn three, Chicago and New Orleans two each, Philadelphia, Boston, Baltimore, District of Columbia, and Lynn one each. From *erysipelas*, New York six, Philadelphia, Brooklyn, and Boston two each, Chicago, St. Louis, District of Columbia, New Haven, Lynn, and New Bedford one each. From *cerebro-spinal meningitis*, New York three, Philadelphia, St. Louis, and Fall River two each, Chicago, Boston, Cincinnati, New Orleans, and New Haven one each. From *puerperal fever*, Brooklyn four, Philadelphia and Baltimore two each, Chicago and Boston one each.

In 94 cities and towns of Massachusetts, with an estimated population of 1,064,970 (estimated population of the State 1,955,104), the total death-rate for the week was 17.43, against 18.15 and 18.00 for the previous two weeks.

In the twenty-eight greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending December 13th, the death-rate was 22.26. Deaths reported 3788; infants under one year of age 810; acute diseases of the respiratory organs (London) 457, measles 80, whooping-cough 75, fever 60, small-pox (London) 45, diphtheria 37, diarrhoea 35.

The death-rates ranged from 15.8 in Huddersfield to 34.1 in Preston; Birmingham 22.0; Blackburn 31.2; Bradford 20.9; Hull 29.7; Leeds 22.0; Leicester 22.4; Liverpool 25.8; London

21.3; Manchester 26.7; Norwich 23.7; Nottingham 20.8; Sheffield 21.4; Sunderland 22.0. In Edinburgh 22.4; Glasgow 32.7; Dublin 28.7.

For the week ending December 13th, in the Swiss towns, there were 31 deaths from lung diseases, consumption 28, diphtheria and croup nine, measles seven, diarrhoea six, puerperal fever three, scarlet fever two, small-pox one, typhoid fever one. The death-rates were: at Geneva 20.4; Zurich 11.8; Basle 20.9; Berne 27.8.

The meteorological record for the week ending December 27th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date. December, 1884,	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	8.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	8.23 P. M.	11.23 P. M.	7.23 P. M.	8.23 P. M.	11.23 P. M.	7.23 A. M.	8.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, 21	30.694	32.0	54.2	-1.2	70	100	109	30.0	N W	S E	S	6	6	34	N	R	R	—	—	
Monday, 22	29.644	47.4	55.2	41.2	89	99	88	89.0	W	W	W	14	9	12	O	R	O	—	—	
Tuesday, 23	30.202	23.7	48.6	20.1	75	54	60	63.0	W	W	W	20	27	11	C	F	C	—	—	
Wednesday, 24	30.232	17.4	28.8	14.1	76	88	74	88.0	N	N	N W	14	14	16	N	N	N	—	—	
Thurs., 25	30.350	17.3	24.1	13.1	70	62	66	65.0	W	N W	N W	16	15	12	O	F	O	—	—	
Friday, 26	30.682	14.2	17.9	10.5	82	76	76	78.0	N	N	N W	10	20	18	N	N	O	—	—	
Saturday, 27	30.704	20.6	24.5	11.0	76	78	85	79.7	N W	N	N W	8	11	7	O	O	N	—	—	
Mean, the Week.	30.374	24.7						78.3											72.00	2.02

O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow.

#### REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 3, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrheal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	709	297	18.48	23.80	1.96	8.12	2.10
Philadelphia . . . . .	927,965	471	160	23.10	10.08	.43	11.63	3.57
Brooklyn . . . . .	644,726	352	99	10.14	30.42	—	7.02	.78
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	204	51	28.42	25.48	12.74	10.29	1.96
Baltimore . . . . .	408,520	179	68	17.67	13.68	1.71	9.69	1.14
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	133	58	14.06	14.80	4.64	5.32	.74
New Orleans . . . . .	234,000	137	27	19.71	8.03	4.38	4.38	2.19
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	74	25	12.15	9.45	1.35	2.70	2.70
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	29	11	24.15	10.35	—	6.80	3.45
Nashville . . . . .	54,400	19	8	15.78	26.30	5.26	—	—
Charleston . . . . .	52,286	32	8	6.26	9.39	—	3.13	—
Lowell . . . . .	51,447	29	13	27.60	3.45	—	20.70	—
Worcester . . . . .	49,442	27	11	25.90	22.20	—	18.50	—
Fall River . . . . .	62,674	30	11	23.33	16.66	—	13.33	3.33
Cambridge . . . . .	60,385	23	7	8.70	39.15	—	—	8.70
Lawrence . . . . .	45,516	15	4	13.33	20.00	6.66	—	—
Lynn . . . . .	44,805	20	2	5.00	20.00	—	—	—
Springfield . . . . .	38,690	9	2	22.22	—	22.22	—	—
Somerville . . . . .	31,350	17	5	33.33	29.44	—	—	—
New Bedford . . . . .	30,415	9	5	31.25	12.50	—	11.11	22.22
Salem . . . . .	29,603	7	1	—	—	—	31.25	—
Chelsea . . . . .	24,347	—	—	—	—	—	—	—
Taunton . . . . .	22,633	5	0	—	20.00	—	—	—
Gloucester . . . . .	21,400	4	3	—	—	—	—	—
Haverhill . . . . .	20,965	3	1	—	—	—	—	—
Newton . . . . .	19,421	—	—	—	—	—	—	—
Brocton . . . . .	18,323	4	0	—	25.00	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	3	0	—	—	—	—	—
Fitchburg . . . . .	13,433	4	1	—	—	—	—	—
82 Massachusetts towns . . . . .	—	71	9	14.08	11.28	—	1.41	1.11

Deaths reported 2495; under five years of age 891; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 465, lung diseases 466, consumption 342, diphtheria and croup 208, diarrheal diseases 67, scarlet fever 51, typhoid fever 45, measles 32, malarial fever 18, whooping-cough 17, cerebro-spinal meningitis 14, erysipelas eight, puerperal fever five. From *typhoid fever*, Philadelphia 17, New York and Boston five each. Baltimore and District of Columbia four each, Cincinnati two, New Orleans, New Haven, Charleston, Lowell, Worcester, Wrentham, and Mansfield one each. From *measles*, New York 22, Philadelphia three, Brooklyn, Boston, and Cincinnati two each. Baltimore one. From *whooping-cough*, New York six, Philadelphia three, Brooklyn, Baltimore, New Orleans, Fall River, Lawrence, Somerville, Dalton, and Randolph one each. From *cerebro-spinal meningitis*, New York five, Philadelphia four, Nashville, Lowell, Worcester, Concord, and Millbury one each. From *erysipelas*, Philadelphia and New Haven two each, New York, Brooklyn, Baltimore, and New Orleans one each. From *puerperal fever*, New York two, Philadelphia and Brooklyn one each.

Cases reported in Boston: scarlet fever 44, measles 41, diphtheria 24, and typhoid fever 15.

In 98 cities and towns of Massachusetts, with an estimated

population of 1,246,624 (estimated population of the State 1,955,104), the total death-rate for the week was 19.80 against 17.43 and 18.15 for the preceding two weeks.

In the twenty-eight greater towns of England and Wales, with an estimated population of 8,762,254, for the week ending December 30th, the death-rate was 21.6. Deaths reported 5778; infants under one year of age 839; acute diseases of the respiratory organs (London) 416, measles 101, whooping-cough 91, scarlet fever 62, diphtheria 39, fever 44, diarrhæa 25, small-pox (London 33, Derby two, Cardiff one) 36.

The death-rates ranged from 18.5 in Brighton to 34.1 in Preston; Birmingham 19.4; Blackburn 26.9; Bradford 21.2; Hull 19.3; Leeds 20.7; Leicester 25.7; Liverpool 22.8; London 20.7; Manchester 25.1; Nottingham 21.9; Sheffield 20.7. In Edinburgh 19.7; Glasgow 22.5; Dublin 34.0.

For the week ending December 20th, in the Swiss towns, there were 39 deaths from lung diseases, consumption 27, diphtheria and croup five, measles four, whooping-cough four. The death-rates were: at Geneva 24.5; Zurich 22.8; Basle 15.5; Berne 23.3.

The meteorological record for the week ending January 3d, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barometer.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount, in Inches.
December-January, 1884-85.																			
Sunday, 28	30.523	34.7	42.0	22.2	95	89	83	89.0	NW	S	SW	6	9	12	G	G	O	—	—
Monday, 29	30.464	47.4	52.0	39.5	91	73	73	78.7	NW	S	SW	5	8	19	O	F	F	—	—
Tuesday, 30	30.242	52.2	61.7	45.2	69	64	72	68.5	S	W	S	10	12	12	F	O	W	—	—
Wednesday, 31	29.874	55.6	62.1	47.8	92	70	72	81.7	SW	SW	SW	15	22	24	O	F	O	—	—
Thursday, 1	29.796	43.2	59.9	31.8	80	70	55	68.3	NW	NW	NW	11	8	20	O	R	F	—	—
Friday, 2	30.372	12.6	32.0	7.2	56	44	52	50.7	NW	NW	NW	22	24	18	C	C	C	—	—
Saturday, 3	30.635	14.7	21.5	1.4	61	64	68	64.3	NW	S	SW	11	11	17	C	O	O	—	—
Mean, the Week.	30.268	37.2	36.0	27.9				71.6										11.00	.02

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING JANUARY 10, 1885.

ROSS, J. W., surgeon. Detached from the "Monongahela," for treatment at Naval Hospital, New York.

WELLS, HOWARD, past assistant surgeon. Detached from Naval Hospital, Philadelphia, Pa., to the "Monongahela."

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 3, 1884, TO JANUARY 9, 1885.

SHANNON, WM. C., captain and assistant surgeon. Relieved from duty at Ft. Bridger, Wyo., and assigned as attending surgeon at headquarters, Department of Platte, S. O. 2, Department of Platte, January 5, 1885.

ROBINSON, S. Q., captain and assistant surgeon. Assigned to temporary duty at Portland, Oregon, from December 17, 1884, S. O. 296, Department of Colorado, December 22, 1884.

APPEL, A. H., captain and assistant surgeon. Granted leave of absence for one month, to take effect on or about January 7, 1885 (Madison Barracks, N. Y.). S. O. 2, Department of East, December 31, 1884.

WALKER, P. G., first lieutenant and assistant surgeon. Relieved from duty at Vancouver Barracks, W. T., and ordered to return to his proper station, Ft. Cour d'Alene, Idaho, S. O. 204, Department of Colorado, December 19, 1884.

#### SOCIETY NOTICE.

SEATTLE DISTRICT MEDICAL SOCIETY. *Obstetric and Gynecological Section.*—There will be a meeting of this Section at 19 Boylston Place, on Wednesday, January 21, 1885, at 7.45 P.M. The following papers will be presented: Dr. W. S. Brown, of Stoneham, "Forty Years' Experience in Midwifery." Dr. M. A. Morris, of Charleston, "Three Cases of Pelvic Hematocoele, one Death." Appearances will be shown by Dr. M. L.

Chamberlain: An apparatus for the purpose of giving a continuous vaginal douche for pelvic inflammation, and for obstetrical cases; also an abdominal coil to be used in connection with the above, or separately, whereby continuous heat or cold can be applied to the abdomen. Dr. W. H. Baker, Donche Pan and Pail. Dr. James R. Chadwick, Donche Pan designed by the late Dr. T. B. Curtis. Mr. F. W. Dudley, a Pan invented by Dr. W. M. Seabury, of San Francisco.

JAMES R. CHADWICK, M.D., *Chairman.*  
ROBERT B. DIXON, M.D., *Secretary.*

BOSTON SOCIETY FOR MEDICAL SCIENCES.—At a meeting of the Boston Society for the Medical Sciences to be held at the Medical School, Boylston Street, on Tuesday, the twentieth of January, at eight P.M., the subject of Erythroxylon Coca will be discussed from a botanical, chemical, and therapeutic point of view, by Drs. Goodale, J. W. Warren, F. H. Williams, and others. Members of the medical profession are cordially invited to be present.

W. W. GANNETT, *Secretary.*

#### APPOINTMENTS.

BOSTON DISPENSARY.—At the January meeting of the Managers of the Boston Dispensary the appointments of medical officers were as follows: Dr. Herbert L. Briggs, surgeon to Central Office; Dr. Russell Sturgis, physician to Central Office; Dr. E. H. Lombard, physician to the Department for Diseases of Women; and Drs. Thomas F. Sherman and W. B. Bancroft, district physicians.

COMMITTEE OF MASSACHUSETTS LEGISLATURE ON PUBLIC HEALTH.—Senators: Burden of Bristol, Harlow of Middlesex, Emerson of Essex. Representatives: Warner of Worcester, Smith of Andover, Frothingham of Haverhill, Hemphill of Holyoke, Baker of Shelburne, Rust of Boston, Waters of Millbury, Danforth of Williamstown.

BOOKS AND PAMPHLETS RECEIVED.—A Manual for the Practice of Surgery. By Thomas Bryant, F.R.C.S., etc. With 727 Illustrations. Fourth edition. Thoroughly revised. Philadelphia: Henry C. Lea's Son & Co. 1885.

## Original Articles.

THE MEDICAL TREATMENT OF DIPHTHERIA.<sup>1</sup>

BY JOHN M. KEATING, M.D.,

Visiting Obstetrician and Lecturer on Diseases of Women and Children.

[Reported for the JOURNAL by WILLIAM H. MORRISON, M.D.]

GENTLEMEN, I propose to-day to call your attention to the medicinal treatment of diphtheria, having previously spoken of the results of the mechanical interference with respiration due to closure of the larynx and of the benefits of tracheotomy in such cases.

The child before you is not suffering from this disease, but at the same time it presents certain features which are characteristic of pharyngeal catarrh, and it is a case which might be mistaken by those not thoroughly posted as to the appearances of the throat in diphtheria for that affection. This child has subacute enlargement of the tonsils, and, in addition, has two ulcers on either side of the anterior half arches in front. These ulcers at times put on a rather angry appearance and are covered with a secretion having the appearance of diphtheritic membrane. But attention to the history, and the absence of general symptoms, should prevent a mistake in diagnosis. There are many cases spoken of as diphtheria that are not diphtheria. On this account, it is difficult to obtain a clear idea as to the frequency of this disease from statistics. I see that in New York, sixty per cent. of the cases of diphtheria reported are dying, and it will be seen from the newspapers that the death-rate from this affection in large cities is always high. This is partly owing to the fact that statistics can be made to prove anything. Many cases are reported as diphtheria that are simply cases of ulceration of the mucous membrane of the pharynx, for ulceration can take place in that membrane as well as in any other. We are all familiar with the ulcerations, such as aphthae, which occur in the mouths of children, and are probably due to some disorder of the stomach. If this ulceration took place on the mucous membrane of the pharynx, it might be attributed to diphtheria, yet occurring in the buccal cavity it is considered of little account. An ordinary case of catarrhal laryngitis from improper food, exposure to cold, or similar causes, in which the parts are covered with secretion, might be mistaken for, and has often been mistaken for, diphtheria. I wish to guard you against this error and to impress upon you the importance of care in making the diagnosis.

Acute tonsillitis is frequently mistaken for it, especially if there be much fever, swelling of the tissues of the neck and pharyngeal catarrh. In other cases the tonsils are usually affected one at a time, though sometimes both become enlarged at the same time, and present an angry appearance and look as if they had depressions or excavations on their surface. They may be covered with a glary mucus, grayish in color, though transmitting

the darker parts of its tonsil, and at times bearing a pinkish hue. This mucus covers a large surface, and often is in large amount. It can readily be removed by applying to it a solution of alum about twenty parts dissolved in a teaspoonful of tinct. ferri chlor. and water, and the surface from which it is removed is smooth and shining, with no abrasions. There is also much depression in this disease. The symptoms remain local, and pass off rapidly under appropriate treatment.

I would refer those interested in this subject to a clinical lecture delivered by myself and published in the *Medical News* for December 23, 1882. I propose to-day to speak more at length on the subject with the added experience of a few years. Diphtheria is attracting more attention on account of the microscopical appearances which are attributed to this disease, and more especially since the publication of the article by Oertel in Ziemssen's Cyclopædia.

In speaking to you of catarrhal laryngitis and true croup, I said that anything which would cause irritation of the larynx, whether it be cold or other outside irritant, or whether it be mechanical or vegetable poison acting directly on the membrane through the blood, would produce a laryngitis more or less severe. If this catarrhal inflammation were severe enough, it would cause secretion upon the surface, which becoming dry and inspissated would exhibit the appearances of a membrane.

The mucous membrane of the larynx is covered with ciliated, columnar epithelium and is placed on a firm basement membrane, which lying directly on the cartilage is capable of distension to only a slight extent by inflammatory exudation. The mucous membrane of the pharynx, on the other hand, is covered with squamous epithelium and is based on soft tissues, and hence inflammation of the pharynx may lead to a great deal of congestion and edema beneath the surface. Where there is true diphtheria or croupous inflammation of the larynx, there is upon the surface a tenacious, organized, fibrinous deposit, which is imbedded firmly in the epithelial tissue and comes directly in contact with the submucous tissue. This deposit is firmly adherent, and when detached leaves ulcers beneath it. In the pharynx, there is considerable swelling, but very little discharge upon the surface. Where an organized membrane is detached with considerable difficulty from the mucous membrane, leaving behind it an ulceration, there is apt to be gangrenous formation and the absorption of septic matter with the development of septicaemia.

It is held, by those who have had experience both in the laboratory and in practice, that the diphtheritic poison is one of two kinds. The first theory is that it is a specific poison coming from the outside, and developing in decomposing sewer-gas, and is capable of causing diphtheria only. It can, however, only act when located on an irritated surface, and hence diphtheria is most frequent in cold, damp weather when catarrhal diseases are most common. When cold and bracing weather comes, diphtheria diminishes. The second theory is that every one has within himself the poisonous matter which causes diphtheria, and that it simply needs a

<sup>1</sup> A clinical lecture delivered at the Philadelphia Hospital, December 10, 1884.

congested throat, foul air, damp weather, or depression of health, to make the germ potent. In every one's mouth the germ or micrococcus is supposed to exist, and under the influence of suitable conditions, to develop, attach itself to the mucous membrane, and be absorbed. Whatever theory we adopt, the probabilities are in favor of diphtheria being a local disease at the onset, having its beginning in the throat. The fact that the throat symptoms are the first which are noted is in favor of this view. The disease begins with slight catarrh, then come chilly sensations, loss of appetite, and extreme prostration, probably indicating that the poison has begun to act on the nervous system. This shows the importance, which is also enforced by experience, of applying early in the disease those remedies to the surface which will counteract the poisonous matter introduced from without.

The medical treatment of diphtheria is of two kinds: First, the use of remedies calculated to strengthen and give a certain amount of resistance to the system; and, second, the application of remedies to the pharynx, larynx, and air-passages, to prevent the further entrance of the poison, to enable the tissues to resist it, and at the same time prevent the secondary result of septicæmia which follows the decomposition of the excessive membrane thrown out upon the surface. My own opinion is that there are two forms of blood-poisoning in diphtheria. There is blood-poisoning resulting from the direct reception of the diphtheritic poison, whatever that may be, into the system; and, second, that which comes from the reabsorption of the purulent decomposing matters found on the surface of the throat. Where there is the foul odor so characteristic of this disease, with the sanious discharge from the nostrils, the enlargement of the glands of the neck, the infiltration of the loose, cellular tissue around the neck, and the great prostration, we undoubtedly have a case of putridity, and in fact the old name for this disease was putrid sore throat. Nasal diphtheria is one of the most fatal of diseases because the deposition of membrane occurs where absorption readily takes place, and where it is very difficult to remove the offensive discharge and apply antiseptic remedies.

Diphtheria is probably one of the most frequent and important diseases of childhood, and it is desirable that proper treatment should be begun early in the attack. If you are called to a child with diphtheria, you probably will find that the most marked symptom is prostration. This is not found in croup. In that affection there will be great difficulty in respiration, with fever and a bounding pulse, but the child will be able to sit up, and will probably die in that position, to the last resisting the interference with the proper aeration of the blood. I am not now speaking of the laryngitis and croup which accompany diphtheria, for the great majority of cases of croup are, in all probability, those in which the diphtheritic poison has irritated the laryngeal mucous membrane, and given rise to croup of a diphtheritic character. As I say, in an ordinary case of diphtheria, you will find the child listless, with relaxed and flabby muscles, and great depression which is characteristic. The probability is that complaint has been made of more

or less pains in the bones, of want of interest, headache, and loss of appetite. At the same time the secretions are all out of order, the tongue is coated, and there may be some slight soreness of the throat. The diphtheritic deposit can take place on the mucous membrane at any point of the pharynx or the respiratory tract. It is usually found on the anterior half arches, in the form of shreds and patches of gray lymph adherent to the surface. It adheres because it is not a simple catarrhal deposit on the surface, but it has attachments to the submucous tissue from prolongations downward. It is probable that the micrococci (or poison) pass from the mucous membrane into the submucous tissue: are then taken up by the lymphatics and distributed throughout the body. This takes place with great rapidity. The extension of the disease may take place in an upward or in a downward direction. In the more severe cases the disease extends upward. Where extension is downward the chances are that sooner or later the question of tracheotomy will have to be considered.

As already stated, two forms of treatment are to be considered: that is, the constitutional and local. The constitutional treatment will be first considered. The patient should at once be put to bed, and, according to the best form of treatment, free action of the various eliminative organs should be established. If the tongue is coated with a brown fur, especially on its posterior aspect, and you learn that the bowels have been sluggish and there is want of appetite, it is well to place the child on small doses of calomel and soda. I have found calomel useful on several accounts. In the first place, it is the mildest form of cathartic which can be given. When given in doses of one twelfth or one sixth of a grain every hour, placed upon the tongue, it will promote secretion from the surface of the mucous membrane and produce a gentle movement of the bowels. According to the present views of diphtheria, both calomel and the corrosive sublimate are largely used. There can be no doubt that calomel acts locally, coating the mucous membrane as it is swallowed. In Germany it is recommended to give large doses of calomel with the idea that its action on the mucous membrane will antagonize that of the poison. Six, eight, or ten grains are given, applied directly on the tongue. Although I would not recommend that calomel be used universally, I would suggest its use in those cases in which it is appropriate. It will weaken the child less than any other form of purgative, and, at the same time, exert a favorable action on the organs of elimination, removing the ashes, so to speak, which have accumulated.

The next important point is in regard to nourishment. At the present time we are probably running into extremes as regards nourishment. As soon as a patient is put to bed we begin to stuff him. In olden times the course was exactly the reverse. The patient was put to bed and starved. Let us take the medium course, watching the patient from the start, without pushing the food until the patient is able to digest it. Bear in mind this axiom: it is not the amount of food which is placed in the stomach, but that which is digested and assimilated that goes to the nourishment of the

tissues. That form of food which is most easily assimilable is the one that should be given. Recently beef peptones and peptonized milk, in which the food has been acted on by the "extractum pancreatis" before being taken into the stomach, have been much used. I cannot urge the use of these preparations too forcibly, as I have been so often been a witness of their value. Peptonized milk punch, milk gruel, and beef tea, having undergone the same preparation, are of incalculable value, and I would refer you to the excellent articles by William Roberts, F.R.S., on this subject. Such foods are of great service. Beef tea made in the old-fashioned way, by acting on the meat with a few drops of hydrochloric acid, for several hours, is of value and is readily absorbed.

The remedies employed should be such as will strengthen the system to resist the action of the poison. Some believe in the free use of quinine. In these cases quinine has no direct influence on the disease, but acts simply as a tonic. If necessary, the sulphate of quinine may be given in small and frequently repeated doses. The patient is to be at once placed on the use of milk punch, for we know that in all probability alcohol acts directly on the germs of diphtheria and it has a direct effect on the nerve centres, preventing the depressing influence of the poison. The experience of those who use alcohol largely in the treatment of diphtheria teaches us that it is probably one of our best remedies.

Corrosive sublimate is also used from the very commencement of the attack, beginning with small doses and increasing it as it is tolerated. This is a dangerous drug, and care must be exercised that the patient be not salivated. It has, however, been found that when a child needs a mercurial of this kind, it can take it in large doses for a long time without the development of unpleasant symptoms. Children with syphilitic disease exhibit a marked tolerance to corrosive sublimate. It is said that this same resistance is seen in diphtheria. In a child of five years, which is the usual age at which diphtheria appears, the beginning dose of corrosive sublimate would be from the one hundredth to the one eightieth of a grain every three or two hours in solution, gradually increasing the dose to the one twelfth or one tenth of a grain as the symptoms demand. I do not present this as a routine treatment, but in severe cases it has been found that alcohol and corrosive sublimate are probably the most efficient remedies in the treatment. In my own practice I have for some time used the bichloride of mercury with most excellent results. In fact I consider it the most valuable remedy that we have for the treatment of diphtheria. I used it a couple of years ago in a very severe case of diphtheria, both internally and directly applied to the throat, and, at the same time, examined, with Dr. Formad, the blood of my little patient daily for micrococci. The latter were in abundance and the case opened badly, but in a short time the child began visibly to improve, the micrococci to diminish, and their action on the white corpuscles ceased, and we could only attribute these results to the free use of brandy and the increasing doses of corrosive sublimate.

I shall next refer to the use of iron in these cases. Where there is a foul tongue and clogged portal system, the use of iron is contra-indicated. After the action of the bowels has been established, the patient may be placed on the tincture of the chloride of iron, gradually increasing the dose until a sufficiently large dose be given. It is to be remembered that although the iron is given, yet it may not be absorbed, but pass off through the bowels without accomplishing any good effect, hence the stools should be watched to see that the remedy does not pass off in this way.

The administration of the vegetable acids has been highly recommended in these cases, and as we know lemon juice, orange juice, and the like are valuable in all forms of low condition of the system with blood-poisoning. In France claret is given freely. I have used it both internally and with chlorate of potass. and salicylic acid as a gargle, with excellent results.

The patient should be given fluids freely. It is advisable to let him drink some liquid which is nourishing. Whey made with wine is to be recommended if the child needs it, or the white of egg mixed with water (to which may be added a vegetable acid, as lemon juice) may be employed. If these drinks do not agree with the stomach, simple water may be used.

The next subject to be considered is that of the local treatment. Until recently there were but few applications to be made directly to the throat. There are two ways of bringing remedies in contact with the affected tissues in this disease. One is by means of the brush, and the second is by the use of the steam atomizer. Where there is acute inflammation of the throat no very irritating substances should be applied. Astringent gargles are of service where they can be used. I have used chlorate of potassium with success. Ordinary table salt may be combined with this, and it is an advantage to add salicylic acid. The patient may gargle his mouth with this, and the same solution may be used for swabbing out the throat every hour or two. If there is distinct evidence of deposit on the half arches and the tendency is for the deposit to increase, the use of astringent preparations should be at once begun, in order to cause contraction of the capillaries and prevent further absorptions. For this purpose the following preparation is of service:—

R Tinct. iodini . . . . .	3j.
Tinct. ferri chloridi . . . . .	3ss.
Acidi carbolic . . . . .	grs. x.
Glycerine . . . . .	3ss.
	M.

This may be gently applied to the surface with a camel's-hair brush once or twice a day, and should be done by yourself. Preparations of tannin may also be used. One of the best of these is the glycerole of tannin. The preparation ordinarily known as Bell's gargle for syphilitic cases, which consists of compound tincture of cinchona to which is added corrosive sublimate, may be used. Oertel, in the article already referred to, recommends the use of poultices to the surface of the neck, in order, if possible, to produce congestion and suppuration of the submucous connective tissue, believing that this will prevent the absorption of the diphtheritic

poison. It is by suppuration alone that the membrane is thrown off. If the membrane is adherent, it should not be detached by force, for this causes irritation and leaves an abraded surface. The endeavor should be made to act on the tissues beneath the membrane, in order to promote its spontaneous separation. The cold-water compress, or handkerchief covered with oiled silk, or waxed paper, is an excellent application to the throat.

Delhill, of Paris, has lately strongly advocated gas coal-tar fumigations in this disease. Inhalations of kerosene have been used in this country as an "old woman's" practice, and have received trustworthy endorsements. These are only other forms of antiseptic treatment.

Recently the attempt has been made to dissolve the membrane, especially after tracheotomy. Some believe that the application of bicarbonate of soda in powder on the surface liquefies the membrane and favors its expulsion. Others believe that the use of turbid lime-water and liq. potass. with the steam atomizer will dissolve the membrane. This has been especially recommended by Dr. J. Lewis Smith, of New York. Pepsin has also been tried, but as pepsin only acts in an acid solution it cannot be of much service in this affection on account of the difficulty of applying acid solutions to the throat. At the recent meeting of the New York State Medical Association Prof. Lewis Smith read an interesting paper describing cases in which he had used trypsin as a local application for the purpose of dissolving diphtheritic membrane. This is one of the active principles of the pancreatic fluid. It is the pepsin, so to speak, of the pancreatic secretion, and only differs from pepsin in the fact that it acts in an alkaline as well as in a slightly acid solution. Trypsin, at present, is not in the market, but it was suggested by the author that the "extractum pancreatis," of which the trypsin is the most active ingredient, could be used in this way, taking, for instance, a mixture of extractum pancreatis and sodium bicarbonate, or turbid lime-water, and applying it by means of an atomizer. The theory is that by using trypsin in solution with bicarbonate of sodium or lime-water with the atomizer, the membrane will be digested and the surface freed from its presence, and then by the use of quinine, iron, and tonics, its further formation will be prevented.

Various other substances may be used with the atomizer. Dobell's solution is valuable, and may be used as a vehicle for other remedies. It may be prepared according to the following formula:—

R Sodii bicarb.	.....	an grs. xx.
Sodii bicarbonatis	.....	grs. ij.
Acidul carboloid	.....	3j.
Glycerine	.....	3v.
Aque	.....	Solve.

I have also used listerine in these cases. This is a proprietary preparation, yet at the same time we know its formula, and it is a valuable antiseptic. Thymol may also be employed dissolved in alcohol of the strength of from one to ten parts in the thousand, according to circumstances.

The local remedies should be applied frequently in these cases, and it is the duty of the physician to see that the applications are properly made, and when possible by himself.

I have great faith in the use of the permanganate of potash for washing the throat and naso-pharynx. You should use a solution well colored, applying it to the nose through Politzer's bag or the douche, and mop out the throat every hour or two. At least every hour should some application be made to throat. Choose that preparation in which you have the greatest confidence, and there are many to select from, and then make out daily a schedule of your case, dividing the nourishment, such as milk, soup, peptonized gruel, meat-jellies, etc., so that, although the quantity be small, your patient will get something every hour. Give brandy or whiskey or wine in doses which you think sufficient, judging by the pulse, the temperature, and the patient's condition, and remember that in bad cases stimulants can be given in large doses, and, indeed, should so be given, for alcohol in such conditions is your sheet-anchor. It acts as a stimulant, probably as a germicide, and it prevents tissue changes. It can be given with cracked ice or in the form of punch. If the milk punch is heavy, add plenty of lime-water to it, or peptonize the milk beforehand. Spray the throat with either turbid lime-water, Labarraque's solution, or use a steam atomizer, with Dobell's solution. If the patient be old enough, a perforated zinc respirator (Coquet's) may be used, and kept constantly on the face. Upon the sponge of this may be placed a few drops of eucalyptol, or, possibly, the iodide of ethyl, as recommended by Dr. Cohen. I have never used the latter.

Quinia can be given in the form of suppository, using the sulphate and avoiding the bisulphate, as the latter will occasionally irritate the bowel.

Test the urine frequently for albumen, and if it is found encourage your patient to drink freely of some diuretic water, such as Lithia water, and give Basham's mixture, if the stomach will tolerate it. Keep the patient warm, and sponge daily. I would advise you to generate some chlorine in a saucer in the room, or to saturate cloths in some reliable antiseptic, and allow evaporation to take place in the room.

## A CASE OF ABDOMINAL TUMOR.

BY WILLIAM L. RICHARDSON,

Visiting Physician to the Massachusetts General Hospital.

THE case to be reported is one interesting from the obscurity which at times made the diagnosis at least doubtful. The improvement which followed the opening of the abscess; the comparative freedom from pain, rendering the administration of opiates unnecessary until with a few days of the fatal termination; the apparent diminution in the size of the abdominal tumor during the last few months; the sudden, and in one sense fortunate, occurrence of a fatal peritonitis, unaccompanied by any rise in temperature, the result apparently of an accident,—were the symptoms worthy of record.

Mr. D., merchant, sixty years of age, married, first consulted me January 31, 1883. He was a man over six feet in height, with an average weight of 195 pounds. Family history good. Temperate as regards the use of alcohol, and also tobacco, except occasionally, when he smoked considerably. He had always enjoyed excellent health, and

appeared then to be in good condition. In the fall, or early winter, of 1881 he had fallen from a pile of lumber, striking his neck and right hip on a projecting log. The accident, however, proved not to be serious, and in a short time was forgotten. When I first saw him he stated that, while his general health was good, he had not felt quite up to the mark the last two or three years, although he could not tell just why he had not. For many years he had been troubled with constipation, and since the spring of 1882, nearly a year before I first saw him, he had complained at times of his stomach and bowels, especially the latter, and of a more or less persistent and troublesome backache. The bowels had been more than usually constipated, the food seeming to be arrested at a spot below the ribs on the right side. Flatulence and distress at times after eating made up the list of his complaints. His general appearance was that of a man in good health, although he stated that he had lost several pounds during the last few months. He had a good appetite and slept well. The urine was normal. A physical examination detected a tumor in the upper part of the right iliac region, about the size of a small flattened orange, slightly tender on deep pressure. A regulated diet, tonics, laxatives, and comparative rest and freedom from daily business engagements were ordered. Under this treatment there was a decided improvement in the intestinal and gastric symptoms, but although his appetite improved he did not gain in strength, and his weight gradually decreased.

A month later the tumor had increased somewhat in size, and was more tender; the flatulence and occasional distress after eating became more troublesome, and he soon found the recumbent position on the bed or sofa the most comfortable. The diagnosis was made of cancer, though its exact anatomical position was doubtful. At my request Dr. F. Minot saw the patient with me in consultation March 1st, and agreed to the diagnosis and treatment. Early in March the services of a nurse were called in requisition, as he was obliged to take his food frequently and in small quantities, and he complained of more or less pain at intervals in the right iliac and epigastric regions.

March 18th. He was uncomfortable all day, there being a steady aching in the bowels, and occasionally a sharp pain in the region of the tumor. He was unquestionably weaker, and his appetite was poor. Stimulants were added to the former treatment.

March 23d. He remained in bed all day for the first time. He was unable to lie on the right side on account of the pain caused by that position. The temperature was normal.

March 29th. His weight was 165 pounds, showing a loss of between thirty and forty pounds. He complained frequently of distress in the right side, and his nights were restless, although he would occasionally sleep the greater part of the night. He was unable to walk without assistance, owing to general weakness.

April 5th. During the afternoon he had a great deal of abdominal pain in the neighborhood of the tumor, and extending toward the umbilicus, which also prevented his sleeping at night.

April 11. The temperature for the first time began to rise, and for two days reached the neighborhood of 102° F.; the tumor was more tender, and had increased somewhat in size. For a week past he was unable to lie on the left side, as such a position invariably started up a pain in the region of the tumor. From this time poultices were ordered from time to time *pro re nata*. The next week was one of improvement, his appetite being decidedly better, and his strength such as to allow him to sit up several hours a day. He gradually became able to rest on his left side.

April 25th. After sleeping an hour and a half, he awoke feeling chilly, and soon after had a well-marked rigor lasting half an hour.

April 26th. After taking a compound rhubarb pill he had a loose dejection containing a small amount of blood and pus. The tumor felt flatter, but more extended, reaching nearly to the groin, but was tender only on deep pressure at the lower border. The evening temperature for several days ran over 100° F., and the inguinal glands became enlarged and tender. He was again obliged to lie on his back, either lateral position causing him much pain.

May 9th. Dr. C. D. Homans saw the patient in consultation, and agreed to the diagnosis of cancer. His appetite had decidedly improved, and he was fairly comfortable; occasionally a trace of blood and pus was seen in the dejections. His nights were, as a rule, good, and his great complaint was of a dull ache in the region of the tumor, and of weakness.

May 30th. His days and nights had been better for some time. His appetite was excellent. The tumor was enlarging, and he complained of a feeling of constriction when he breathed.

June 4th. For the last four nights he had been obliged to sleep bolstered up, on account of dyspnea on lying down. There was considerable clotted blood in some of the dejections.

June 9th. The record reports him as doing well. Sits up most of the time, and walks about without assistance. Has a good appetite, no pain, and sleeps well at night, lying on either side.

June 13th. He walked downstairs and back again without assistance.

June 15th. At his request a careful examination was made of the tumor, and the following statement given him to send to an intimate friend in a distant city: "A malignant growth within the abdominal cavity, about and below the region of the liver." This opinion was concurred in by Drs. F. Minot and C. D. Homans.

June 17th. There was a decided redness, swelling, tenderness, and a questionable feeling of fluctuation over Poupart's ligament.

June 20th. The redness had somewhat disappeared, but the swelling had increased in size, though much less tender to the touch.

June 26th. He was feeling decidedly better, was able to dress himself, and went down two flights of stairs for his dinner, feeling no fatigue from the exertion.

June 28th. I saw him for the last time before going to Europe for the summer. He had been downstairs to his meals the last two days, and was

feeling much stronger. The tumor was larger, and in one place fluctuating. Dr. C. D. Homans now took charge of the case during my absence.

July 1st. After walking across the chamber and sitting down in a chair he was suddenly seized with a sharp pain in the right iliac region, and felt as if something had given way. The pain soon subsided, and he had a very comfortable night.

July 5th. He was etherized, and, after a careful examination of the tumor by Drs. C. D. and John Homans, the former made a free incision about one and one-half inches long over the fluctuating point; a small amount of pus escaped from the wound, but the next day about a pint of pus was discharged. His appetite improved, and the pain and general discomfort from which he had so long suffered were greatly relieved. The wound discharged freely for several days.

July 17th. Twelve days after the operation he was able to walk from one room to another, and seemed to be, in every way, decidedly improving; the discharge from the wound was very slight, about an ounce a day.

July 20th. He was carried downstairs, and went to ride.

July 24th. He was able to walk downstairs. From this time the record was one of gradual improvement in spirits, strength, and appetite. The tumor had greatly decreased in size, and was tender only on deep pressure. The discharge from the wound was very slight, and of a sero-purulent character.

August 17th. He went to Wellesley, where he remained until September 13th. While at Wellesley he came in town twice on business. He preferred to walk during the summer and fall, as the jolting of riding occasioned him some pain in the old spot.

Soon after I returned from Europe, in October, he walked into my office, and seemed in remarkably good spirits. He stated that he was at times well, but frequently had days when his back and side ached, and the bowels were very irregular in their action, there being at times considerable flatulence and abdominal discomfort. I saw him occasionally from November until the latter part of January, 1881, when, owing to increasing distress and weakness, it became necessary to again secure the services of a nurse, and my attendance became frequent. The old wound still continued to discharge a slight amount of a sero-purulent fluid. There was considerable tenderness along the crest of the ilium. It became a question whether there might not be some necrosis of the pelvis resulting from the fall in 1881, to which allusion has already been made, but a probe failed to detect anything in the way of dead bone at the end of the old tract.

During the early part of April he began to complain a great deal of periodic chilly attacks, and the evening temperature was about 100° F.

April 15th. The discharge having become decidedly purulent in character and greater in amount, the patient was etherized and a drainage tube was passed by Dr. C. D. Homans through the opening and out at the back just above the line of the crest of the ilium. The wound was syringed daily with carbolic water.

April 30th. The tube being stopped up, it was

changed for a larger one. His weight, May 7th, was 164 pounds, which was the same as he had weighed about a year before. The tube was removed May 19th, but the carbolic washings were still kept up through the wound. The next day he was able to go downstairs.

May 30th. He awoke with severe pain in the hip and leg, which soon became swollen and somewhat tender.

June 1st. The whole leg was swollen, and there was marked tenderness along the line of the femoral vein. This tenderness gradually subsided, as did also the swelling, although the leg never regained its natural size.

June 9th. He went out on the roof of an L, which was back of his chamber, on which a hammock had been hung, and there he passed more or less of the days during the summer. The right leg became again swollen, tense, and tender, and at times there was distress in the region of the tumor, which had not increased in size, but had grown firmer to the touch and much less tender than formerly. By the early part of September he was feeling much better, his appetite was good, the leg no longer troubled him, and his poor days were the exception rather than the rule. He was very cheerful and bright, and his nights were good. The tumor had apparently diminished in size.

September 10th. He awoke feeling very bright, and spent the day as usual in the hammock. In the afternoon, during the temporary absence of the nurse, wishing to get something from his chamber, he attempted to get in through the window, but slipped, and felt a sudden pain in the region of the tumor. Soon after he complained of great distress and pain in the abdomen. Having left the city for the night, and Dr. C. D. Homans being also absent, Dr. John Homans was called and ordered an opium suppository of two grains. This was the first opiate he had ever taken. It was repeated in an hour, but without relief, and chloroform was then given. He fell asleep, but awakened at intervals during the night complaining of general abdominal pain.

The next morning, September 11th, I found him quite drowsy. He was suffering a great deal of pain, but not enough to make him willing to take any more opium. The temperature was normal. Toward evening the abdomen began to be tympanitic.

September 12th. The nurse reported that he had had a poor night; about half past seven o'clock in the morning he had a very severe attack of pain, and Dr. J. Homans was again sent for. Morphia subcutaneously failing to give any relief, the patient was etherized. At the time of my visit he was comparatively free from pain, but very restless; there was marked tympanites; no tenderness except immediately over the tumor; the temperature was normal. The pain returned at intervals during the day, requiring the administration of ether. After ten o'clock in the evening the pain ceased, but he was still very restless, and he died about two o'clock on the morning of the 13th. The autopsy was made by Dr. W. W. Gannett, the subsequent day, with the following result:—

Externally, there was a fistulous opening, large enough to admit the forefinger, in the right groin, two cm. above Poupart's ligament and four cm.

to the outside of the middle of this ligament. There was also a similar opening behind, just above the crest of the right ilium. A bougie passed into the anterior opening emerged at the posterior one.

The points of special interest in the internal examination were a recent, diffuse, fibrino-purulent peritonitis due to a perforation in the anterior wall of the cæcum, with escape of the intestinal contents. This perforation corresponded to the centre of one of several cancerous growths to be presently described.

On opening the cæcum and ascending colon there were found on the anterior and posterior walls, but more abundant on the latter, a number of elevated papillary structures, about three cm. in width. These showed a central depression and an elevated, circular periphery, hence presenting a crater-like appearance. Those situated posteriorly had a central opening connecting the lumen of the intestine with an irregular, trabeculated multilocular cavity lying behind the cæcum and first portion of the ascending colon. The walls and trabecule were made up of a rather dense, grayish tissue, showing numerous opaque grayish-yellow points; from the latter drops of a thick fluid issued when pressure was applied. In the larger spaces was a small amount of a puriform fluid. The cavity connected not only with the intestine but also with the external openings previously described.

The dense tissues behind the cæcum showed, microscopically, a basis substance of connective-tissue fibres enclosing spaces, the latter being filled with cylindrical epithelial cells, atypically arranged. Hence the mass was a cylindrical cell cancer.

The probable sequence of events was, primarily cancer of the cæcum extending into the deeper tissues posteriorly; then necrosis of the central portions, affording ingress of intestinal contents; then suppuration in the new-growth, as shown by discharge of pus from the rectum early in the disease; then sufficient pus forming behind the cæcum to require artificial opening. Finally the perforation of one of the cancerous nodules situated in the anterior portion of the cæcum: so escape of intestinal contents and a fatal peritonitis.

#### REPORT OF A CASE OF OCCLUSION OF THE VENA CAVA SUPERIOR, AND OF A CASE OF HEART-TUMOR.<sup>1</sup>

BY ARTHUR V. MEIGS, M.D.,

*Physician to the Pennsylvania Hospital.*

A MAN seventy-two years of age was admitted to the Pennsylvania Hospital on September 18, 1883, and gave the following history: For thirty-five years he worked as an iron-moulder, but during the past year he has been gaining his living as a pedlar. He was always very strong and well until during the last two years, when he has had some pain in the lumbar region which has increased in the last three weeks, and during that time he has not slept well. The day of his admission

he was standing by the edge of the river looking at some object upon the water, when suddenly, and for the first time in his life, he was seized with vertigo, and fell into the water. When brought to the hospital the following was noticed as to his appearance and condition: He is tall and spare, having lost much flesh in the last few years, and stoops moderately. The skin is slightly yellow and the tongue furred. The radial arteries are markedly stiffened. The veins on the right side of the abdomen and chest are enlarged, the largest being half an inch in diameter; those upon the left are comparatively slightly enlarged. Prominent veins extend also toward the right axilla. He cannot say how long these veins have been enlarged, as he never gave them any thought, but is sure that they were not always so. Examination of the heart reveals a murmur which precedes the impulse and the carotid beat. There is slight visible impulse in the epigastrium. At the base of the heart, the sounds are almost inaudible, but they can be heard beneath the sternum; no accentuation of the second sound can be distinguished at the base, although at the apex the second sound is loudly accentuated. The hepatic dullness in the nipple line begins at the sixth rib, and extends slightly below the costal arch. The radial pulse is irritable, but the beat is not increased when the arm is elevated.

September 21st. It was noted, the cardiac impulse is in the fifth interspace two inches to the left of the sternum and is rather feeble; there is somewhat more forcible impulse beneath the lower end of the sternum and some visible throbbing of the abdominal aorta. Percussion one inch to the left of the sternum shows the cardiac dullness to begin in the third interspace, and there is flatness at the fourth rib level. Transverse percussion at the fourth rib level shows dullness, beginning at midsternum and extending to the left about four inches. There is distinct impulse in the second interspace to the left of the sternum, and this appears to precede the apex impulse; there is also impulse in the second right interspace, which also precedes the apex beat. There is dullness on percussion in the first interspace to the right of the sternum and in the third interspace. The percussion resonance at the corresponding areas on the left side is natural. There seems to be impaired resonance upon percussion over the upper part of the sternum. The presystolic murmur at the apex is distinct. At the pulmonary area the sounds are very faint but distinct, and the same is the case at the aortic area. At the ensiform cartilage both sounds are distinct, but the first is rather thumping, and is accompanied by a faint blowing murmur which is synchronous with the beat of the carotid artery. There is no undue pulsation of the arteries of the neck, and the veins are full but do not pulsate. There is a systolic murmur in the carotids which is increased by pressure: this is also distinct in the subclavians. There is marked systolic murmur in the femorals and in the abdominal aorta as low down as the umbilicus. Lung examination shows slightly impaired percussion resonance at the right apex, while the note is full at the left. The respiratory sounds are slightly more feeble at the right than at the left apex. Posteriorly the percus-

<sup>1</sup>Read before the College of Physicians of Philadelphia, December 3, 1884.

sion note is short, but not markedly dull. The respiratory sounds are unusually feeble.

September 23d. The radial pulse is delayed. Pressure upon the enlarged veins at the lower third of the sternum causes the portion of them below the spot pressed upon to become less prominent and full, and produces a sensation of fulness over the eyes. The veins in the right iliac region tend to be enlarged.

September 28th. When the patient is in the erect position, the veins on the left side of the chest between the nipple and the sternum are enlarged. The collection of veins is somewhat cone-shaped, and extends from the umbilicus to the ensiform cartilage, the base being at the umbilicus, which it partly surrounds. The veins going toward the axillæ and those upon the upper part of the sternum are also enlarged. Measurement of the chest on a level with the nipple shows a circumference of thirty-three and five-eighths inches. During ordinary quiet breathing the chest expansion is only one eighth of an inch, and the extreme expansion on forced inspiratory is only one inch. Percussion gives a sound almost dull over both lungs anteriorly and over the upper part of the left lung posteriorly; over the lower portions the note is fuller, but still very short. Anteriorly the respiratory murmur is exceedingly feeble on both sides, almost wanting on the left. Posteriorly the respiratory sounds are very feeble, more so above than below. The treatment consisted at various times of iron, iodide of potassium, and strychnia. During the whole time that he was in the hospital he complained bitterly of vertigo, and finally became very much disheartened, and on the morning of December 12th cut his throat, severing the left external jugular vein. After he had lost a great deal of blood, the vein was ligated and he lingered until December 20th, when he died.

The clinical history was taken by Dr. Charles Baum, and I am indebted to Dr. Da Costa for the opportunity of continuing the history of the case after I gave up the charge of the ward. The post-mortem examination was made and the note of it furnished by my colleague, Dr. Longstreth, who is pathologist to the hospital. It was the resident physician, Dr. W. J. Taylor, who first drew attention to the facts that pressure upon the enlarged external veins caused a sensation of fulness in the head and suffusion of the eyes, and that the blood current was downward in these veins, and it was from these symptoms principally that I was enabled to make the diagnosis.

*Autopsy.*—The first step in the examination was to inject the venous system. An opening was made on the right side of the neck, and the large vein was raised up in the middle cervical portion. The injection matter used was gelatine colored with carmine. The mass flowed with comparative ease, and was very soon seen flowing and distending the superficial enlarged venous branches over the front of the thorax, at its lateral parts, and at and around the umbilicus.

Allowing time for the warm mass to harden, the examination was continued by dividing the ribs and clavicles in the line of the nipples, and separating the whole mass of the anterior abdominal muscles

from the skin. Raising up this anterior mask of the thorax and abdomen, the abdominal aorta and the inferior vena cava were dissected free; the stomach, liver, and diaphragm were freed from their posterior attachments. In the neck, all the vessels and muscles, together with the trachea and œsoph-

FIG. 1.



gus, were raised up. In the thorax the conjoined organs were cut free from the vertebrae. Thus, the whole mass of organs from the thorax and abdomen were removed *en bloc*, and their dissection was proceeded with from the posterior aspect.

In the left pleural cavity, placed superficially just beneath the membrane, was seen a large venous trunk about half an inch in diameter, situated on the bodies of vertebrae and extending from the arch of the aorta to the attachment of the diaphragm below. This vessel was the left azygos; it was on the left side of the aorta. In dividing the tissue of the posterior mediastinum, the veins of communication between the spinal and intercostal vessels were found unusually large, from one third to half an inch in diameter, and were thus in condition to carry a large amount of blood from the upper part of the trunk and the head downward to be emptied into the abdominal vena cava. On removing the organs, the injecting material was found to have filled the veins to the arms and neck on each side, the spinal and intercostal vessels in the thoracic portion, numerous large veins in the diaphragm, converging directly toward the inferior vena cava, and also the abdominal portion of that vessel.

In dissecting the neck, numerous large veins (several quarter of an inch in diameter) were found passing behind the trachea, and they served as a communication from the right to the left side. They commenced at about the level of the episternal

notch and descended into the thorax passing toward the left, and terminated in the beginning portion of the left innominate or transverse vein. The left innominate vein at this part was very much enlarged, and as the vessel advanced toward the right side to join the vena cava, it was found to be converted into a flattened fibrous cord, and this portion was pretty tightly adherent to the surrounding tissues and the branches from the arch of the aorta lying in contact with it.

A probe passed downward within the right jugular was stopped by an obstruction at a point where the right innominate vein joined the fibrous cord in which the left innominate terminated. From the posterior wall of the right innominate, the probe entered the mouth of a moderate sized vessel which passed downward into the thorax; its termination and communications could not be traced; it was supposed to communicate with the right azygos vein, but this vessel could not be found.

On removing the heart the pericardium was found normal. The heart was large; its weight was not taken, as a considerable portion of its auricles were left in connection with the specimen. Both the right and left ventricular walls were thicker than normal.

The mitral orifice was narrowed at its auricular aspect, but its outlet in the ventricle was of normal size. The anterior segment was rendered rigid by the deposit in it of calcareous matter. This deposit extended from near the free border, centrally through the leaflet and terminated within one of the cusps of the aortic valve. The mitral orifice was thus not only partially obstructed, but the auricular aspect of the leaflet was roughed by the calcareous nodular deposit.

The aortic cusps were all three materially affected; one was rendered rigid through one half its depth by the calcareous deposit extending from the mitral valve, another cusp showed a slightly projecting ridge of deposit on its ventricular aspect along the line of junction with the opposing cusp, of firmly organized fibrous material, while the third cusp was thickened, less pliable than normal, but smooth.

The other orifices and valves showed nothing especial to note.

The opening of the inferior vena cava appeared larger than normal, perhaps half as large again. The opening of the superior vena cava was found obliterated. A very fine probe could be forced in, by tearing tissues at the normal site of the cava, about an inch. It was found, therefore, that the obstruction existing above in the innominate vessels was complete, and extended to the auricle.

The aorta and its principal branches were very much diseased. Commencing at the aortic orifice, the whole vessel was somewhat dilated, though not aneurismal, and this condition extended to the abdominal portion. Its walls were thicker than normal and very rigid. In most parts of the tube atheromatous changes with calcareous degeneration had taken place, so that in squeezing the vessel between the fingers the calcareous deposits cracked under the pressure with a gritty sound.

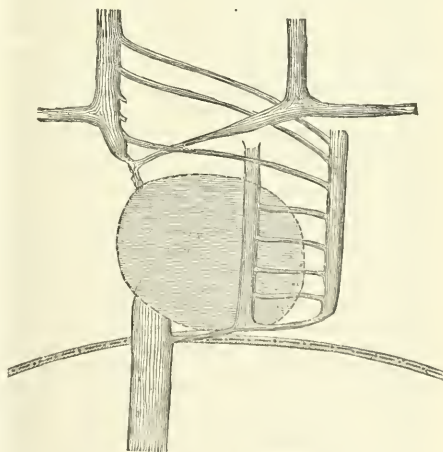
The cause of the compression and final obliteration of the calibre of the superior vena cava with its branches seemed to be due to the rigidity of the

aorta, together with condensation of the surrounding connective tissues, probably of inflammatory origin. All the connective tissue around the arch of the aorta and first portion of its principal branches was increased in amount, and very dense, and firmly adherent to the under surface of the sternum, as well as posteriorly to the bodies of the vertebrae. It was in this tissue that the obliterated venous trunks were found, and to which the tissue adhered so firmly that it was difficult to separate the two in dissection.

The venous blood from the head, upper extremities, etc., found its way to the heart by means of the greatly enlarged veins lying on and around the spinal column posteriorly, particularly the left azygos, as well as anteriorly through the enlarged internal mammary vessels and the superficial thoracic and abdominal branches. Most of the blood evidently came downward to the level of the diaphragm, and thence found its way directly into the inferior vena cava. Other portions of the blood descended from the superficial portions of the thorax into the abdominal vessels, and thence by the lumbar branches to the abdominal vena cava.

The examination of the brain showed a notable fullness of the vessels of both the external and the internal membranes. Small patches of opacity were found on the arachnoid in some places, along the line of the sulci over the convexity. Some of the convolutions showed in places slight degrees of atrophy, and the furrows between them were widened, and at these parts there had accumulated a small amount of clear subarachnoid fluid.

FIG. 2.



Rough diagram showing collateral circulation.

The brain substance showed no especial alterations. The vessels of the circle of Willis presented themselves as India-rubber-like tubes, patulous and rigidly elastic. No calcareous degeneration of their tunics was found. The same conditions were visible in the beginning portions of the principal branches leading from the circle.

This case was a rare one, and of more than usual interest for several reasons. In the first place, there were unusual opportunities for studying the conditions, both ante- and post-mortem, and the physical signs were such that the diagnosis was made during life. The enlargement of the veins of the surface led to the suspicion that one of the cavae was occluded, and it was decided that it must be the cava superior, because when the large external veins were emptied for the space of an inch or two with two fingers the blood evidently flowed much more rapidly and forcibly downward when the finger nearest the head was first removed than it did upward when the lower finger was first removed, and this was the case as much when the patient lay in bed as when he stood, thus showing that the current in the enlarged external veins was downward. Further reason for thinking that the return circulation from the head found its way back to the heart partly by the external veins was that if they were compressed there was at once produced visible congestion of the veins of the face and suffusion of the eyes, and a sensation of fulness in the head. The presystolic murmur in the heart was very marked and unmistakable, and at all times present while the patient was under observation, and abundant cause for its presence was found in the calcareous deposit, with stiffening and roughness of the anterior flap of the mitral valve. The systolic murmur at the base of the heart and in the arteries was caused by the stiffening and roughness of the aortic valve flaps and of the thoracic and abdominal aorta. It was suspected during life that the arteries of the brain would be found to be stiff, and this was the case; still it is very likely that the vertigo with which the man suffered, and of which he complained more than of any other symptom, may have been partly due to the obstruction to the return circulation from the brain caused by the blood having to find its way through much smaller and more tortuous routes than the natural ones, and this view would seem to receive further confirmation from the fact that there was found some flattening and shrinking of the brain convolutions. The cause of the dulness on percussion over the upper part of the right side of the chest anteriorly and the upper part of the sternum, which was so distinctly made out, was not understood during life, but the post-mortem showed abundant cause for it in the very great amount of hard fibrous tissue around the ascending aorta and veins in that region, and here, apparently, was the seat of origin of the whole pathological process. It seems most likely that the changes which finally caused a complete occlusion of the whole of the vena cava superior and the larger portion of both the innominate veins had its origin in a periarteritis which must have begun around the ascending or transverse portion of the aorta. This must have proceeded gradually, with a constant increase and condensation of the tissues around the aorta and veins until at last there was produced the large amount of hard fibrous tissue which the post-mortem examination showed to exist in that region.

A man twenty-six years of age was admitted to the ward July 21, 1880. No history of previous

disease was obtained, except that he had frequent attacks of ague, and eighteen months ago had typhoid fever. One year ago he had a chancre, but it was followed by no secondary symptoms. In March (four months ago) he was upset from a boat, and after being two hours in the water was taken out unconscious. Since that time he has noticed that he has had more or less shortness of breath, but felt fairly well, and was able to be about until one week ago, when his left arm became paralyzed, and the next day the leg became weak, so that he walked with difficulty. Upon admission he was suffering very much from dyspnea, and his breathing was very rapid, being forty-eight per minute. The pulse was frequent and weak. In walking he dragged the left leg, and the arm on the same side hung powerless, and was much swollen and oedematous, both feet and legs being also oedematous. The face was drawn to the right, the muscles of the left side being flaccid, but the tongue was protruded without deflection to either side. The speech was rather mumbling. The urine was normal.

July 22d. A more careful examination of the heart revealed a faint mitral systolic murmur, and that the heart was hypertrophied. There were numerous coarse moist râles audible over the lungs, and there was evidence of some pleuritic effusion.

July 23d. Condition much the same, but he is more stupid, and has frequent attacks of dyspnea.

July 25th. He is unconscious, and passes his urine in bed. The heart murmur is more distinct.

July 26th. Is sinking, and died July 27th.

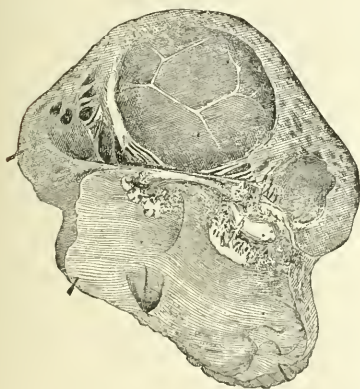
Post-mortem examination showed the pleural sacs to contain slightly over a quart of clear serum, and that the heart was much enlarged. The fluid and enlarged heart occupied so much space in the thorax that the lungs were much compressed; they felt firm to the finger, but were erepitant throughout, although they were not more than half the natural size. The heart was both dilated and hypertrophied. The right side showed nothing of interest, the valves being normal. The left ventricle and auricle were both much dilated and hypertrophied; this condition was very marked in the auricle. The mitral opening was narrowed, the valve flaps being stretched across it. When looked at from the auricle there was seen a tumor springing from the posterior flap of the valve and projecting into the auricular cavity, which was about three quarters of an inch to an inch in diameter, and about half to three quarters of an inch in height. This mass was made up of two different layers, the lower smooth and rounded, and the upper rough and uneven, and there were numerous little shreds like rootlets hanging from its surface. There was also on the anterior flap of the valve a spot which was much roughened, and had minute vegetations attached to it. This was probably due to ulceration from friction against the tumor on the other cusp. The aorta was narrow and the valve flaps much thickened, so that the valve was incompetent. The liver was about natural in size, but the capsule was much thickened. The spleen also was natural in size, but rather firm, and its capsule thickened. The kidneys appeared natural. The brain presented considerable softening of its right side; this was of the lower parietal lobule and the upper adjoining

part of the temporo-sphenoidal lobe; there did not appear to be any involvement of the motor tract. Upon examination of the middle cerebral artery it was found to divide primarily into three branches. The first of these was patulous, but the two posterior ones were blocked with emboli.

Dr. Simes sent me the following report of the results of an examination of the tumor:—

"I have made a microscopical examination of the growth and find it to consist histologically of cells, fibrous tissue, and granular debris. The cells are such as found in embryonal connective tissue, and appear to be more especially confined to the peripheral portion of the tumor. The fibrous tissue is of the ordinary kind, consisting of delicate fibrils and cells. The granular debris is apparently a metamorphosis of the cells and fibres. I was unable to see any vascular structures. These histological characters, in connection with the macroscopical appearances and clinical history of the case, would lead one to consider the new formation as syphilitic in nature, a gumma."

FIG. 3.



The conditions presented by this patient when he came to the hospital and his history at once suggested that the cerebral symptoms were due to embolus. The distinct murmur heard at the apex of the heart together with the signs of hypertrophy and the general symptoms pointing toward rapidly increasing heart failure were abundantly sufficient to warrant the belief that a fragment of a vegetation had been washed from the left side of the heart into some one of the cranial blood-vessels. It struck me also that the origin of the heart disease might be syphilitic. To this suspicion I was led by the history, and because only the year before I had seen a case with a somewhat analogous condition which I reported to the College.<sup>1</sup> The two cases, although in some respects parallel, presented points of marked difference, both in the symptoms presented, in the histories, and in the different modes of death. In the first case there could be obtained no history of syphilis, either initial lesion or second-

aries, but the man had been out of health for two years; there was, however, advanced disease of the kidneys, and uræmic convulsion had occurred; the man finally died with a very slow pulse, and in a certain sense rather suddenly. In the case reported to-night, the history of chancre occurring a year before death was clear; but, as in the first case, no secondary signs had appeared, the man thought himself well until about four months before his death, which was at last caused by the cerebral embolus, and he died with the usual rapid and irregular pulse of mitral disease.

## RECENT PROGRESS IN OPHTHALMOLOGY.

BY O. F. WADSWORTH, M.D.

### WHITE EYELASHES AFTER SYMPATHETIC OPHTHALMITIS.

NETTLESHIP<sup>1</sup> reports the case of a woman, aged twenty-three, who ruptured the right eye by a fall; it was excised three months later. The other eye suffered severe subacute irido-choroiditis, ending in softening and almost complete blindness; all the lashes of both its lids became white. The lashes of the first eye remained unaltered. The exact date of onset, in relation to the excision of the other eye, could not be determined. Mr. Hutchinson had described a case in which both eyes were lost by spontaneous irido-choroiditis, and many of the lashes became white. Such cases favored the theory, of late somewhat discredited, that the fifth nerve, or at least the ciliary nerves, formed the channel of communication of sympathetic inflammation from one eye to the other.

Similar cases have been previously reported, but they seem to be extremely rare. Schenkel<sup>2</sup> observed whitening of the lashes of both eyes. A boy of nine years had his left eye burst by a stone. Four weeks later sympathetic inflammation of the other eye led to enucleation of the wounded one. Three weeks afterward he was lost sight of for a time, and on his return there was found a bundle of five or six well-developed silver-white lashes in the right upper lid, while nearly all the lashes of the upper lid of the left (injured) eye were white. The color of the lashes of the lower lids and of the brows was unchanged, but there were a few scattered gray hairs on the head.

Jacobson<sup>3</sup> also has reported a case. A bit of metal entered the left eye of a man of twenty-nine years; within four weeks sympathetic inflammation of the right eye and enucleation of the left. The inflammation progressed for three months, then, after a time, the eye gradually improved. It was only several months after improvement had set in that the change in the lashes was observed. While the hair generally was quite black, the lashes of the nasal half of the right upper lid were snow white; there were a few scattered, white lashes on the outer half of this lid and on the right lower lid. For some months, at least, the condition did not change. Jacobson too suggested that the blanching

<sup>1</sup> Ophthalmale Review, vol. III, p. 26.

<sup>2</sup> Arch. f. Dermatologie u. Syphilis, v. p. 137, Monatsbl. f. Augenheilk. XI.

<sup>3</sup> Monatsbl. f. Augenheilk. XIII.

<sup>1</sup> Transactions of the College of Physicians of Philadelphia, 3d series, vol. v., 1881.

might give a hint of the method of production of sympathetic disease.

#### ON THE FREQUENCY AND HEREDITARY TRANSMISSION OF DISEASES OF THE TEAR-PASSAGES.

Nieden,<sup>1</sup> as the result of observations on the coincidence of obstructive affections of the lachrymal passage in parents and children, concludes that inheritance plays a not unimportant part in the production of these disturbances. In his practice such diseases constituted 3.6 per cent. of all diseases of the eye. This is a somewhat larger proportion than that generally given, and was presumably due to the irritating dust in the air of the district, a coal and iron region, in which he lived. During two and a half years he observed, in ninety-five individuals, nine per cent. of all the cases of lachrymal diseases, a coincidence of the same affection in parent and child; forty-six times parent and one child, three times parent and two children. In agreement with other authors he found the female sex very much the more frequently affected, and the greater predisposition of females was further indicated by the fact that bilateral obstruction occurred twice as often in women as in men.

Of the cases in which parent and child were both affected the disease was bilateral in fifty-eight per cent., while the proportion of bilateral to the total number of cases, both in Nieden's practice and that of others, was very much smaller. This fact, as well as the circumstance that, in twenty-six instances, the disease of both parent and child was bilateral, in eighteen on the same side, and in only two instances on opposite sides, points to the hereditary transmission of some malformation of the bones which form the walls of the nasal duct.

A contrary supposition, that is, that the inheritance of a serofulous diathesis was the cause, through ulceration of the nasal mucous membrane, ozena, etc., of secondary disease of the lachrymal passages, was specially considered. No evidence to support it was found, however. Although ten per cent. of the adults affected had chronic disease of the nasal mucous membrane, not one per cent. of their children, with like obstruction of the tear-passage, had like disease of the mucous membrane of the nose. Nieden believes it more probable that long-continued obstruction of the duct excites secondarily disease of the Schneiderian membrane than that the sequence occurs in the reversed order.

#### ON THE METHODS TO HASTEN THE RIPENING OF CATARACT.

Gallenga<sup>2</sup> gives the conclusions drawn from operations in Reymond's clinic undertaken to mature partially formed cataracts. Puncture of the capsule was done twenty times, and Förster's trituration of the lens combined with iridectomy twenty-five times. Both methods answer their purpose; but incision of the capsule is naturally the simpler, and causes the cataract to mature more rapidly; generally extraction may be performed on the fifth day after the incision. Not always is it necessary to wait so long as two months after

Förster's operation. Trituration of the cortex is to be performed for immature senile cataract with hard nucleus, or when the patient cannot be kept under constant observation. For posterior polar cataract, and perhaps also for lamellar cataract, Förster's method is not efficient, but in these cases incision of the capsule is useful.

#### ÆTIOLOGY OF OPTIC NERVE ATROPHY.

Uthoff in the Berlin Society for Psychology and Neurology gave the results of his investigation of 154 cases.<sup>3</sup> Of these there were of spinal origin thirty per cent.; of cerebral origin, twenty-four per cent.; genuine progressive atrophy, fifteen per cent.; the result of neuritis, twelve per cent.; caused by orbital affections, six per cent.; in paralytic dementia, 4.2 per cent. The remainder was made up of cases of misuse of alcohol and other diseases. The high percentage (thirty) of cases of spinal origin is here noticeable, particularly in comparison with the fifteen per cent. of cases of genuine progressive atrophy. Formerly many more cases relatively were ascribed to the latter variety. Uthoff believes that the constant improvement in means of diagnosis will gradually lessen the number of cases of genuine atrophy, perhaps abolish this form altogether. Already the spinal cases are much better understood.

Four forms of defect of the field of vision are distinguished. (1) Proportionate decrease of vision over the whole field—the most common form. (2) Loss of sight in a sharply defined portion of the field. (3) Loss of the upper or lower half of the field; but the hemianopia, the symmetry, is here never exact, and such cases are to be distinguished from true hemianopia. (4) Defect of the periphery of the field with more or less intact central vision. This form was found four times. Uthoff was unable to find in atrophy a preponderance either of the nasal side (v. Graefe) or of the temporal (Förster).

Among all his cases of spinal atrophy, in only five was there coincident paralysis of the ocular muscles.

About half of the cases of cerebral origin showed traces of neuritis. A third of these patients were youthful.

Atrophy as a sequel of neuritis occurred especially in the young, and more frequently in the male sex.

Hereditary neuritis also affects males so much more frequently,—especially between the ages of twelve and thirty,—that the female sex may almost be considered exempt.

It is perhaps remarkable that the proportion of cases of paralytic dementia (4.2 per cent.) was so small, but the material was taken from the eye-clinic, not from insane asylums.

#### ACUTE OPTIC NEURITIS ASSOCIATED WITH ACUTE MYELITIS.

At a meeting of the Ophthalmological Society of the United Kingdom, Dr. Sharkey<sup>4</sup> read a paper on this subject. A girl, aged seventeen, came under the care of Mr. Streetfield on November 23,

<sup>1</sup> *Centralbl. f. pract. Augenheilk.* vii. 301.

<sup>2</sup> *Giornale della R. Accademia di Med. di Torino.* 1883. *Centralbl. f. Augenheilk.* vii. 447.

<sup>3</sup> *Centralbl. f. Augenheilk.*, February, 1884. *Neurol. Centralbl.* 1884, No. 3.

<sup>4</sup> *Ophthalmic Review*, vol. iii, p. 222.

1873, suffering from severe double optic neuritis, with complete loss of vision. There was nothing noteworthy in the history, and no ground for suspecting syphilis. Vision began to fail, without evident cause, on November 9, and was quite lost by November 13. She had neither headache, sickness, paralysis, nor fits. Thirty-three days after vision failed, paralysis began, with loss of sensation, first in the left leg, then in the right. Anæsthesia gradually spread up the trunk and involved the arms, and there was incontinence of the evacuations. During the latter part of her illness she was under Dr. Bristowe's care in St. Thomas's Hospital. Cystitis came on, the temperature reached 105°, and she died of peritonitis sixty-two days after vision first failed, and twenty-nine days after the first appearance of paralysis. At the necropsy, peritonitis, cystitis, and suppurative nephritis were found. To the naked eye the brain and its membranes, and the cerebral sinuses, appeared healthy, but there were softening and great congestion of the cervical region of the spinal cord over a space two or three inches in length. The rest of the spinal cord and its membranes seemed healthy. Microscopic examination revealed the presence of acute inflammation in the softened cervical region, in the columns of Goll above it, and in the lumbar enlargement, as well as in the optic nerves, disks, chiasma, and tracts. There was slight inflammation of the meninges about the chiasma, and on the under surface of the frontal lobes. The interest of the case lay in the association of acute optic neuritis with acute inflammation of the spinal cord. It had long been known that slight changes occasionally occurred in the fundus of the eye in cases of injury to the spinal column and cord, but it was only recently that acute optic neuritis had been noted with myelitis independently of injury. Gowers and Dreschfeld had arrived at the conclusion that the optic neuritis and the myelitis were associated phenomena due to a common cause, but that neither depended directly on the other; the case detailed supported this view, for the optic neuritis preceded the myelitis by a month, and there was no evidence at the post-mortem examination of any anatomical connection. Clinically such cases were of great importance, as they simulated disease of the brain; and their occurrence, however rare, detracted somewhat from the significance of acute optic neuritis as a sign of intracranial disease.

A case reported by Chisholm<sup>1</sup> was probably of the same character, although there was no antopsy, and is of interest on account of the rapid progress of the disease. In that case also the ocular symptoms were the earliest.

A healthy man, twenty-eight years of age, arose one morning to find movements of the left eye painful; soon the sight of the eye became dim, and by night it was blind. The next morning movements of the right eye also were painful, and twenty-four hours more he was totally blind. He traveled three hundred miles by steamboat to Baltimore, arriving on the fourth day from the beginning of his ocular trouble. Except the discomfort from movement of the eyes there was no pain anywhere. There was unsteadiness of gait, first observed on

the steamboat, and then attributed to his blindness. He was unable to pass his urine, and it was drawn by catheter. The pupils were large, and there were choked disks with woolly outlines. The following day sensation was lost in the feet, and the day after the loss of sensation had extended to the hips. Temperature was 101°, as it was two days before; pulse 120; respiration normal. The loss of sensation extended steadily upward, and on the eleventh day from the first symptoms reached to a line two inches above the nipples. The sphincter and became paralyzed; the respiration shallow and finally diaphragmatic; the temperature fell to 98°. He died comatose on the twelfth day. There had been no pain, and his mind had remained clear till within a few hours of his death.

#### CONTRACTION OF THE FIELD OF VISION IN EPILEPSY.

The anæsthesia which manifests itself as a concentric contraction of the visual field, and which is frequently associated with disturbance of the cutaneous sensibility and of the special senses, has hitherto been regarded as almost characteristic of hysteria. Thomsen<sup>2</sup> made a systematic perimetric examination of twenty-eight male and fifty-one female patients in the department for the insane and epileptic in the Charité, and discovered that sensory anæsthesia occurs not alone in hysterical patients, but also in epileptics, and in a connection with the epileptic attack which, under certain conditions, may be regarded as the rule.

When the attack is a purely motor convulsion, that is, when no disturbance of consciousness or emotional disorder is combined with it, the field of vision is not contracted, but has the same normal extent after the attack as before.

On the other hand, concentric contraction of the visual field, either with or without disturbance of cutaneous sensibility, of the functions of the other special senses (hearing, smell, taste), and of the muscle sense, is found after, or with, the following conditions:—

(1) After an epileptic attack when delirium with hallucinations follows it;

(2) After post-epileptic mental bewilderment, stupor, so-called epileptic mania, etc.;

(3) After almost all similar conditions, with or without disturbance of consciousness (attacks of dread and oppression, sudden waking at night with spasmodic sensations, wetting the bed, so-called motory or sensitive aura, etc.);

(4) With more lasting post- or inter-paroxysmal conditions, which leave consciousness intact, but are attended by emotional depression and excitability. The patients are dejected in spirit, their psychological balance is unstable, they complain of all sorts of nervous sensations (palpitation, trembling, flushes of heat, ringing in the ears, dimming before the eyes, persistent headache, and sleeplessness).

All these conditions produce narrowing of the visual field; with their disappearance it again enlarges gradually or rapidly (it may be in twenty-four hours) to its normal dimensions. The contraction of the field is always concentric, never hemianopic, but is often much more pronounced on

<sup>1</sup> Archives of Ophthalmology, XI. p. 239.

<sup>2</sup> Berliner klin. Wochenschrift, 1884, No. 24.

one side. The concentric contraction is associated generally, but not always, with diminished acuteness of sight.

The cause of the epileptic attacks, which are attended by contraction of the field, is, in all probability, to be sought in a disturbance of the circulation of the cerebral cortex, which only gradually passes off, while, with the pure motor attack, the disturbance disappears immediately. That the cortex is the part affected is shown by the constant implication of the psychical functions.

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

JANUARY 12, 1885. DR. FRANCIS MINOT in the chair.

#### RAISED CIRCULAR PATCHES ON THE PALMAR SURFACE OF OVER TWO YEARS' DURATION.

DR. F. B. GREENOUGH showed the patient and said that the case was interesting in connection with two extraordinary ones recently reported. There had been a little growth which came after a slight cut received in handling glass, and which the patient had picked out for herself. In the course of a few months other growths had appeared, all being now of over two years' duration. They had appeared to consist of hypertrophied papillae. With the exception of a growth on the vocal cords, seemingly of the same nature, there had been no eruption elsewhere. Simple emollients had softened the growth a little. Afterward he had applied mercurial ointment and white precipitate, causing a red areola around it. For this reason he had stopped mercury and has since used oxide of zinc ointment.

The patient had been under the care of Dr. DeBlois, who had sent her to him for the skin trouble.

DR. T. A. DEBLOIS, present by invitation, said that she came to him at the City Hospital four months ago for hoarseness, which prevented her getting her living in a store, she having been treated a year for bronchitis by a homoeopath. There were then two nodules, consisting of papillomata, on the left vocal cord. He had been trying to train the larynx, which was very hyperæsthetic, so that it would admit the use of instruments. Meantime the growth, which has always been sessile, has spread over the left cord. There has been no treatment except cod-liver oil. A four per cent. solution of cocaine has been used with absolutely no effect, and he intends applying a twenty per cent. solution and seeing what can then be done.

DR. GREENOUGH said that after Dr. Hyde's book he would consider it a case of lupus erythematosus, but that he finds it hard to conceive of a lupus erythematosus lasting three years without spreading. There are no large follicles. The growth on the forefinger looks much like a wart. Of course these growths can be destroyed with a glacial acetic acid, but would they not return? Meanwhile the efflorescence has diminished, and he is not inclined to use extreme measures.

DR. J. C. WHITE said that he had seen a few cases like it. He considered it lupus erythematosus and should not expect it to result in epithelioma. It is an obstinate disease, and while he would treat it with a saturated solution of chrysarobin in liquor guttæ-perchæ, yet he thought that Dr. Greenough would have the opportunity to try many treatments.

DR. GREENOUGH. "Is it not unusual for lupus erythematosus to keep stationary for that time?"

DR. WHITE had had a case lasting five years without growth, this being verified by measure.

DR. J. J. PUTNAM showed some microscopic sections from a case of a very rare disease:

#### DEGENERATIVE ATAXIA OF THE SPINE.

These cases, of which forty or fifty have been reported, occur in groups among members of the same family. This particular group has been under the care of Dr. W. E. Smith, of Framingham, and included ten children, of whom eight were girls.

Although the parents were at first said to be healthy, rugged people, yet careful inquiry proved the reverse to be true. One member of the family had been in jail, and there has been one case of insanity. The grandfather is said, by the local antiquary, to have been a great drunkard, and the mother has a violent temper.

The pathological anatomy is somewhat like that of locomotor ataxia, although the changes occupy the whole cord instead of merely the posterior columns. The mosaic work of the axis cylinder is almost wanting.

While the most marked symptoms are those of locomotor ataxia, yet the disease is on the whole of a different type.

#### LEPRA.

DR. H. W. WILLIAMS showed plates representing a case of lepra exhibited at the meeting of the Heidelberg Ophthalmologische Gesellschaft, in September last; where, in addition to extraordinary alterations of the skin of the face, very peculiar transformation of the corneas and irides had taken place from development of the disease in those tissues.

#### COCAINE.

DR. WILLIAMS also gave an ocular demonstration of the complete insensibility produced by cocaine. Two drops of a four per cent. solution were applied to the conjunctiva, and three minutes afterward the cornea was freely touched with the finger, or a pencil or probe, the lids held open by a spring speculum, and a fixation forceps fastened upon the eyeball, without causing the slightest sensation of pain or even consciousness.

#### RAPID COURSE OF SYPHILIS.<sup>1</sup>

DR. J. J. PUTNAM said that he had referred to his notes of the case reported by him at the last meeting, and found that the gentleman, who was trustworthy and who, moreover, had no motive for deception, had had but one previous connection, two years ago, since which he had been perfectly well up to the twenty-fifth of August, when he had connection with a common prostitute. The date was

<sup>1</sup> See Boston Med. and Surg. Journal, vol. cxli., No. 1, p. 3.

fixed by peculiar circumstances attending it. At the end of the first week of September he had a sore on the foreskin at the base of the glans, resembling an abrasion of the epidermis. This grew larger. There was no moisture except once when a scab was pulled off, showing a moderate collection of thin fluid under it. Two weeks after the sore, a hubo made its appearance. This was never either tender or red. By the thirteenth of November the chancre was practically healed, as large as the nail and with slight induration. At the end of December there was a strong, reddish-blue stain with the centre a little depressed, and more marked induration.

The symptoms were malaise, sore throat coming on in four weeks after infection, and from one to two weeks after the sore, fever, and pains in the back and limbs, enlarged tonsils in six weeks from infection, ulcerated tonsils in eight weeks from infection, iritis in two months. Cutaneous symptoms were observed November 13, in the shape of scattered, dull-red papules, a few of them on the face, and thick scales. Gradually more papules developed. They are now nearly gone except upon the back. There were patches on the tongue for some weeks, and the strength was much reduced. In the third week of November, ten or eleven weeks from the sore, thirteen or fourteen weeks from infection, two symmetrical tumors were observed over the flexor carpi ulnaris near the elbow, one on each arm under the skin, and somewhat adherent to it, but not at all to the fascia; as large as almonds, and but little red or tender. Similar tumors were found at the muscular attachments of the tendo Achillis.

The speaker had quoted Mauriac. The symptoms reported by him as organic hemiplegia appeared in three months. Cooper, in a recent English writing, quotes from Fournier a case of cerebral gumma in three months, but does not say whether there was an autopsy. Ziemssen speaks of a deep-seated violent ulcer of the penis in December, and disease in August, which he says might be called gummata, but he does not so call it.

Dr. GREENOUGH said that this case is so fully reported that it does not strike him as strongly as it did before. There can be no question as to the disease or as to the date of infection. The question is, Were the later symptoms, three months after infection, tertiary? If there is any disease which is regular in its course within certain limits it is syphilis; and the occurrence of gummata in so short a time was as strange to him as a fractured spine without paralysis would be to Dr. Putnam. Rollet reports a case in which secondary symptoms came on in twelve days from a chancre. This is the shortest period that he, Dr. Greenough, can find recorded; and he asked Dr. Putnam if he had given iodide before the occurrence of sore throat.

Dr. PUTNAM answered that he gave no iodide until ten days after the occurrence of sore throat.

Dr. GREENOUGH continued, that while cerebral symptoms appear to occur more commonly than in former times: at least are more often reported; and while they sometimes occur quite early as in the case reported by Dr. Homans at the last meeting, when they came on in six months, and as happened in four cases of his own; yet that he

believes that they are the result of inflammatory processes in the brain, that is, that they are secondary; and are not due to gummata, which last are not inflammatory products but neoplasms, that is, are tertiary. He doubts if it is possible for gummata to occur so early.

Iodide has sometimes a marked effect on the skin. He quoted Hutchinson that iodide in fifteen-grain doses three times a day has so destroyed the skin as to cause death; and he had himself been told by druggists that it was often adulterated with bromide of potassium. He had never seen a gumma of the skin that did not begin without inflammation as a bunch under or in the skin like a lipoma, but not so soft and not lobulated. It may become inflamed and red, and may break down, leaving an ulceration.

Dr. PUTNAM said that the tumors in question could not be better described than by Dr. Greenough's description of gummata, and that they had disappeared while iodide was being taken.

Dr. GREENOUGH inquired why they may not have been large glands.

Dr. PUTNAM answered that they were over the elbow and the lower calf.

Dr. WHITE being called on by the chairman said that he had nothing to add to what he had said at the last meeting.

THE PRESIDENT, Dr. F. W. DRAPER, in the chair.

Dr. W. L. RICHARDSON read a paper on

#### A CASE OF ABDOMINAL TUMOR.<sup>1</sup>

Dr. W. W. GANNETT reported the autopsy which is published with the paper.

Dr. JOHN HOMANS said that he had seen the abscess opened by his brother, and that it gave relief. The patient died, as do all cases of chronic abdominal abscess, the bottom of which cannot be reached by the surgeon.

Dr. RICHARDSON said that the improvement was so great that he had thought there might be a mistake as to diagnosis. It did seem as if the trouble might be caused by dead bone, resulting from the accident.

#### PATHOLOGICAL SOCIETY OF PHILADELPHIA.<sup>2</sup>

Dr. SHAKESPEARE said that he had read of two attempts within the last year or two to isolate the micrococcus of this disease. Brylants and Ferrier united in an attempt of this kind and have reported their observations in the *Bulletin de l'Académie belge* (1880), to the effect that they found a micrococcus constant in the pleuritic and alveolar exudate. More recently the report of Poels and Nolen, of Rotterdam, has appeared, in which they describe the isolation and culture of many generations of micrococci. Moreover, they have compared them with those of human pneumonia, claiming their identity morphologically and with regard to their mode of growth; and a further identity as to the results of inoculation, their experiments

<sup>1</sup> See page 76 of this number of the JOURNAL.

<sup>2</sup> Concluded from page 611, vol. cx1.

showing that pleuro-pneumonia in cattle has been produced by inoculation of the cultures of micrococci from human erysipelas pneumonia as well as by inoculations of cultures from the pleuro-pneumonia of cattle. The latter report is published in the *Centralblatt für die medicinischen Wissenschaften*, No. 9, 1884.

Dr. FORMAD said that this micro-organism had also been seen and described by Veterinary Surgeon Lyman, who had presented a very elaborate report to the Department of Agriculture. Dr. Linle also, both a medical man and a veterinary surgeon, had worked in pleuro-pneumonia for two years in the Pathological Laboratory of the University of Pennsylvania, always finding the micrococcus present, and in pure cultures kept up for many generations he had not observed any other bacteria. He had inoculated two calves with large quantities of the culture and had failed, whence he had concluded that the micrococcus was not the cause of the disease.

Dr. DEXS in his concluding remarks said that one point of interest had been omitted in his paper, which was, that the cattle from which the specimens had been obtained had been first knocked down, then bled to death, and buried *superficially* in a field through which flowed a stream from which neighboring herds were watered. In a few weeks the disease appeared in these cattle also. As to the literature of the subject, he had not access to sufficient to familiarize himself with any investigations made by others. Some experiments with reference to inoculation have been successfully made in France and England. The lymph was introduced into the body and tail, and was found to protect the animal from the disease. When the virus was inserted into the tail with proper precautions the mortality from the operation was less, being from one to two per cent. It was also found that when the tail became greatly inflamed it could be removed to limit the inflammation and still afford protection to the animal. Inoculated animals did not communicate the disease.

#### A CASE OF UNUNITED FRACTURE OF BOTH BONES OF THE FOREARM.

Presented by CHARLES MEigs WILSON, M.D.

Eight months previously the patient fell from a window and sustained an oblique fracture of the ulna and radius; that of the ulna being about an inch and a half and that of the radius two inches and a half below the elbow-joint. The specimen shows that there has been no attempt at union in the radius; but that the comminuted fragments being attached to periosteum have not been destroyed. There has been slight union of the ulna. The cartilages have been destroyed. The joint contained pus, and the internal condyle of the humerus showed a carious condition. The patient made an excellent recovery after amputation.

#### CASE OF MULTIPLE OVARIAN FIBRO-CYSTS WITH SUB-PERITONEAL FIBROIDS AND GENERAL (TUBERCULAR) PERITONITIS.

Presented by Dr. H. M. FISHER.

Barbara K., aged forty, married, born in Germany, was admitted to the Episcopal Hospital early in July. Her father died of a tumor in the axillary

region, one sister of paraplegia, at the age of sixteen, and one brother and one sister are still alive and healthy. She married early and had three children. Of these one lived but one day, one died at the age of twelve of "dropsy," and the third (a boy of eighteen) is still living. Two weeks after the birth of the last child she was obliged to get up and make severe muscular exertion, actually laboring in the fields. Soon after this she noticed that she was losing blood *per vaginam*, and that she could no longer nurse her child. This bleeding appears to have recurred at intervals of ten weeks for a year or more, and often amounted to a positive hemorrhage. Notwithstanding that this was the case and that she had occasional attacks of severe pain, she continued to work as usual until three or four years ago. At about this time she noticed a lump in her left groin, and from this time her abdomen steadily increased in size; she was seldom entirely free from pain, her appetite failed, and her bowels were habitually constipated.

*Status Præsens.* Patient is anæmic and has a careworn, haggard look. Abdomen much distended. Distance from xiphoid to umbilicus two inches greater than from umbilicus to symphysis. Percussion clear over abdomen anteriorly, dull in flanks, and fluid moves freely with patient's movements. Hepatic dulness begins in third interspace in mammary line, but not apparently increased in width. Examination of heart reveals a faint systolic apex murmur; examination of lungs gives negative result. Much dyspnoea. The dyspnoea becoming urgent she was (July 14th) tapped in the median line, two inches below umbilicus, and eight quarts twelve ounces of a straw-colored fluid rich in albumen were removed. Immediately after the tapping an exceedingly hard mass was noticed in the left iliac region apparently of the size of a turkey's egg. On the 23d she complained of much pain in the left leg, and the tissues were noticed to be œdematous.

From this time till her death patient complained much of dyspnoea, hypogastric pain, and obstinate constipation. She was tapped twice again, and on each occasion a large amount of straw-colored fluid was removed. On September 21st she had an attack of dyspnoea, and died in ten minutes.

The resident physician, Dr. J. K. Mitchell, furnished the following notes of the autopsy:—

— Drew off fourteen quarts of fluid from the abdominal cavity by trocars and cannula, all clear and straw-colored. On reinserting cannula a small quantity of dark-brown fluid, looking like beef-tea, came through. The belly-walls were very thin; peritoneum everywhere much inflamed; whole intestinal surfaces and peritoneum covered closely with small whitish or pinkish points of tubercle; glands not very much enlarged, but very hard; omentum as thick as one's hand, and of an almost wooden hardness and stiffness. Liver and kidneys apparently perfectly healthy. Two cysts in the broad ligaments of the uterus, one a little smaller than a baseball, the other still smaller. One had been tapped by the cannula, the other contained about four ounces of the same brown 'ovarian' fluid. The ovaries macroscopically seemed healthy, and the uterus was normal in size and position."

A subsequent examination of the specimens brought the following facts to light: The uterus is decidedly hypertrophied, extending about four inches internally, and appears abnormally hard. Closely attached by false membranes to the lower part of the body of the uterus upon the right side there is a *hard fibrous nodule* of the size of a pigeon's egg. A somewhat larger mass of similar character is seen higher up and to the left of the uterus. The right ovary is enveloped in false membranes and closely adherent to the fundus of the uterus. The left Fallopian tube opens directly into the larger cyst of which mention has above been made. This has at its base a fibrous nodule (about two and one-half and three-fourths inches) which is covered on its under surface by a mass of false membrane. (This is probably the mass that was detected during life in the left inguinal fossa.)

In addition to the cyst above mentioned there were two other smaller cysts, but it was found impossible to make out the exact relations of these to the other cysts. None of these cysts appeared, however, to be connected with either broad ligament. The left broad ligament was found to be perfectly free, the right was wanting, but appeared to have been removed during the autopsy or subsequently.

The case is a complicated one, but the sequence of pathological events appears to have been the following: The patient having made severe muscular exertion a fortnight after confinement is attacked by perimetritis and metritis. This inflammation, soon becomes chronic in consequence of the want of proper care and rest. Whether the subperitoneal fibroids had already developed at the time this acute pelvic inflammation occurred, it is now impossible to say, but it is probable that they were of later development. Coincident with the periodical hemorrhages and attacks of pain that the patient now suffers from, fresh portions of the pelvic peritoneum are invaded. Finally, the peritoneum adjacent to the ovary is reached and a periöophoritis is the result. The inflammation of the peritoneal investment of the ovary extends, as Heitzmann states, to the ovary itself, causing a proliferation of connective tissue in the cortex of the organ and from here to the adjacent connective-tissue stroma. In this way the bursting of a ripened follicle may, as he says, be prevented, and a path may be opened for the formation of an ovarian cyst. Supposing this to have occurred in this particular case, we may easily see how the connective-tissue proliferation may have gone on hand in hand, as it were, with the cystic degeneration of the ovary until the whole ovary was converted into the multiple fibro-cyst that we see in the specimens.

The inflammation extended but slowly from the pelvic to the general peritoneum, probably because the products of inflammation were for a long time in great measure circumscribed by false membranes. Little by little, however, these products were taken up by the lymph channels until finally the whole peritoneal surface was infected by them. The occurrence of general peritonitis probably did not antedate much the occurrence of the abdominal dropsy, three years ago.

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### THE GOVERNOR OF MASSACHUSETTS UPON THE STATE'S MEDICAL EXAMINERS.

The late annual message of the Governor of Massachusetts, in marked contrast to that of his erratic predecessor, Governor Butler, was a very staid and, one might almost say, tame state paper. In fact, it appears as though his excellency had shrunk from touching anything approaching the character of a burning question. The medical fraternity certainly searched the document through in vain for any allusion to the working of the present conglomerate Board of Health, Lunacy, and Charity, for any suggestion as to change or modification in its organization; nothing is said of the consolidation of the departments of indoor and outdoor poor, or of its results, though we believe it might have been stated that these are so far entirely satisfactory, both from the negative point of view of what has been dropped and from the positive, but scarcely more desirable, one of what has been gained.

One genuine sensation, however, this message contains, which immediately attracts the eye of the reader in search of what was omitted in regard to the other and more important questions of "State Medicine." We refer to the long paragraph devoted to medical examiners. This in some respects quite takes us back to some of the efforts of ex-Governor Butler, and it really seems as if one erring medical examiner had been offered up as a sacrifice for the sins of the whole Commonwealth.

It appears from the Governor's message that one medical examiner, whose conduct we do not for an instant desire to justify or defend, increased his fee on one occasion—and there is an implication that the instance was not a solitary one—from four dollars to thirty, by holding an autopsy upon a body mutilated by a railway train, when it was very plain that a simple view would have been quite sufficient to determine the cause of death.

This instance is cited as illustrating a possible abuse of their office by the medical examiners of the State under the law as it now exists, and the recom-

mendation is made that in future they be required to report all autopsies to the district attorneys, and make oath in each case that in their judgment the cause and manner of death could not be ascertained by view and inquiry, and that an autopsy was fairly necessary for that purpose; that it be made the duty of district attorneys to examine such reports, and to certify to the county commissioners whether, in their opinion, such autopsy was required; and that no fee for an autopsy be paid without the approval of the district attorney so expressed. Further, let medical examiners make reports at definite periods of all cases investigated by them, to the State Board of Health, Lunacy, and Charity, upon blanks to be furnished by the Secretary of the Commonwealth for that purpose.

"It is probable that the need of other amendments defining certain wards and clauses, fixing the rate of fees, and otherwise making clear the intent of the statute, will be presented for your consideration."

This much of what his excellency thought it incumbent upon his office to say as to the system of medical examiners in his State is proper and suitable enough, though one cannot concur in the wisdom of his first recommendation, as we shall presently show; but what precedes it, to speak mildly, is unnecessary, sensational, and exaggerated, as well as unjust both to an excellent system which is regarded as a model by other states and countries, and to an exceptionally honorable and expert body of professional men, who may have little political influence, but who, with a very rare exception, have proved honest and capable servants of the State.

The statute providing for the appointment of medical examiners, after being in operation seven years, his excellency is pleased to admit "has on the whole proved satisfactory." So much for commendation. But, "instances have come to my knowledge in which the examiner has held an autopsy over the body of a person killed instantly by a railroad accident, in broad daylight, in the presence of several spectators, the body being literally torn into fragments. As an illustration of objectionable practice in such a case, I give a medical examiner's report of an autopsy conducted by him:—

"Autopsy:—Found head and left arm severed from body; right arm broken at wrist-joint, and right leg and foot badly broken and mangled."

"It ought not to be possible for an officer to practice such abuse of official power, and the district attorneys, mayors, and selectmen should be held to greater vigilance in the exercise of their authority, which alone enables the examiner to so proceed. As it is now, with the exception of the officers paid a fixed salary, the examiner needs only to hold an autopsy in every case to increase his fee from \$4 to \$30, and the county or state treasury must respond. It must not be understood that all, or even a major-

ity of medical examiners in commission, put so lax a construction upon the statute authority; but the opportunity for unprofessional conduct endangers the public interests, and tends to bring into disrepute all these officers, to whom are intrusted so great responsibilities. Large discretion must be given in the interests of public safety and justice, but an efficient restraint in this regard is demanded."

A perusal of this certainly leaves the impression upon the mind of the readers that, although a majority of the medical examiners are conscientious, a very considerable minority are addicted to the vicious practice of robbing the State of \$26 whenever a suitable opportunity presents itself—an opportunity which, in the experience of many of them, must be rare.

Now, there are certain comments upon this which we should be false to our duty to the public and the profession if we failed to make.

In June last the Governor reappointed nearly the entire corps of medical examiners after a public challenge for charges against them. In January his message contains charges against these same men. Had he stated the *number* of instances of such abuse as he charges, we have reason to believe the public would have been astonished at the slender thread upon which these sensational paragraphs of his message are strung. When found out, as in the case cited, the remedy for such abuse is to *cancel the commission*, as the statute already provides. Instead of this radical, simple, and curative measure, the Governor proposes to bring all under the yoke in order that the few may be kept in subjection. The proposal to make district attorneys censors to whom a sworn affidavit should be sent as to the necessity for each individual autopsy would be a needless bother to good men, who already spend disproportionate time and labor upon the careful, conscientious study of doubtful cases, and would be useless as a restraint for bad men. The oath of office covers the whole subject, and a man who violates one oath will not be checked by two. Care in appointing as medical examiners men of good personal and professional reputation, and prompt revocation of commissions when found unworthy, are amply sufficient to control abuses, "instances" of which, on the part of the minority (*sic*) of the examiners, have come to the Governor's knowledge.

The suggestion that medical examiners should be required to report their work to some central authority has much more to commend it as a useful measure. It is, we know, desired by the medical examiners themselves. It, too, would tend to check any abuse of which the Governor complains, as we feel sure overmuch, by letting daylight in upon official work, for malfeasance is impossible when open to exposure. Such a compulsory report would have the additional advantage of affording an opportunity for collecting a great number of facts each year concerning deaths by violence—facts which are now

but partially secured through the agency of the Medico-Legal Society, and which must be of the highest value in legal medicine if properly arranged and presented.

That the present Board of Health, Lunacy, and Charity would be a proper body to receive and consider such reports, any one having knowledge of the composition of that board, and of the details of the work of the medical examiners, would be somewhat loath to admit.

It is gratifying to see vigilance exhibited by the State Executive in regard to any of the State's business, but it is impossible to repress the reflection that had even a little of the stringency meted out to the unfortunate medical examiners been exercised in recent years toward other servants of the State, in other departments not far removed from the executive chamber, our present Governor would in all probability never have been called upon to distinguish himself in the still memorable political struggle against his predecessor.

#### THE EFFECT OF OUR SUDDEN AND REPEATED CLIMATIC CHANGES UPON CHILDREN.

THE winter of 1884-85 has thus far presented such an unusual variety of climatic changes, and the sudden rise and fall of the mercury in thermometer and barometer, with an accompanying preponderance of damp, searching weather, has been so marked, that it would be extraordinary if the younger portion of our population, with all its sensitive organization ready to be affected by unusual changes, should escape manifesting in some way phases of disease peculiar to its age and stage of development.

The various catarrhal conditions of the throat, nose, and middle ear, are taking a peculiarly prominent position, not only from their great increase in frequency, running almost like an epidemic through large families of children, but also from the uncommon symptoms which they are producing in other parts of the economy. This has, during the last two months, become so noticeable, where numbers of children have been carefully observed, that it seems as though a note of warning would not be out of place. The general practitioner should be fully alive to the difficulties which may arise regarding the diagnosis of cases where, although the general symptoms may decidedly point toward cerebral, laryngeal, thoracic, or even gastric trouble, yet they are in reality only of reflex origin, and even when symptoms of aural disease are entirely absent, yet the seat of reflex irritation may be a catarrhal condition of the middle ear, usually produced by extension from the pharynx and posterior nares.

Thus, at a season when, besides these catarrhal affections, we are witnessing an increase in acute pulmonary attacks represented by bronchitis, lobar

and broncho-pneumonia,—the latter disease often for days absolutely giving nothing distinctive of its presence by means of physical signs, but only presenting a quickened respiration, with increased action of the *ala nasi* and a heightened temperature,—it is of the greatest importance to recognize the fact, that exactly the same symptoms may be caused by inflammation of the middle ear developing slowly, without any special pain, and, in fact, no manifestation of its presence appearing until the *membrana tympani* has been perforated and the escaping discharge has carried with it the evidence by which the various symptoms can now be explained and relegated to their proper domain of reflex irritation.

The connection between the brain and middle ear, with reference to its blood-supply, is in children much more intimate, from the presence of the still pervious petro-squamosal fissure, than that which is found in later life; so that, while changes in the former can at times be indexed in the ear, congestions of the *tympanum*, by increasing the tendency to overfilling of the cerebral vessels, may thus lead to cerebral symptoms, often of a serious nature, but, again, only serious so far as the *symptoms* go, provided that these symptoms are recognized as reflex, and that the source of the reflex irritation is detected in the ear.

Thus, children have been known to lie in an unconscious condition for days, with all the appearances of cerebral disease, and yet consciousness has been entirely restored on the occurrence of perforation of the *membrana tympani* with a purulent discharge. And it is not only by early puncture of this membrane that the continuation of these reflex cerebral symptoms can often be cut short. It is in this class of cases especially that the importance is evident of the general practitioner having a sufficient knowledge of aural disease to examine the ear thoroughly, early in the course of the attack, before deeper-seated mischief has occurred, and, if need be, by the aid of the specialist to relieve at once a condition where every day's delay may produce irreparable injury.

In young children especially, subjected to the influence of a winter like the present one, it is very noticeable that catarrhal tonsillitis may occur with absolutely no local symptoms, the infant or child, perhaps, showing merely a mild constitutional disturbance, characterized by a slight rise in temperature and loss of appetite. These slight variations from health to disease are seldom thought by the parents to be of sufficient importance to require a physician at the outset of the trouble, and it is only when attending other members of the family, or when more marked symptoms arise, such as drowsiness, quickened respiration, or cough, that the medical attendant has an opportunity of examining the child.

He now finds probably very little in the throat to

account for the varied symptoms which come under his notice; the catarrhal tonsillitis has perhaps so far run its course as to afford no clue to the diagnosis, and yet the same catarrhal condition may have insidiously extended to the posterior nares and thence by the Eustachian tubes into the middle ear, resulting sooner or later in perforation. If a mucopurulent discharge has not taken place, and an examination of the ear has not been made, still further obscurity is thrown on the case; even though this catarrhal condition of the ear be manifest, yet we are now often met with an array of symptoms which are exceedingly puzzling until the possibility of their reflex origin is determined and their probable harmlessness recognized.

The nervous system of the child is so much more highly developed than that of the adult and is so exceedingly sensitive to all kinds of impressions, whether from changes without or from changes within, that it is no wonder that, with the close connection between the ear and other parts of the economy through the otic ganglion acting as a central station from which impressions can be switched off, so to speak, and carried to other organs, symptoms are produced which are not the result of disease of those organs but of their reflex irritation.

A marked instance of this phenomenon is the so-called ear cough, where children develop a laryngeal cough with nothing found to account for it in the pharynx, larynx, lung, or stomach; the cough apparently being excited by foreign bodies, causing irritation of the sensitive fibres of the auriculo-pneumogastricus distributed in the meatus and reflected along the motor fibres of the superior laryngeal nerve. In like manner there are instances where young children with inflammation of the middle ear have developed cough and dyspnea, relief from which could only be obtained by inflating the tympanum by means of the Politzer air-douche.

As a summary then of observations which have recently been made on large numbers of infants and children subjected to changes from an intensely cold dry atmosphere to a moist warm one, within a period often of a very few hours, particular attention should be given to an examination of both throat and ear—whether special symptoms point to these parts or not—on the ground that catarrhal tonsillitis may occur and run its course in young children without local symptoms, but with the liability of the catarrhal condition extending and producing serious reflex symptoms elsewhere. Also, the great importance becomes apparent of a more exact knowledge of the methods of detecting aural disease than is usually possessed by the general practitioner, to the end that not only many serious results from overlooking the aural disease may be obviated, but also that, when inflammation is evidently present, the mistake may not be made of failing to interpret certain cerebral, laryngeal, and thoracic symptoms as undoubtedly reflex and hence not in themselves

of serious import, provided that the disease of the ear can be controlled. Parents and friends of our little patients may thus too be spared untold anxiety during the period of legitimate doubt as to the prognosis.

#### A NEW MODE OF USING AN OLD REMEDY —CHLOROFORM WATER.

CHLOROFORM, an old remedy in the practice of the majority of practitioners, though doubtless a new remedy in the experience of the octogenarian, may be utilized for other purposes than anaesthesia, and the saturated chloroform water, first formularized by Guillot in 1844, and which was afterward made the subject of a series of trials by Lasègue and Regnaud,<sup>1</sup> and still more recently by Beumann,<sup>2</sup> is not only an excellent and handy excipient for many medicines, but possesses valuable analgesic properties. It is a stable preparation, and the savor is especially agreeable, sweetish, and when diluted one half, devoid of all piquancy and acidity; it makes a good combination with nearly all medicines which it is desirable to administer in a liquid menstruum, disguising the insipid or unpleasant taste of many of them; it markedly enhances the sedative and anodyne properties of analgesic and narcotic remedies. Lasègue especially recommends chloroform water as a suitable vehicle for the administration of morphia, in union with which it forms one of the best palliative cough medicines, as is generally acknowledged, in advanced phthisis.

Probably no better excipient for the salts of iron can be found. The mode of preparation is very simple. Into a flask two thirds full of pure water, pour an excess of chloroform, agitate well the mixture several times for the space of an hour, and allow the chloroform to deposit itself on the bottom of the flask. Decant or syphon off the clear supernatant liquid. The solution should be perfectly transparent, containing a little less than one per cent. of chloroform. For internal administration it is generally desirable to dilute this saturated solution with an equal quantity of water; the dose of the dilute aqua chloroformi being about a dessert-spoonful.

Lasègue has shown the unreliability of alcohol as a solvent for chloroform, and the difficulty of making a good preparation of chloroform water from the official spirit solutions. Nor are the emulsions free from a certain irritant effect and even causticity, felt for some time in the stomach after the ingestion; sometimes manifesting itself as acute pain.<sup>3</sup>

Among the therapeutic advantages of chloroform

<sup>1</sup> Archives gén. de Médecine, 1879 and 1882.

<sup>2</sup> Bulletin gén. de Thérapeutique, L. cv. p. 97.

<sup>3</sup> Lasègue, loc. cit., and Etudes Médicales, t. ii. p. 1147. Alcohol at 50 per cent. dissolves nearly twice its weight of chloroform. At 80 per cent. 1 gramme of chloroform is soluble in 1 gr. 15 of alcohol. At 60 per cent. 1 gramme requires 6 gr. 10 for its solution. At 20 per cent. 1 gramme requires 62 grammes for its solution, etc.

water is one on which Lasègue and Beurmann much insist, namely, its use as an analgesic in painful stomach affections, whether these proceed from indigestion or from organic disease. In the pains of indigestion it is almost without a rival, speedily mitigating the functional distress by its marvelous topical sedative action. In the painful intestinal disorder often accompanying the completion of digestion, it is of no utility. Beurmann has had favorable experience with its employ in allaying the acute suffering and nausea which attend dilatation of the stomach, especially during the digestion of food. He also strongly recommends it in cases of gastralgia, and here he is seconded by Dujardin-Beaumetz, who introduces the diluted chloroform water by the stomach-tube, performing "lavage" with the solution, his formula being two teaspoonfuls of saturated *aqua chloroformi* to the quart of liquid.<sup>1</sup> This preparation he regards as both calnative and antiseptic, and the washing process is, above all, indicated in gastric dilatation. Lasègue also finds advantage from chloroform water in the pains and nausea which accompany cancer of the stomach.

From the list of formulæ given by Beurmann we select the following:—

- |    |   |           |
|----|---|-----------|
| R  | Sat. chloroform water . . . . .   | 13 parts. |
|    | Peppermint water . . . . .  | 3 parts.  |
|    | Water . . . . .   | 12 parts. |
| M. | Dose, a tablespoonful for a calmative stomach potion. Good in nervous vomiting and the vomiting of pregnancy. |           |
| R  | Saturated chloroform water . . . . .  | 3 parts.  |
|    | Syrup of orange . . . . .   | 3 parts.  |
|    | Liquid morph. sulph. . . . .  | 1 part.   |
| M. | Dose, one or two teaspoonfuls. The above is a useful form for the administration of morphia.                  |           |
| R  | Hydrate of chloral . . . . .  | 1 part.   |
|    | Syrup aurantii cort. . . . .  | 25 parts. |
|    | Sat. chloroform water . . . . .   | 50 parts. |
| M. | Dose, a tablespoonful. The acrid taste of chloral is much modified when administered as above.                |           |
| R  | Sat. chloroform water, peppermint water . . . . .   | 50 parts. |
|    | Syrup of poppies . . . . .  | 30 parts. |
|    | Bromide of potassium . . . . .  | 1 part.   |
| M. | This preparation in teaspoonful doses is exceedingly valuable in the therapeutics of infancy.                 |           |

The following is called by Dr. Benrmann the "salicylic potion":—

- |   |                                   |            |
|---|-----------------------------------|------------|
| R | Salicylate of soda . . . . .      | 8 parts.   |
|   | Syrup . . . . .                   | 30 parts.  |
|   | Peppermint water . . . . .        | 20 parts.  |
|   | Dilute chloroform water . . . . . | 100 parts. |

The disagreeable taste of salicylate of soda is almost completely disguised in this mixture.

The following, called "hemostatic potion," contains iron:—

- |    |   |              |
|----|---|--------------|
| R  | Dilute chloroform water . . . . .   | 130 grammes. |
|    | Syrup aurantii cort. . . . .  | 20 grammes.  |
|    | Liquor ferri perchloridi . . . . .  | gitt. xx.    |
| M. | Dose, a tablespoonful. The styptic taste of the ferrie chloride is almost completely removed in this combination. |              |

<sup>1</sup> Dujardin-Beaumetz, in *Therapeutic Gazette*, December, 1884, p. 531.

Lasègue recommended a now somewhat famous hydragogue cathartic potion, which is made by rubbing up one gramme of gamboge with fifty of syrup of orange and one hundred of saturated chloroform water. The dose is a tablespoonful every morning or every second morning.

The above formulæ are examples of the therapeutic range of this medicament. They can be varied at pleasure by the practitioner to meet special indications.

## MEDICAL NOTES.

—What is a patient's right in a prescription? In paying his physician's fee, has he bought and paid for his prescription? If so, he owns it. The obligation of a druggist not to refill a prescription if expressly forbidden to do so by the prescriber is probably generally recognized. But if the patient owns the prescription he has a right to make or to obtain a copy of it, and this copy presented to another druggist will procure the medicine at any time, and for any number of times. Hence, in order to prevent the refilling of a prescription which may lead to the injury of both patient and practitioner, it is necessary to resort to the somewhat arbitrary proceeding, as it certainly seems, of forbidding the druggist to give a copy of any recipe. Whether such a prohibition is likely to prevail against the druggist's interest in obliging a good customer, to say nothing of a patient's possible legal rights, is a question. The patient's endeavor to make a copy himself before taking the prescription to a druggist can only be thwarted by the physician's sending his recipe direct to the pharmacy, and instructing his patient to call there for the medicine.

—The eleventh annual meeting of the American Neurological Association will be held in New York on Wednesday, June 17, 1885, and will continue three days.

—Twenty-two appointments of assistant surgeons to the U. S. Army have been made during the past year, and there are now no vacancies in the medical corps of the army.

## PHILADELPHIA.

—The Annual Meeting of the College of Physicians was held on the 7th instant. The following officers were elected to serve the ensuing year: President, J. M. Da Costa; Vice-President, S. Weir Mitchell; Secretary, Richard A. Cleemann; Treasurer, Chas. Stewart Wurts; Honorary Librarian, J. N. Hutchinson; Recorder, J. Ewing Mears; Censors, Lewis Rodman, Edward Hartshorne, William Goodell, Alfred Stillé; Councillors, I. Minis Hays, A. V. Meigs, R. P. Harris, and the usual standing committees. A resolution was adopted appointing September, 1887, as the time

for holding the Centennial Celebration of the founding of the College; and measures were authorized having in view the enlargement of the Hall by the erection of a third floor for the purpose of providing better accommodations for the Mütter Museum, which is constantly increasing in importance and size. At this meeting Professor William Pepper read the clinical history of a case of Addison's disease with the report of the autopsy by Professor Osler. The supra-renals were enlarged, and were adherent to surrounding structures; on section they were distinctly tuberculous with points of caseation. No bacilli were discovered. The specimens were shown, and microscopic sections were also exhibited.

Dr. J. H. Musser presented an immense gallstone with a brief history of the case.

—At the annual meeting of the Philadelphia County Medical Society, Dr. R. J. Levis was elected President, and Drs. Oscar H. Allis and DeForest Willard, Vice-Presidents. The other officers were reelected.

#### NEW YORK.

—Dr. George M. Sternberg, major and surgeon, United States Army, now connected with the Johns Hopkins University, Baltimore, gave a lecture on infectious diseases in their relations to armies, at the College of the City of New York, January 8th, before the Military Service Institution, which usually holds its meetings on Governor's Island. In the course of it he remarked that unless a general consideration of the topography of a country in which he was to conduct his operations, from a sanitary, as well as a military, point of view, the best planned campaign might result in disastrous failure. In the light of modern science, the commander was held responsible for the occurrence of epidemic filth diseases in his troops, and the lecturer suggested the following general rules for their prevention: *First*, prevent the introduction of exotic germs, such as those of cholera and yellow fever. — *Quarantine.* *Second*, endeavor to destroy the germs of infectious diseases in all material which is known to contain them, such as the discharges of typhoid or cholera patients, and the sputa of those suffering from diphtheria or tuberculosis. — *Disinfection.* *Third*, dispose of all material which might serve as pabulum for the external development of these germs in such a way as to make it unavailable for their use. — *General sanitation.* On the day following Dr. Sternberg made some experiments in the disinfection of rags at Bartlett's storehouses in Brooklyn, in the presence of assistant secretary of the treasury, H. B. French, the collector and health officer of the port, and representatives of the boards of health of New York, Brooklyn, Boston, New Haven, and other cities. The apparatus used was invented by Dr. Pollock, and consisted of a box large enough to hold a good-sized bale of rags, from the back of which projected five long, revolving, augur-shaped

screws, worked by steam, by means of which the bale to be disinfected is pierced and drawn into the box; the lid being afterward tightly closed. In the first experiment a bale of rags infected with microbes furnished by Dr. Sternberg, was subjected for three minutes to the fumes of sulphurous-acid gas in the box. In the second, a similarly infected bale was subjected for fifteen minutes to a temperature of 280° F., produced by charging the box with steam; the rags being thoroughly saturated with moisture by the time the bale was withdrawn. After thoroughly testing the destruction of the vitality of the germs employed, Dr. Sternberg will make a report to the Secretary of the Treasury on the results of these experiments.

A nest of typhus fever has been discovered in a filthy tenement-house in West Twenty-third Street, near the Hudson River. The first case was that of a woman who died of the disease on the fourteenth of December, but as her death was assigned to pneumonia, the attention of the health authorities was not directed to the premises. A dozen cases were found in the house on the sixth of January, and altogether fourteen or fifteen cases have resulted from this first one, the origin of which is as yet unknown. Of these, the brother of the woman died in Brooklyn, January 5th, and there is also some ground for supposing that the priest who administered the last rites of the church to her, and who died January 4th, was also a victim of the disease, although the physician who attended him is convinced that his was a case of remittent fever. Several other cases of typhus have also been reported of late in different parts of the city.

### Correspondence.

#### ARMY ITCH.

BOSTON, January 19, 1885.

MR. EDITOR, — In reply to Dr. Wilder's comments, published in the *JOURNAL* January 15th, upon my brief remarks in relation to the unusual recurrence of scabies at the present time, and the opinion prevalent with regard to it during the War of the Rebellion, permit me to call his attention to a communication upon army itch in this journal, March 22, 1866.

Respectfully yours,

JAMES C. WHITE, M.D.

#### THE USE OF THE ASPIRATOR.

1 Union Place, Troy, N. Y., January 9, 1885.

MR. EDITOR, — I have just received a review by Dr. Henry L. Bowditch, of Boston (reprinted from the *Boston Medical and Surgical Journal* of December 11, 1884), of a paper on "The use of the Aspirator in Hydrothorax," read by me at the recent meeting of the New York State Medical Association.

The review is based upon certain propositions ascribed to me and referred to as having appeared

in your journal of November 27, 1884, in a report of my paper, but as my paper did not contain the "propositions," and as it has not been published, the criticism is premature.

I shall allow the paper itself to stand as my answer, and it will soon be published, simply stating here that I did not seek to condemn the Aspirator, but to record a warning as to the serious and even fatal results which might be fairly ascribed to its careless use.

Your obedient servant,

E. D. FERGUSON, M.D.

In regard to our report of Dr. Ferguson's paper, we need only say that it came from a particularly reliable source, and agreed substantially with other reports. Whether it should bear the interpretation put on it, we will not undertake to say. — [Ed.]

### INCREASE IN WATER-RATES IN BOSTON.

Boston, January 12, 1885.

MR. EDITOR, — The recent excessive increase in the water-rates of Boston is a question which has a decided sanitary as well as economical bearing.

An abundant supply of pure water is *par excellence* a matter of necessity for the preservation of public health, and while the wasteful use of water

may be a proper subject of censure, on the other hand any measure which shall tend to diminish or restrict its abundant use, especially among the dwellings of the poor, should be heartily condemned.

While the excuse is urged that great manufacturing corporations should be favored, as an inducement to public prosperity, it is also true that the restriction that is sure to follow a decided rise in rates, either in its use for the ablation of houses, persons, clothing, utensils, or the flushing of streets and sewers, water-closets, baths, both public and private, of stables, etc., encourages the retention of filth and the consequent propagation of disease.

Especially at the present time is the measure ill-timed. With the more than probable advent of cholera in the United States during the coming summer in view, and also the history of its prevalence in Boston in 1832, 1849, and other years, in one of which alone, in a few weeks, six hundred died of the disease, it is desirable that every possible means of prevention should be employed. Cleanliness above all things is recognized as the most efficient weapon against cholera, and what better means can be adopted for promoting cleanliness than the liberal and abundant supply of water. The medical profession should heartily unite in opposing a measure so inimical both to public and private sanitation.

SANITAS.

### REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 10, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Typhoid Fever.	Diphtheria and Group.	Scarlet Fever.
New York . . . . .	1,340,114	677	266	19.35	24.00	.15	7.80	2.70
Philadelphia . . . . .	927,995	445	144	13.64	16.94	2.42	7.04	.88
Brooklyn . . . . .	644,526	270	106	15.17	20.35	—	7.77	1.48
Chicago . . . . .	632,100	239	104	20.16	21.00	4.20	8.82	3.36
Boston . . . . .	423,800	193	61	21.00	18.90	2.16	8.10	2.70
Baltimore . . . . .	408,520	183	67	18.15	9.35	4.95	7.70	1.60
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Chennai . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	77	28	10.40	10.40	1.29	3.87	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	25	—	8.00	8.00	4.00	—	—
Nashville . . . . .	54,400	19	8	21.04	21.40	5.26	10.52	—
Charleston . . . . .	52,296	38	12	16.20	16.20	2.70	—	—
Lowell . . . . .	71,447	25	12	12.00	4.00	—	4.00	—
Worcester . . . . .	69,442	28	6	14.24	17.80	—	10.68	—
Fall River . . . . .	62,674	25	12	16.00	12.00	—	12.00	—
Cambridge . . . . .	60,365	19	5	10.50	21.04	—	5.26	—
Lawrence . . . . .	45,516	—	—	—	—	—	—	—
Lynn . . . . .	44,865	12	4	25.00	25.00	8.33	8.33	—
Springfield . . . . .	38,000	8	2	12.50	—	—	—	—
Somerville . . . . .	31,350	17	5	11.66	29.44	—	—	5.88
Holyoke . . . . .	30,515	9	5	11.11	22.22	—	—	—
New Bedford . . . . .	30,144	14	4	—	14.28	—	—	—
Salem . . . . .	29,562	13	1	7.69	—	—	—	—
Chelsea . . . . .	24,347	13	3	7.69	15.38	—	—	—
Taunton . . . . .	22,693	6	1	16.66	—	—	—	—
Quincy . . . . .	21,400	9	3	11.11	22.22	—	—	—
Haverhill . . . . .	20,965	—	—	—	—	—	—	—
Newton . . . . .	19,421	5	0	—	20.00	—	—	—
Brockton . . . . .	18,323	4	0	—	25.00	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	2	0	—	—	—	—	—
Fitchburg . . . . .	14,433	7	1	14.28	—	—	—	14.28
86 Massachusetts towns . . . . .	—	92	16	14.17	8.72	13.08	—	1.69

Deaths reported, 2,478: under five years of age 872; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 142; lung diseases 452; consumption 336; diphtheria and croup 181; scarlet fever 56; measles 40; typhoid fever 40; diarrheal diseases 27; whooping-cough 23; malarial fevers 18; puerperal fever 10; erysipelas nine; typhus fever one. From *measles*, New York 28, Philadelphia and Boston one each. Brooklyn and Chicago two each. Fall River and Gloucester one each. From *diarrheal diseases*, New York 10, Charleston five, Boston and Baltimore four each, Chicago, District of Columbia, Holyoke, Taunton, and Fitchburg one each. From *whooping-cough*, New York six, Philadelphia, Brooklyn, and Boston three each, Chicago two, District of Columbia, Lowell, Lynn, Springfield, and Salem one each. From *malarial fever*, Brooklyn seven, New York six, Philadelphia, Baltimore, District of Columbia, New Haven, and Springfield one each. From *erysipelas*, Boston four, Brooklyn two, New York, Chicago, and Baltimore one each. From *puerperal fever*, Chicago three, Brooklyn two, New York, Boston, District of Columbia, Worcester, and Chelsea one each. From *typhus fever*, New York one. Cases reported in Boston, scarlet fever 62, diphtheria 31, measles 31, and typhoid fever nine.

In 104 cities and towns of Massachusetts with an estimated

population of 1,261,500 (estimated population of the State, 1,355,104), the total death-rate for the week was 1,962 against 1,880 and 1,743 for the two preceding weeks.

In the twenty-eight greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending December 27th, the death-rate was 20.2. Deaths reported, 3,386: infants under one year of age 735; acute diseases of the respiratory organs (London) 370, whooping-cough 69, measles 67, scarlet fever 54, fever 34, diphtheria 28, diarrheal 23, small-pox (London) 32, Liverpool three, Brighton one) 36. The death-rates ranged from 13.2 in Birkenhead to 32.2 in Leicester; Birmingham 20.8; Blackburn 19.4; Bradford 19.4; Leeds 20.2; Liverpool 25.0; London 18.6; Manchester 26.5; Nottingham 18.3; Sheffield 18.2; Sunderland 28.4. In Edinburgh 20.5; Glasgow 34.9; Dublin 26.6.

For the week ending December 27th, in the Swiss towns, there were 27 deaths from consumption, lung diseases 25, diarrheal diseases nine, measles nine, diphtheria and croup five, small-pox four. The death-rates were: at Geneva 20.4; Zurich 29.5; Basle 20.1; Berne 20.0.

The meteorological record for the week ending January 10th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Date.	Barometer.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	
January, 1885,																			
Sunday, 4	30.357	31.9	37.2	15.2	61	57	74	64.0	W	W	S W	13	8	8	O	O	O	—	—
Monday, 5	30.643	37.8	46.4	28.0	59	35	55	49.7	S W	S W	S W	9	22	17	F	C	C	—	—
Tuesday, 6	29.623	40.6	53.0	35.5	100	94	80	93.3	S W	S W	S W	3	22	16	R	C	O	—	—
Wednesday, 7	29.422	36.6	58.1	30.8	90	58	56	68.0	S W	S W	S W	11	17	20	O	C	C	—	—
Thurs., 8	29.901	37.5	44.4	33.9	57	48	70	58.3	W	S	S W	20	17	10	C	C	C	—	—
Friday, 9	29.628	38.3	53.4	34.1	84	57	58	69.7	S	S	S W	12	18	12	O	C	C	—	—
Saturday, 10	30.003	27.3	45.1	20.5	66	63	59	62.7	W	N W	W	22	25	9	O	C	C	—	—
Mean, the Week.	29.855	38.3	49.5	29.6				66.5											18.00 1.23

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, squally; R, rain; T, threatening; N, snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 10, 1885, TO JANUARY 16, 1885.

HEAD, JNO. F., colonel and surgeon. Retired from active service, by operation of law, on January 9, 1885, under provisions of a *Comptroller* approved June 30, 1882. S. O. 7, A. G. O., January 9, 1885.

McKEE, J. C., major and surgeon. Ordinary leave of absence still further extended four months, on surgeon's certificate of disability. S. O. 6, A. G. O., January 8, 1885.

BENTLEY, EDWIN, major and surgeon. Leave of absence extended two months. S. O. 8, A. G. O., January 10, 1885.

TREMAIN, W. S., major and surgeon. Relieved from duty at Fort Porter, N. Y.

GRABER, A. C., captain and assistant surgeon. Ordered for duty at Fort Porter, N. Y.

APPEL, D. M., captain and assistant surgeon. Ordered for duty at Plattsburg Barracks, N. Y.

GRABER, J. B., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Schuyler, N. Y. H.

HAYARD, VALERY, captain and assistant surgeon. On being relieved at Fort Schuyler, authorized to avail himself of leave of absence (four months). S. O. 8, Department of East, January 12, 1885.

ELBIEV, F. W., captain and assistant surgeon. Sick leave still further extended six months, on surgeon's certificate of disability. S. O. 9, A. G. O., January 12, 1885.

#### PROMOTIONS.

CAMPBELL, JOHN, lieutenant-colonel and surgeon, to be surgeon, with rank of colonel, December 7, 1884.

ALEXANDER, R. H., major and surgeon, to be surgeon, with rank of lieutenant-colonel, December 7, 1884.

McELDEWY, HENRY, captain and assistant surgeon, to be surgeon, with rank of major, December 7, 1884.

APPOINTMENT.—Jefferson R. Keen, to be assistant surgeon, with rank of first lieutenant, December 8, 1884.

#### SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for scientific improvement will be held in "Social Hall" (Tremont Temple Building, Boston), entrance at 76 Tremont Street, on Tuesday, January 27, 1885, at 7.45 p.m. Fellows of the Massachusetts Medical Society are invited to be present and to join in the discussion. Subject for discussion: "The Management of the Lying-in Mother After the Birth of the Child." Introduction by U. O. B. Wingate, M.D., of Wellesley, Mass.

(Geo. D. Townshend, M.D., Secretary.)

#### APPOINTMENTS.

BOSTON CITY HOSPITAL.—Dr. E. H. Bradford and Dr. Abner Post have been appointed visiting surgeons, at the Boston City Hospital, in place of Dr. W. C. B. Field, resigned, and Dr. W. H. Thornehill, deceased. The following gentlemen have been appointed in the Out-Patient Department: Dr. F. H. Brown, Diseases of the Ear; Dr. F. H. Hooper, Diseases of the Throat; Dr. G. H. Tilden, Diseases of the Skin; Dr. Morton Prince, Diseases of the Nervous System.

#### BOOKS AND PAMPHLETS RECEIVED.

Official Register of Physicians and Midwives now in Practice to whom Certificates have been issued by the State Board of Health of Illinois. 1877-1884.

A Contribution to the Relations of Ovulation and Menstruation. By A. Reeves Jackson, A.M., M.D. Chicago. (Reprint from the Journal of the American Medical Association, October 4, 1884.)

Announcement of the Twenty-second Annual Course of Lectures of the Medical Department, University of California, with Catalogue of Students and Graduates, 1885. San Francisco, 1885.

Intestinal Obstruction: Its Varieties, with Pathology, Diagnosis, and Treatment. The Jacksonian Prize Essay of the Royal College of Surgeons of England, 1883. By Frederick Treves, F.R.C.S., etc. With Sixty Illustrations. Philadelphia: Henry C. Lea's Son & Co. 1884.

## Original Articles.

A CONSIDERATION OF THE MANAGEMENT OF PATIENTS DURING ETHERIZATION.<sup>1</sup>

BY H. L. BURRELL, M.D.

THE patient who for the first time subjects himself to anesthetization is usually filled with apprehension. He has heard that deaths have occurred under ether; of the horrors of suffocation inflicted during etherization, by surgeons crowding the ether; and that occasionally patients cannot be brought under the influence of the anæsthetic. He is to have an operation performed, a matter of great moment to most people. His life is in danger. He feels that he is passing through a crisis in his existence and all of his faculties are strained to their highest tension. Patients meet this situation with varying degrees of fortitude. They are in a helpless state, in which they place themselves in the keeping of another. This person is selected for his skill, experience, and good judgment. The surgeon for the time being holds an exalted position in the patient's mind. His every act, look, and word are noted and largely influence the patient's feeling of security.

The surgeon has the feeling, the result of experience and teaching, that there *is no danger*. Hence he is apt to pay but little attention to allaying the fears of his patient, who frequently believes that there *is* danger. The effect of this inattention is disquieting to the patient; for he feels that he is not being guarded against danger.

A composed, self-reliant man, who is to be etherized, is recognized as one that will give little trouble during anesthetization. The patient who is weak, vacillating, or whose nervous balance is easily jarred, may by injudicious preliminary treatment be unstrung and rendered a most uncomfortable subject for etherization. This may be largely prevented by a few words of assurance and encouragement and further by first administering the ether slowly and largely mixed with air.

We occasionally see the following plan of etherization pursued: The surgeon enters the room in a brusque manner; tells his patient to lie down on the bed; two or more strong assistants seize the already thoroughly alarmed patient; a junior surgeon is told "to etherize as rapidly as possible," while the surgeon turns away to some of his confrères and regales them with some professional tale or gossip. The patient meanwhile has a sponge, thoroughly saturated with ether, clapped on; attempts to draw a free breath, is choked; struggles, but is held fast; his face becomes turgid from the struggling and asphyxiation; he struggles again and again, until relief comes in the form of unconsciousness, by a union of etherization and asphyxiation. The two conditions of asphyxiation and etherization are not confounded by surgeons. The writer thoroughly believes that it is a lack of consideration, and not brutality, that occasionally allows this scene to be enacted. To take a child before it has reached the age of reason and "to crowd ether" upon it is humane; as it reduces to

a minimum the suffering, the struggle being quickly over.

It is a pleasure to see a man of tact and skill in etherizing change what may be made a very disagreeable experience into at least a bearable one. I have seen well-bred, trusting children of five years taken by a surgeon, told that they were going to be etherized and that they were to fear no danger, that they were to lie down quietly and breathe some ether and that they would soon go to sleep; that even if the ether did choke a little that they must keep right on breathing good long breaths, and that soon they would pass off into a beautiful sleep.

We rarely hear of any violent struggles occurring in etherizing private patients. The surgeon takes time. To be sure, he has a more intelligent person to deal with; he administers the ether slowly and in small amounts, recognizing that the cough and irritation of the fauces are signals to allow the patient to have fresh air.

When the patient arrives at the stage of excitement all recognize the need of pressing ether; but even in this stage he is not unruly and by a few sharp commands may be guided successfully over this height into the vale of unconsciousness beyond.

This paper is written for the purpose of drawing forth the practical points of individual practitioners, which, with them, are largely the result of experience. I will, therefore, make a series of propositions, which I trust will be freely discussed.

Before etherization, the surgeon should satisfy himself regarding the presence or absence of heart disease. The presence of serious regurgitation in a heart may not contra-indicate the use of ether in an "operation of necessity." In deciding the advisability of an "operation of expediency" it should enter as a factor. In any case the presence of serious heart trouble is a source of danger; and to the careful surgeon a matter of consideration. It is not necessary that each patient should be carefully auscultated; in most cases a glance at the patient, a few questions addressed, or the knowledge of the patient's previous life and habits, are all that is necessary.

The safety of the patient and the comfort of the etherizer largely depend on the use of pure anhydrous sulphuric ether. There are two principal manufacturers of ether. I prefer Squibb's. The kind of ether the surgeon is in the habit of using will be the most successful in his hands.

The best medium for administering ether is the one which can give the anæsthetic ether in a condensed form or largely mixed with air. We desire to use the ether largely mixed with air until the patient has become accustomed to its strangling effects; we wish to use it in a condensed form at the approach of the period of excitement.

In general, all inhaling apparatuses having automatic valves for the entrance of air should be condemned.

A sponge is open to the following objections: The difficulty of finding one of fine enough texture to exclude sufficient air and its wastefulness of ether. These difficulties may be partially overcome by moistening the sponge with water, and covering it with a towel. It is especially objectionable inas-

<sup>1</sup>Read before the Boston Society for Medical Observation, December 1, 1884.

much as it may have been used on persons having all sorts of disease, diphtheria as an example. My preference is a towel, stiffened by a newspaper folded within, in the form of a cone. This has the disadvantages of collapsing at times during etherization, and the cone may be made almost impervious to air. Its advantages are its readiness on all occasions and its cleanliness.

As a rule the patient should have a brief, clear description of the sensations he is about to experience.

This description would be contra-indicated in a class of hysterical patients and malingerers. It will, I feel sure, be of great assistance in warding off a struggle, especially in full-blooded, active men, for the last impression on their minds clings even into stupor.

A room free from bustle and confusion, before and after an operative procedure, is an essential for quiet etherization.

This is, perhaps, a matter of small moment, but in many patients it is the extra pressure that unbalances their nervous force.

The mental condition of a patient recovering from ether is one in which there is occasionally much suffering. This condition is best met by the admission of fresh, cool air, bathing the patient's head in cold water, and especially a freedom from obnoxious sights and sounds.

Ether should be administered on an empty stomach. This should not exclude a cup of coffee or of beef-tea, for we might weaken our patient by prolonged fasting: it is intended to apply to nourishment that may leave a solid detritus for vomiting. In certain debilitated cases a glass of liquor is particularly appropriate.

The knowledge of the effect of a glass of wine upon a patient is frequently an indication of the exciting or stupefying effects that ether may have. Dr. Thorndike tells me that he frequently asks the patient: "What is the effect of a glass of wine upon you?" If they answer that it excites them greatly, he anticipates trouble; if, on the other hand, they say that the wine stupefies them, he expects little trouble.

No mechanical impediment should exist to respiration. This means loose clothing about the neck, chest, and abdomen, the removal of artificial teeth or obturators.

Ether should be administered in a semi-recumbent position: the head should be thrown slightly forward and a little to one side, by a doubled pillow. At least the head should not hang backward.

The etherizer should do nothing else. He should hear every respiration and know of the heart's action. The sponge or towel may be steadied by the left hand, one finger of which may rest within the cheek. The right should rest on the temporal artery and may be used to supply fresh ether, to ascertain the conjunctival reflex, or the amount of lividity.

The pulse and respiration are the safeguards of etherization. One of the first signs of impending danger is the diminution of the force and frequency of the pulse-beat. It is surprising to observe with what certainty the force and frequency return on allowing a few inspirations of fresh air. The

sudden changing of arterial blood, in a wound, to a dark color, or the cessation of arterial spouting indicates approaching asphyxiation. This I have often seen illustrated by an operator stopping the administration of ether, without glancing at the patient's countenance.

One of the first symptoms of returning consciousness in protracted etherization is a long, deep sigh on the part of the patient: this is a signal for the administration of more ether, and has been observed by the writer to occasionally precede the return of the conjunctival reflex.

In the early part of etherization "a lull precedes a storm." In the first stage of etherization we may have a patient that is remarkably quiet, drawing short, superficial breaths which increase in frequency until they reach a climax; when apparently an explosion of nervous force takes place and violent struggling ensues.

The less ether used in an operative procedure the better the recovery of the patient.

The first effects of ether are stimulating. The secondary effects are decidedly depressing and I doubt not have occasionally turned the scale against the patient after a severe prolonged operative procedure. This subject was thoughtfully considered by Dr. G. W. Gay, in a paper on "The management of patients during capital operations,"<sup>2</sup> in which he says: "Use the least possible quantity of the anæsthetic, and allow the patient to rally early, depending upon opiates to control subsequent pain and inquietude."

A full dose of morphia administered an hour before etherization is largely used in certain localities, and it is said that "it quiets the nervous excitement of the patient, reduces the amount of ether otherwise necessary, and prolongs its effects, lessens the tendency to nausea and vomiting, and diminishes shock." I have had but slight experience in the use of morphia under these conditions.

A little ether in children goes a long way. It is remarkable to see how long children will remain etherized, and it is well to use a small amount and to frequently remove the anæsthetic entirely. The effects on young children of a given quantity of ether are usually out of all proportion to their age and size. We therefore must regard children as especially susceptible to ether.

Tongue forceps or the wooden gag are rarely necessary. The skilful management of the anæsthetic by the etherizer may largely prevent their use.

In complete anæsthesia the glottis may become stopped by the falling backward of the tongue. This manifests itself by a peculiar ineffectual pumping of the diaphragm and cyanosis. This closure of the glottis should be at once relieved by pushing the jaw forward, by the two forefingers or thumbs applied behind the angle of the jaw; this brings forward the tongue and thus opens the glottis and allows the entrance of air to the almost collapsed lung. A marked degree of swelling of the glands in the neighborhood of the angle of the jaw and persistent pain may result from the overzealous application of this useful procedure.

It certainly must be a very rare event, when a patient cannot be etherized.

<sup>2</sup> Boston Med. and Surg. Jour., October 11, 1883.

Lack of skill or timidity in the use of ether on the part of the administrator will probably explain all of the cases reported by the laity.

Under difficult etherization we may consider a class of patients who have been steady drinkers, who pass slowly under the influence of ether. As the patient approaches the period of excitement, he becomes livid, is seized with a succession of tremors, froths at the mouth, his jaws are set rigidly, and altogether he presents anything but a pleasant picture. Possibly we attempt to crowd the ether, or perhaps we wisely allow the patient to have more fresh air, the symptoms subside and we again press the ether; the same tetanic state ensues and we again allow the entrance of more air. This state of affairs frequently continues until the operative procedure is finished, the patient never being fairly etherized. It has been my experience that when one meets such a patient, the best course to pursue is to first crowd the ether: failing in this, to allow the patient to come almost entirely out from under the influence of the anæsthetic, so that he sits up, looks about, vomits, or thoroughly clears the whole of his respiratory tract; then make a new start with fresh ether and frequently the patient will quickly become profoundly etherized.

As a result of this consideration we have certain propositions which I take it all will accept. They are:—

First, Before etherization, the surgeon should satisfy himself regarding the presence or absence of heart disease.

Second, The safety of the patient and the comfort of the etherizer largely depend on the use of pure anhydrous sulphuric ether.

Third, The best medium for the administration is one in which the ether can be given in a condensed form or largely mixed with air.

Fourth, As a rule the patient should have a brief, clear description of the sensations he is about to experience.

Fifth, A room free from bustle and confusion before and after an operative procedure is an essential for quiet etherization.

Sixth, Ether should be administered on an empty stomach.

Seventh, The knowledge of the effect of a glass of wine upon a patient is frequently an indication of the exciting or stupefying that ether may have.

Eighth, No mechanical impediment should exist to respiration.

Ninth, The pulse and respiration are the safeguards of etherization.

Tenth, The less ether used in an operative procedure, the better the recovery of the patient from the immediate effects of the operation.

Eleventh, A little ether in children goes a long way.

Remaining we have a number of questions on which possibly there is difference of opinion. The following suggest themselves to my mind:—

The comparative value of the different brands of ether?

Whether it is better to pull the tongue forward or to push the jaw forward?

Whether any patient exists that cannot be etherized?

The comparative values of a sponge, towels, and inhalers?

The use of opiates and stimulants as adjuncts to etherization.

## FIVE CASES OF OVARIOTOMY.<sup>1</sup>

BY J. W. ELLIOT, M.D.,

Assistant Surgeon in the Free Hospital for Women.

CASE I. was referred to me by Dr. J. J. Minot. Mrs. S., widow, aged thirty-two; had one child five years old. She complained of an enlarged abdomen, irregular catamenia, and constipation. She had first noticed a slight abdominal enlargement one year before. It had grown rapidly of late and was unfitting her for work. Her general health was poor. The tumor was quite large, filling nearly the whole abdomen. It was fluctuating and could easily be felt in Douglas's fossa pushing the uterus up behind the pubes. The right broad ligament was very resistant.

At the operation a large part of the tumor was easily removed, but one cyst-chamber and a mass of solid matter were deeply and firmly imbedded between the folds of the right broad ligament. This part of the tumor was with difficulty enucleated, the peritoneum being extensively lacerated. The whole broad ligament formed the pedicle and was ligatured close to the uterus in two separate parts. The left ovary being enlarged was also removed. Drs. Cabot, Watson, Strong, and Kennedy kindly assisted me. Dr. Baker was present. The patient made a good recovery. The stitches were removed on the tenth day, when the wound was found united by first intention without a drop of pus. The highest temperature was 101° F. The patient did not walk for several weeks on account of a slough on the feet caused by the careless use of a hot-water bottle.

CASE II.—Mrs. C., aged forty-nine, had had two children and a miscarriage. I first saw her with Dr. F. W. Johnson. She was in miserable health, complaining of a swollen abdomen, profuse flowing, frequent micturition, and pain in her left side. Six months previous she had consulted a physician on account of flowing and had been told that she had a fibroid tumor of the uterus. Three months later Dr. Johnson found her still flowing. At that time he could easily feel a very hard, small tumor, which he then supposed to be a fibroid. One month later the abdomen had increased enormously in size and the tumor fluctuated. Early in March she entered the Free Hospital for Women. The tumor then distended the whole abdomen as high as the sternum. The uterus was retroverted and fixed. A sound could not be passed. In view of this exceptional history, the whole tumor having grown within nine months and most of it in one month, we drew off three quarts of fluid with the aspirator for diagnosis. This fluid was characteristic of ovarian tumor.

At the operation a large dermoid cyst was found containing hair, bone, fat, skin, and teeth. There were few adhesions and the tumor was easily re-

<sup>1</sup>Read at the Surgical Section of the Suffolk District Medical Society, January 7, 1885.

moved. Drs. Cabot, Johnson, and Strong assisted; Drs. Homans and Watson were present. The patient made a rapid recovery. The highest temperature being 99.8° F. The wound healed by first intention without a drop of pus. Nine months after the operation she writes to Mrs. Wilson, her nurse, that she is in excellent health and has had no more flowing.

CASE III. occurred in my own private practice. Miss M., aged twenty-two, complained of pains in the back, loin, and lower abdomen, also of intense dysmenorrhœa. Four years ago was confined to the bed for six months with an attack of inflammation of the bowels. Since that time she has been an invalid and has been treated by various physicians for "chronic inflammation," without the least improvement. When I first saw her she was fat and anæmic, and was utterly unable to do anything on account of a pain through the lower abdomen, which always came on after she had been standing a few minutes.

On bimanual examination a fluctuating tumor—size of a large cocoanut—was distinctly felt filling the anterior part of the pelvis and crowding the uterus back against the sacrum.

The operation proved exceedingly difficult and tedious. The abdominal walls were very thick and the muscles rigid. The cyst had a thin wall and was firmly adherent in every direction. In tearing away the adhesions the cyst was ruptured and its dark chocolate-colored contents escaped into the abdominal cavity. The ovarian artery was then ligatured and the cyst-wall came out in shreds after a tedious dissection. There was no pedicle, so the whole broad ligament was tied with three ligatures close to the uterus. The pelvic cavity was full of bands of adhesions so that Douglas's fossa appeared to be closed and the other ovary could not with certainty be made out. The uterus was firmly bound to the left side. It was impossible to thoroughly clean the abdominal cavity. The operation lasted one and one-half hours. Dr. Johnson was my only assistant. Dr. Clark etherized. The patient recovered somewhat slowly. On the fifth day the temperature rose to 101° F. The dressings being removed an abscess was found in the abdominal wound which was opened by removing the stitches. The wound then healed by granulation. The patient was well in six weeks.

CASE IV. was referred to me by Dr. John Homans, at first for diagnosis and afterward for operation. Miss L., aged twenty-four, had been sick for three years. She complained of pain in the back and general languor, had had sudden and severe pains in the lower part of the abdomen, also sudden attacks of flowing, followed by amenorrhœa for several months. She had been told by five different doctors that she had a tumor which could not safely be removed. She was so much depressed by this, and by her sufferings, that she had lost flesh and strength and thought that she should die. She was determined to have it removed if it was possible.

Examination revealed a hard tumor larger than a hen's egg in the hollow of the sacrum somewhat to the right side. The uterus was three and a half inches deep and in left lateral retroversion. The

tumor and uterus seemed to be one mass. The tumor was very hard and perfectly immovable. It was exceedingly difficult to decide what the tumor was and to what organs it was attached. To help solve this problem I gave my patient ergotin pills until the uterus became much contracted and very hard. The result was astonishing. I was then able to feel that the uterus was harder than the tumor and of a distinctly different consistency. This enabled me to decide that the tumor was not growing from the uterus, but was only crowded against it. After watching the case for three months I decided that the tumor was either ovarian or an enlarged Fallopian tube, but probably ovarian.

The operation was done at St. Margaret's Home. I found a dermoid tumor of the right ovary as large as two fists, a part of which was nearly solid, being filled with hair and fat. There was some difficulty in removing it on account of its being tightly wedged in the pelvic cavity.

She made a quick recovery, having no unpleasant symptoms. The temperature was normal on the fifth day. The stitches were removed on the ninth day, when the wound was found to have healed by first intention without a drop of pus. She sat up on the fourteenth and went home on the twentieth day.

CASE V. occurred in my own private practice. Mrs. M., aged twenty-eight, complained of chronic inflammation, sterility, etc.

Bimanual examination revealed a cyst—size of a cocoanut—in front of the uterus.

The operation was very simple. The cyst contained clear fluid and proved to be of the left broad ligament. It was removed through an opening in the peritoneum less than two inches long. There were adhesions to the intestines and omentum. The ovary and Fallopian tube being both enlarged were removed with the cyst. The pedicle included the whole broad ligament and was ligatured close to the uterus.

The patient made a rapid recovery, the highest temperature being 100° F.

The wound healed by first intention and the patient went home on the twenty-first day.

These cases and one exploratory incision elsewhere reported, together with about one hundred other cases where I have acted as assistant, complete my experience in laparotomy up to January 1, 1885.

CASE II. is interesting because uterine hemorrhage was a prominent symptom.

In cases III. and V. chronic inflammation was the prominent symptom, and was supposed to be the only trouble until a small tumor was discovered. This suggests that tedious cases of chronic inflammation should be carefully investigated.

I am not aware that ergotin has ever before been used in exactly the way it was in case IV. for diagnosis. Since then I have used it several times with satisfaction. It makes the uterus much harder and thereby exaggerates any difference in consistency between the tumor and uterus; also, the contractions of the uterus seem sometimes to draw it away from the tumor so that the examining finger can be pushed further in between the two. If the tumor is a part of the uterus, it hardens with the uterus.

I have carried out the known antiseptic precautions with the greatest possible care. Corrosive sublimate 1 to 1,000 has been used for cleaning hands, sponges, ligatures, etc. So far I have always used the carbolic spray, although I do not consider it essential.

It is needless to say that I am strongly in favor of early operations, three of these operations having been done for small tumors. Although the reasons for early operations are well known, I will allude to them here in order to sustain my position on this point. There is a gradual decline in the general health as the tumor grows larger. The benign tumor is liable at any time to take on a malignant character. This really occurs much more commonly than was formerly

supposed. Other things being equal there are more extensive adhesions with large tumors. Long-continued pressure from a tumor often causes enlargement and malposition of the uterus, partial occlusion of the ureters and the consequent kidney complications, misplacement and derangement of the bladder with consequent cystitis and remote nephritis. Then there are the accidental complications of twisting the pedicle, suppurative of the cyst, rupture of the cyst, acute peritonitis, thrombosis and embolism, pregnancy, concurrent diseases, etc., which may occur at any moment. There are difficulties in removing small tumors which do not occur with large ones, but on the whole the operations may fairly be said to be less severe.

TABLE.

No.	Age.	Date of Operation. 1884.	Place of Operation.	Length of Incision. Inches.	Adhesions, etc.	Size of Tumor.	Result.	Remarks.
1	32	January 29th.	Free Hospital for Women.	5	Deep enucleation from right broad ligament.	15 lbs.	Recovered.	Both ovaries removed.
2	49	March 31st.	Free Hospital for Women.	3½	Few small adhesions.	20 lbs.	Recovered.	Dermoid cyst.
3	22	October 14th.	Free Hospital for Women.	4½	Very firm and extensive in every direction.	Size of cocoanut.	Recovered.	Thin-walled cyst.
4	24	October 28th.	St. Margaret's Home.	4	Tumor tightly wedged in pelvic cavity.	Size of two fists.	Recovered.	Nearly solid. Dermoid.
5	28	November 22d.	Free Hospital for Women.	2	Adhesions to intestines and omentum.	Size of cocoanut.	Recovered.	Cyst of broad ligament.

## REPORT ON OBSTETRICS.

BY CHARLES M. GREEN, M.D.

## MEMBRANOUS INSERTION OF THE CORD: HYDRAMNIOS AND FŒTAL ASCITES.

TRUZZI reports<sup>1</sup> an instructive case from the clinic of Professor Porro, in which the appearances were membranous insertion of the umbilical cord, hydramnios, congestive hypermegalia of the liver and spleen, ascites and œdema of the great epiploën, cerebral œdema and serous infiltration of the subcutaneous cellular tissue of the head and thorax. Venous stasis in the fœto-placental circulation was clearly the cause of these alterations, and the stasis was due to membranous insertion of the cord and the consequently long course, partly membranous, partly placental, of the ramifications of the umbilical vessels. The author does not, of course, assert that membranous insertion of the cord necessarily results in serous effusions; but he thinks that the coincidence of hydramnios and fœtal ascites with membranous funic insertion is not merely fortuitous. The fœto-placental circulation is, of course, carried on less easily when the vessels of the cord are spread over the membranes, and the increased resistance to the blood current may exaggerate the serous exosmosis which is supposed to produce, in part at least, amniotic fluid; when, therefore, this resistance is sufficiently great, the natural result of the membranous insertion would be hydramnios and the other serous effusions which the author found in the case reported.

## THE TREATMENT OF ABORTION.

Schwarz, of Halle, has written a very comprehensive treatise<sup>2</sup> on this subject, in which he first speaks briefly of the prophylaxis and then considers in detail the treatment of abortion already in progress.

When there exists a preëxisting tendency to abortion Schwarz believes that only in the rarest instances can premature expulsion of the ovum be averted by continuous lying in bed, by giving up the usual occupation, and by the careful avoidance of all external circumstances and conditions usually considered prejudicial to the pregnant state; the reason being that only exceptionally are the effective causes of abortion external, but in the great majority of cases are to be found in abnormalities of the internal reproductive organs, or in general affections, especially syphilis. The most favorable time, therefore, for the successful exhibition of prophylactic treatment is before impregnation has taken place, attention being directed to the correction of structural anomalies, malpositions of the uterus, especially backward displacements, and inflammation of the endo- and peri-metrium. Schwarz calls especial attention to another factor which he has found to be a frequent cause of abortion, namely, deep lacerations of the cervix, and he points out the importance of repairing such lacerations as a prophylactic measure. After conception has taken place Schwarz believes there is but little opportunity for active prophylaxis, except in correcting uterine displacements and in the treatment of syphilis.

Coming then to the treatment of already im-

<sup>1</sup> Gazz. Med. Ital. Lombardini, April 5, 1884, and the London Medical Record, July 15, 1884.

<sup>2</sup> Volkmann's Sammlung Klinischer Vorträge, No. 241.

pending abortion, Schwarz endeavors to lay down certain rules by which it may be determined whether or not the abortion can probably be prevented. He thinks the condition of the cervix affords one of the surest signs: if the cervix permits the passage of the finger through the internal os, if also the lower pole of the ovivac is within reach and is forced down into the upper part of the cervical canal, or if, in the case of primipare, although the external os is still impassable, the cervix is already taken up and forms with the uterine body a common cavity, then the expulsion of the ovum is beyond question. A foul vaginal discharge, indicating the probable death of the ovum; or a considerable hemorrhage lasting several days, especially if accompanied by dull or cutting pains in the sacral region, are almost infallible signs. If a reasonable hope of preventing the expulsion of the ovum exists, the end is to be sought by enforcing the greatest possible bodily and mental rest, and by the free use of opium. If, however, abortion is inevitable, expulsion of the ovum should be hastened as much as possible, with the view of keeping the attendant dangers within bounds.

The dangers against which in abortions one has to contend are hemorrhage and septic degeneration of the ovum. If the ovivac has not ruptured, Schwarz recommends the cervico-vaginal tampon as an absolutely sure means of arresting the severe hemorrhage which almost without exception accompanies the expulsion of the ovum in the first half of pregnancy. As soon as the hemorrhage shall have been controlled, the tampon should be removed, and the vagina cleansed and disinfected. A cotton wad sprinkled with iodoform should then be placed against the cervix and held in position with a vaginal tampon. Thus protected against hemorrhage and septic infection the patient can be left for from eighteen to twenty-four hours: the tampon usually increases the pains and thus promotes the dilatation of the cervix and the expulsion of the ovum. If, however, by this treatment inconsiderable progress is made, Schwarz is accustomed to administer an intra-cervical douche to the amount of two or three liters of a cold antiseptic fluid, using for the purpose a catheter suitably bent and provided with lateral openings. The object of the douche is not so much to dislodge the ovum as to awaken uterine contractions, and the author has found cold irrigations more effective than hot, which latter have sometimes apparently produced paralysis of the uterine muscle. If alternate use of the tampon and the cold irrigation does not effect the desired result, Schwarz then resorts to laminaria tents carefully disinfected and sprinkled with iodoform. Should, however, this method appear too tedious on account of the invasion of fever or beginning degeneration of the ovum, or if for any reason the uterine contractions are not sufficiently powerful to expel the ovum, Schwarz recommends the dilatation of the cervix with Fritsch's dilators, the separation of the ovum with the finger, and removal with finger or forceps as appears most convenient.

If at the time that treatment is to be instituted the ovivac has ruptured, an entirely different method is to be pursued. Rupture of the sac, if not positively recognized by escape of the liquor amnii

and expulsion of the fœtus, can be diagnosed with great probability from the diminished size and elasticity of the uterus. In cases of ruptured ovivac, then, the tampon is not to be used, unless provisionally, on account of the danger of concealed hemorrhage, especially in abortions after the fourth month, and of septic infection from degeneration of retained blood clot or decidua; but if the cervix is not already passable for the finger, it should be immediately dilated manually or instrumentally and the uterus speedily emptied of its contents. When there exists pelvic effusion or recent inflammatory action this should be done with the greatest gentleness and all instrumental interference avoided if possible. The ennette is often of the greatest service, especially in cases in which persistent hemorrhage points to the probable retention of a bit of decidua or placental tissue: the value of subsequent styptic injections of iron or iodine is pointed out by Schwarz, together with many valuable suggestions as to detail in the treatment of this anxious class of cases.

#### PROPHYLAXIS AND TREATMENT OF PUERPERAL FEVER IN THE DUBLIN ROTUNDA.

In his report<sup>3</sup> of the Rotunda Hospital for the year 1883, the master, Mr. Arthur V. Macan, very clearly gives his views on the ætiology of puerperal fever and tersely explains the methods adopted by the hospital for the prevention and treatment of this dreaded malady. He accepts the theory first enunciated by Semmelweis in 1847, "that puerperal fever is caused by the absorption of animal matter in a state of decomposition," and divides cases into two great classes—those caused by auto-infection, in which the poison is generated within the woman, and those due to hetero-infection, or the introduction of poison from without. The hetero-genetic cases occur most frequently in primipare, after, in most instances, a quite normal labor: "the symptoms come on suddenly, within about thirty-six hours of delivery, and at the outset the discharge is not fetid." In this case the poison has been inoculated much like that of snake-bite or like vaccine virus in vaccination, and like the latter has a very constant period of incubation. In such cases little benefit can be expected from the local application of antiseptics, as the poison has infected the whole system, and the result depends largely upon the amount and virulence of the inoculated poison.

The auto-genetic cases, on the other hand, occur most frequently in multipare after a long labor or one complicated with a putrid fœtus, a fibroid or cancerous tumor, or with post-partum hemorrhage, retention of clots, bits of membranes or placenta. In these cases a badly contracted uterus and lax abdominal walls favor the entrance of air and the consequent decomposition of the contents of the womb. A fetid discharge is thus produced, which may not infect the patient if it has a free escape, but which, if absorbed into the system from imperfect drainage, causes the condition designated by Matthews Duncan as sapremia or putrid absorption. In this class of cases, in marked distinction from those caused by septic inoculation, great benefit

<sup>3</sup> Dublin Journal of Medical Science, June, 1884.

follows the use of local disinfectants and the establishment of free drainage.

The prophylactic precautions against hetero-infection adopted in the Rotunda embrace strict antiseptic of everything that comes in contact with the patient, — the examining finger, the instruments, the bed-linen and napkins. The rubber catheter has given place to one of silver, which after use is kept for some time in a hot evaporating carbolie solution: vaginal and uterine tubes are of glass, and each patient is provided with tubes for her exclusive use. To guard against the injection of air into the uterus or vagina, which, besides being dangerous in itself, is liable to cause fetid lochia and subsequent auto-infection, syringes have been replaced with irrigators which act by gravity. Before every operation the vagina is irrigated and the external genitals carefully washed with a solution of corrosive sublimate, 1 in 2,000: the uterus is syringed out afterward and a pessary containing 5jss of iodoform is placed within its cavity. Vaginal examinations are made as infrequently as possible, diagnosis of position and presentation being made largely by careful abdominal palpation. If these precautions have been carefully carried out, the patient must be supposed to have thus far escaped hetero-infection, and there can be no necessity for prophylactic antiseptic injections, either vaginal or uterine, during the puerperium; but the genitals should be washed twice daily with plain warm water and a piece of oakum. Regarding the treatment of hetero-genetic infection Macan has very little to suggest, as he knows nothing that will quicken the elimination of the poison from the system. When a continuously high temperature begins to show its effect on the nervous system he would employ antipyretics, preferably quinine in large single doses of from ten to twenty grains, or the bath at 90°F. cooled gradually to 60°, together with alcohol in large quantities.

The two conditions essential to auto-infection are first a fetid discharge and second its retention within the genital tract. In order that the natural discharge should become fetid, air must have entered the uterus: hence the prophylaxis of auto-infection should consist primarily in preventing the entrance of air and secondly in removing any fetid accumulation within the uterus, disinfecting its cavity and providing for free drainage. Macan points out the great danger of the entrance of air in multiparae with lax abdominal walls, especially if they are allowed to lie upon the side during the third stage, and the uterus is not properly supported and good contraction subsequently maintained. A rational prophylaxis, therefore, dictates that after the birth of the child the patient should lie on her back, as in this position the intra-abdominal pressure upon the uterus is greatest and there is less liability of air being drawn into the genital canal by negative pressure. The fundus should be properly supported and firm contraction obtained with the aid of ergot and, if necessary, hot antiseptic injections. A binder should be firmly applied and the patient should maintain a dorsal position for several days, as in this position natural drainage is better attained. But if, in spite of these precautions, the lochia become fetid and the tempera-

ture becomes high and remains so for twenty-four or thirty-six hours, antiseptic intra-uterine treatment should be immediately instituted: the uterus should be washed with a 1 in 2,000 solution of corrosive sublimate and an iodoform suppository should be placed within the cavity. The great value of this use of iodoform is strenuously asserted by Macan, who has obtained with it the most gratifying results, not only from its antiseptic properties, but from its powerful effect as an antipyretic.

As a result of the careful prophylaxis thus briefly described, the master is able to show a mortality rate of only 0.55 per cent., and this rate comprises the total mortality from all causes, not alone of the period of labor, but of the puerperal state.

#### THE TREATMENT OF THE NAVEL IN THE NEWBORN.

Credé and Weber, in the first <sup>4</sup> of a series of communications from the obstetric clinic in Leipzig, consider this subject with reference to two dangers which threaten the child:—

(1) Secondary hæmorrhage from the umbilical cord.

(2) Inflammation of the navel itself.

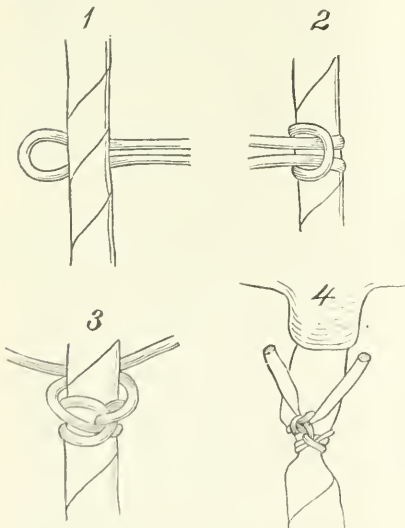
With the establishment of pulmonary respiration and the concomitant changes in the circulation of the newborn child, pulsation in the cord becomes weaker and weaker and, in from five to ten minutes, ceases: under normal circumstances no hæmorrhage follows the cutting of the cord after pulsation has ceased, as experience among animals shows, and it has been proposed at various times that ligation of the cord be dispensed with. The proposition has not met with favor, however, because of the danger of secondary hæmorrhage, which may ensue hours or even days after birth, under circumstances which cause increased activity of the heart or disturbances in the venous circulation.

Regarding the exact time when the ligature should be applied to the cord authorities are not agreed, because it is not exactly known how much of the total quantity of blood contained in the foetus and placenta belongs physiologically to the child. It is certain, however, that immediate ligation is not advisable, because thereby a considerable quantity of blood would be lost to the child. It is unnecessary to wait for complete cessation of pulsation, but until the pulsation is weak and the umbilical vein has collapsed: this would be under ordinary circumstances in from three to five minutes, when the child has cried lustily several times.

But of greater importance than the time when the cord should be ligated is the material with which it is tied. The linen string ordinarily used has not given satisfaction in the Leipzig clinic, where secondary hæmorrhages of various degrees have occurred almost every week. The authors have repeated the experiments of Budin and tested the efficiency of linen ligatures on fresh cords by injecting the latter with water under various degrees of pressure. It was found that with a single ligature on a cord rich in Wharton's jelly a moderate pressure sufficed to inject water through the point of ligation. Strong pressure was followed by a like result when the ligature was wound two, three,

<sup>4</sup>Archiv für Gynäkologie, Band xxiii, Heft 1.

and four times around the funis and tied as firmly as possible. The longer the time that elapsed between the application of the ligature and the injection of the cord, the less the pressure required to force water through the point of ligation. In other words it was found in the authors' experiments that with the shrinking of the stroma of a richly gelatinous cord the ligatures were so loosened that they could easily be slid from the point of application or turned around in a circle. Tarnier reports a case in which he observed hæmorrhage from a richly gelatinous cord a very short time after applying three firm string ligatures. Various expedients and materials have been from time to time suggested by which it has been sought to tie the cord securely; but the material which to the authors seems best to stand the test of experience is caoutchouc, originally proposed for this purpose by Budin. The authors have used small bands of this material, or slender rubber drainage tube, in their Leipzig clinic since July, 1883, and not a single case of secondary funic hæmorrhage has occurred. A band about eight inches long and one twelfth of an inch thick (or a piece of rubber drainage tube of corresponding strength) is applied to the cord in the manner shown in the figures, firmly tied and the ends cut short.



The authors have demonstrated to their satisfaction that with this ligature well applied secondary hæmorrhage is impossible, since owing to its elasticity the ligature fits itself to the shrinking cord and exerts a continuous pressure. As a single ligature is sufficient, it can be applied quite near to the umbilicus; this is an advantage not to be undervalued, for the shorter the residual cord, the less the danger of traumatic inflammation of the navel.

The subsequent treatment, which the authors

believe best calculated to prevent moist gangrene and septic inflammation of the navel, consists simply in enveloping the short residual cord in common absorbent cotton and applying the usual abdominal band. After the morning bath the cord is to be carefully dried, and fresh cotton applied: the process of mummification is thus promoted and the cotton acts as an excellent barrier to septic germs. The results from this treatment in the Leipzig clinic have been extremely favorable, and since its adoption inflammation of the navel has not been observed.

#### EMPHYSEMA OF THE NECK OCCURRING DURING LABOR.

Mr. F. H. Champneys (London) has made an experimental inquiry into this subject and reported his results to the Royal Medical and Chirurgical Society at a recent meeting.<sup>5</sup> It appears that the accident occurs about once in two thousand labors and is caused by the violent and prolonged expiratory efforts of the second stage. The emphysematous swelling appears first at or about the supra-sternal notch, whence it may extend in all directions: the air is absorbed within a week or so, and the cases always end favorably.

In making his experiments Mr. Champneys used healthy fetuses (with two exceptions): tracheotomy was performed and the trachea connected by a T tube with a mercury manometer, leaving an open tube for inflation. Some of the experiments were performed with the lungs in situ, others with the thorax open, others with the lungs removed from the chest. The conclusions from the experiments were the following:—

"(1) The cause of emphysema of the neck during labor is rupture of the lung tissue, the air escaping near the root of the lung, passing beneath the pulmonary pleura into the anterior mediastinum, and so beneath the deep cervical fascia into the neck."

"(2) The weakest parts of the lung are opposite the pleural reflections, that is, the spaces between the lobules and the fissures between the lobes, and especially the anterior surface of the root of the lung."

"(3) Pneumothorax, when it occurred during experiment, had nothing to do with the production of emphysema of the neck. The healthy bronchi and trachea are able to resist the greatest possible expiratory efforts."

"(4) The lungs and pleura, when quite air-tight, are freely permeable to liquids."

"(5) The usual rules of practice, to restrain bearing down and accelerate labor after the production of emphysema, are sound."

"(6) The accident would seem to be noted in about one case in two thousand; but it is not improbable that slight cases are overlooked."

"(7) The air emerges from the thorax along the great vessels, but may not become superficial till it has traveled higher up."

"(8) The emphysema of the lower part of the trunk, usually connected with rupture of the uterus, belongs to quite a different category, and is generally associated with a fatal result."

<sup>5</sup> British Medical Journal, November 15, 1884.

## Therapeutic Memoranda.

### COCAINE DISCS.

#### A CONVENIENT FORM FOR ADMINISTRATION.

BY JOSEPH W. WARREN, M.D.

A FEW weeks since I suggested to MESSRS. Metcalf & Co. that gelatine discs, impregnated with *cocaini hydrochloras* would probably prove a great convenience in local applications. After several experiments as to details of manufacture they finally sent me a delicate sheet of little squares, each containing one twenty-fifth of a grain (0.0026 gm.), or about half a drop of an 8 per cent. solution. A trial of these convinces me that this form of administration will be exceedingly satisfactory, not only especially for all work on the eye, but also in many other portions of the body where local anesthesia is required. The advantages of the method are in the economy and convenience of dosage (since there seems to be no danger of poisoning from any of the usual dilutions), in exactness of application, and in the ease with which the drug may be carried.

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES H. WILLIAMS, M.D., SECRETARY.

DECEMBER 1, 1884. DR. H. L. BURRELL read a paper on

#### THE MANAGEMENT OF PATIENTS DURING ETHERIZATION.<sup>1</sup>

DR. H. DERBY said: The state of mind in which the average patient approaches etherization is, in my opinion, too often not considered. Artificial insensibility to pain seems to the surgeon so eminently desirable, its production so much a matter of course, and too often of routine, that he is very apt to forget that his patient may entertain very different feelings on the subject. And this is true not only of the lower classes and the uneducated, but it is a factor to be taken into account even with the most intelligent.

The repugnance of the ordinary hospital patient to ether is easily understood. Even when he has never yet taken it himself, he has come in contact with plenty who have. He knows the operator's time is limited, and that one has to be made insensible as quickly as possible. He has heard all about the restraint that has been put upon him, the attendants who will control his struggles, the sponge jammed close to his face, the short spasm of suffocation. He naturally dreads the process, and is apt to object even more strenuously to its repetition.

Then there are many, belonging to a class superior to the foregoing, who are convinced either that some organic defect prevents them from taking ether, or whose experience with some dentist has been unsuccessful. They are convinced that they

cannot be brought under the influence of the agent, or that the consequence of its administration will be fatal. That this is more than a mere notion the following anecdote will illustrate. Some years ago I had to remove an eye from a young man of twenty or thereabouts, of foreign birth. He dreaded the operation not at all, the ether vastly. His friends assured him it was his duty to submit himself to me unreservedly and he did so, I assuring him there was not the least danger. As he was coming out of the ether some peculiarity about what I had thought to be his nightdress arrested my attention. It turned out that, so firmly had the poor fellow believed his last hour had come, he had prepared himself for death according to all the rites of his faith and gone to bed with his grave-clothes on, in order to save the family the trouble of putting them on afterward.

Finally, analogous to the vague dread of physical death, so firmly implanted in our nature, is the repugnance to the voluntary surrender of consciousness. This is the feeling most thoroughly developed in the highly educated: and frequently requires great strength of will to overcome. From all this it results that, no matter who the patient, etherization will be more easily effected if pains be taken to mitigate the fear felt by almost every one toward it, and that a greater effort should be made than generally is to render its administration as easy as possible. The patient should be assured, in the outset, that ether may be given and sleep produced with as much ease, or nearly so, as a nurse puts a tired child to sleep. And his confidence, thus acquired, will be strengthened if he takes the ether from the hand of the surgeon with whom he is already acquainted, instead of having it administered by a strange assistant.

My own custom is to have nobody in the room except the nurse, in rare cases a single friend if the patient insists upon it. After telling him to dismiss from his mind any apprehension of danger as utterly idle, I tell him that the first contact of the vapor with the lungs is apt to be a little irritating, and that he will be strongly tempted to put up his hand and push away the napkin, a movement I particularly desire he will avoid; promising him, at the same time, that if he formally requests it, I will remove the ether from his face at any moment. Often after this there is no attempt to rid himself of the ether, no disposition to struggle. I use a napkin folded as a cone, both to economize the ether and to avoid the necessity of turning as the fluid gravitates, a most annoying thing about the sponge. This napkin is never crowded down on the face the first thing, a proceeding as inhuman as it is unnecessary and sure to involve a struggle. On the contrary it is held at first a short distance from the face, and then gradually approached as the patient gets used to the fumes of the ether. After a short time has elapsed a very general remark on the part of the patient is something like the following: "Doctor, I'm not asleep yet." "Don't you think I'm hard to affect?" "Promise me you won't touch me till I am off." These apparently trivial sayings are mentioned as indications of a feeling very frequently met with at this stage, a suspicion on the part of the patient that the surgeon is

<sup>1</sup> See pages 97-99.

getting dissatisfied with the slow rate at which the process is going on, and is on the point of administering the ether at a more rapid rate, or cutting off the supply of air. It is, therefore, now that an assurance that everything is going on perfectly well, and that there is absolutely no hurry, is of the greatest value, and the patient, on its being given, often sinks off contentedly to sleep.

Early in the etherization I always watch the patient's hands. If he half consciously puts them up to brush away the napkin, I speak pleasantly but decidedly to him, and request him to take away his hand, and even to put it back under the bed covering. If nothing less will satisfy him, I even remove the napkin for an instant. It is often found that all he wishes is to clear his throat; which, once accomplished, perfectly contents him. I seldom use the slightest force in the way of restraint, and I regard this maxim as the secret of peaceable and pleasant etherization. Look out for the medical spectator, if one happens to be in the room. Before the patient has raised his hand half way up to his nose, he has him pinned by both wrists. Every evil passion in the patient's nature is at once roused, and a severe struggle is apt to ensue; a thing wholly unnecessary if a little tact had been employed.

I am far from saying that there are not exceptional cases, met with among hysterical women, fighting characters of the male sex, and the like, where some constraint may not have to be employed before perfect insensibility is produced. But such instances are few and far between, and can generally be anticipated. I then direct a ward-tender to wait outside the door, but never let the patient know he is in waiting, and in the majority of instances do not have to employ him.

In brief, a little patience with human ignorance and weakness, a little kindness, a good deal of firmness, and an entire absence of assistants, ward-tenders, and apparatus, and a willingness to spend a little extra time, are all that is needed to bring about an etherization that is not only reasonably pleasant in itself, but leaves the patient willing to go through the thing again; a result not always to be met with in these days. Let the patient be treated as a human, reasonable being, both before and after the process, and not like an irresponsible and dangerous lunatic.

Dr. O. F. WADSWORTH had found it of use to ask questions of the patient when the state of excitement begins, and insist on an answer, as a means of diverting his attention.

Dr. E. G. CUTLER said that the tongue can be kept out of the way by holding up the chin. It is also necessary to see that the patient is well covered, as perspiration is often abundant, and in weak patients the exposure to cold is an element of danger. The sponge or towel should be frequently wrung out to remove the old ether. He has found Powers and Wightman's ether less irritating than Squibb's.

Dr. E. D. SPEAR recommended using some stimulant, such as ammonia, in every case. Dr. BERRY had found that bromides beforehand made the patient easier to etherize and quieter afterward. Dr. C. B. PORTER takes off the sponge during each

expiration, and so brings the patient to feel that he is getting a chance to breathe; when the mouth is forcibly opened, a spasm of the glottis is sometimes observed, perhaps from the ether getting into the mouth and throat. He does not like paper cones, and prefers Powers and Wightman's ether, as less irritating. He prefers to hold a finger in the side of the mouth to pull the chin forward and keep a free passage open for breathing; as, when the chin is pressed forward, an unconscious pressure is often made on the throat, which is bad. Frothy mucus is a great difficulty, but he has never seen a patient who could not be etherized.

Dr. E. H. BRADFORD spoke of the stage of primary anesthesia as being very good for small operations, shown when patient could no longer hold up his hand. He had seen Mr. Clover administer laughing-gas, followed by ether, without a struggle. He considered Squibb's ether the best; that of other makers was not always reliable, as had been found at the City Hospital. If one hand of the patient is held behind his back, he cannot get up during etherization.

Dr. BUCKINGHAM always had the patient eat something one or two hours before taking the ether. Dr. GAY spoke of the advantage of always having an air space inside the cone, so that the ether should not touch the face. Among inhalers he considered Underwood's the best. In one case he had seen alarming collapse in a hearty man without apparent reason; has also seen it in cases of old impaired kidneys. It is always important in operations about the face to guard against blood getting into the trachea; also, great care should be used in cases of fluid in the chest. He uses opiates before etherization, for their stimulant and subsequent soothing effect. The stage of primary anesthesia is good for small operations; the patient kicks, but does not feel the pain.

Dr. H. I. BOWDITCH urged the importance of avoiding ether in effusions in the chest.

Dr. A. T. CANOR said that in connection with Dr. Bowditch's remarks he would mention a case which occurred in his practice. A girl of about twenty, who had an empyema of three years' standing, was etherized for the purpose of establishing an opening with drainage. Her respiration was perfectly easy, at twenty to the minute, and her pulse, though rapid (120), was of fair character. Ether was administered by a skilful assistant, and when anesthesia was sufficient the operation was begun by introducing an aspirator needle through the point selected for the opening. The patient winced somewhat at the entry of the needle. No pus was obtained.

While percussing the chest with the object of selecting a new point for operation the assistant said that the patient was in a poor state. She was pale and breathing badly. She was at once laid down and the pulse at the wrist was found to be imperceptible; in spite of ammonia applied to the nostrils and prolonged effort at artificial respiration, she did not rally. The difficulty seemed to be primarily in the heart. The autopsy made by Dr. Gannett showed the other lung in a fairly healthy condition; on the affected side (the left) there was no lung tissue proper, only a fibrous cake

at the top of the chest. The much-contracted pleural cavity contained about ten to twelve ounces of pus. The opinion that death was from heart failure seemed to be justified by the appearances on autopsy as well as by the symptoms. An examination of the ether bottle showed that only about two ounces had been used. Dr. Cabot said that his feeling at the time and since had been that syncope was induced by sitting the patient up to operate, aided somewhat by the nausea of a not very complete etherization and by the shock of the introduction of the needle, from which as was said the patient winced. Quite possibly a more complete etherization with its absence of nausea and shock and with its well-known stimulant effect would have prevented the disastrous consequences. The pulse and respiration of this patient were certainly no worse than in many cases successfully etherized.

Dr. FITZ said that post-mortem examination in one or two of these cases had led him to believe that the death was from heart failure, as it seemed to have been in Dr. Cabot's case.

Dr. BURRELL said he had noticed in a case of empyema that when complete anesthesia was established the pulse stopped, but began again when the ether was removed and the chest had been opened, allowing the pus to escape.

## SUFFOLK DISTRICT MEDICAL SOCIETY.

### SURGICAL SECTION.

S. J. MIXTER, SECRETARY.

JANUARY 7, 1885. DR. J. W. ELLIOT reported FIVE SUCCESSFUL CASES OF OVARIOTOMY.<sup>1</sup>

DR. LOMBARD inquired as to the relative value of short and long incisions.

Dr. ELLIOT said that the statistics of the most successful operations show that the short incision gives the best results. At the same time the incision should be long enough to allow sufficient room to work in.

In reply to questions by Dr. PORTER as to hæmorrhage and the methods of controlling it, the reader stated that in one of the reported cases the ovarian artery was tied early in the operation; in the others the bleeding points were tied as they appeared. In many cases a temporary ligature may be placed about the pedicle. The case where the contents of the cyst escaped into the abdominal cavity did not do as well as the others. There were some spots of active peritonitis at the time of operation, and an abscess formed in the wound, as stated, which did not communicate with the abdominal cavity.

The reader objects to the use of drainage tubes. Great care is taken that the operation should be as aseptic as possible, and the abdomen is closed. Should trouble develop later the wound may be opened and a tube introduced. Ulzhausen recommends sewing up of the abdominal cavity without drainage, even when part of the cyst is left. This is, however, contrary to the general practice.

In reply to Dr. BURRELL, Dr. ELLIOT said that the principal point in the after treatment is to let

the patient as much alone as possible. For the first twenty-four hours no food is allowed, then equal parts of boiled milk and lime-water are given in teaspoonful doses every hour. If this is borne, the quantity is gradually increased. Brandy is given by the rectum if the pulse is weak, and opium is given in the same manner if necessary.

Dr. E. W. CUSHING called the attention of the society to the use of purified naphthaline for cystitis with ammoniacal urine, as recommended by Rossbach, of Jena (*Berl. Klin. Woch. ft. No. 42, October 20, 1884*), also (*Berl. Klin. Woch. ft. No. 46, November 17, 1884*).

Dr. CUSHING reported a case of an elderly patient, who suffered from cystitis with intensely ammoniacal and foul urine, who had been treated with daily washing out of the bladder with carbolic solutions, etc. The naphthaline was tried as Rossbach recommends:—

R	Naphthalini puriss.	5.00
	Sacch. alb.	5.00
	Ol. Bergamotte	.03
M.	ft. pulv. No. XX.	

One powder every two hours to commence, each containing about four grains in wafers or capsules and simply mixed with water or flaxseed tea. On the second day the foul smell of the urine and of the room had disappeared, and it was thought to be due to the medicine, as during this time the washing out of the bladder was suspended. Afterward, however, local treatment of the bladder with boracic acid injections was combined with the naphthaline internally with the happiest results. Dr. CUSHING does not wish to draw conclusions from one case, but merely to suggest further trial of this drug.

In response to questions, he stated that naphthaline is one of the solid products of petroleum, and is insoluble in water, but soluble in naphtha, etc., and has already a high reputation as a destroyer of low organisms, being used in the museums at Cambridge, and elsewhere, to preserve specimens when painted over them.

Rossbach claims that, while not poisonous to man, it will act on bacteria, etc., in the intestinal cavity, and claims great results from its use in chronic intestinal catarrh, acute intestinal catarrh, cholera infantum, cholera nostras, typhoid fever, etc. Accidentally he noticed that the urine of patients under treatment was prevented from fermentation by some products formed in the body, which led him to try it in the cases of cystitis where the urine contained cocci and fermented in the bladder. Babo has some of the pure drug.

Dr. CANOR inquired if any mechanical treatment had been attempted before the use of naphthaline.

Dr. CUSHING said that the regular treatment of cystitis in such cases had been tried without marked success, before the naphthaline was begun, and was then given up.

Dr. WALLACE FREBLE reported a case of

### FOREIGN BODY IN ESOPHAGUS SUCCESSFULLY TREATED BY ANOMORPHIA.

A strong Irishwoman presented herself for treatment one hour after a hearty meal of mutton stew. Soon after the meal she vomited a little blood and felt a sharp pain in her throat especially

<sup>1</sup> See pages 99, 101.

with inspiration or swallowing. The examining finger in the fauces and the laryngoscope revealed nothing; but externally just behind the cricoid cartilage something could be felt to move and grate a little. The subcutaneous injection of apomorphia (grain one twentieth) caused vomiting in eight minutes, with the relief of all the symptoms and the removal with the vomitus of a piece of sheep's rib one and one-half inches long and half an inch wide, with very sharp ragged edges.

Dr. PORTER spoke of a case recently under his care in the hospital of a man who had swallowed five false teeth attached to a plate. They lodged in the œsophagus and could be felt, and were finally caught by winged probang such as is used for taking coins from the œsophagus, and drawn to the lower part of the pharynx, but before they could be seized with forceps they were again swallowed and could not again be felt. The patient was seen several times afterward, but he has at last accounts suffered no ill effects from the foreign body in the stomach or intestine.

Dr. A. T. CABOT spoke of a symptom that he had never seen mentioned in cases of foreign bodies in the œsophagus, observed by him in the case of a boy with a piece of tough beef impacted behind the cricoid cartilage. This symptom was flexion of the neck, any attempt to straighten it causing excruciating pain. After the fragment had been pushed on into the stomach by a probang, the symptom disappeared at once.

The Chairman, Dr. C. B. PORTER, reported a case of

#### COMPOUND FRACTURE OF THE LEG.

The patient, a man forty-five years of age, was run over by a milk-cart, September 21, 1884, sustaining a compound comminuted fracture of the right leg just above the ankle-joint, there being a short lacerated wound on the outside of the leg, at the seat of fracture. The patient was etherized and fifteen or twenty small fragments of bone were removed from the wound, and about an inch of the fibula was found to have been entirely destroyed. The tibia was cut down upon, the sharp ends of the fragments were sawn off and the fragments wired together with large silver wire. A drainage tube was passed through the leg behind the bones. After sewing up the wounds, they were dusted with iodoform and dressed with dry cotton-batting, and the leg put up in ham and side splints. The operation was performed under carbolic spray. On the following day the dressing was changed and a full Lister dressing was applied. This was changed at varying intervals, the wound doing uninterruptedly well, and the discharge being very small in amount. On November 8th, six weeks and five days after the operation, the wire was removed. The leg was in Lister dressing from September 21st to December 17th, twelve weeks and a half, the dressing being changed ten times. Between October 8th and 25th it remained without renewal. On January 2d the wounds had entirely healed, and the union being firm, all splints and dressings were omitted. Dr. Porter showed the patient and called attention to the very favorable result in a case where there was such extensive comminution.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, January 15, 1885.

#### ANNUAL ELECTION OF OFFICERS.

The annual election of officers resulted as follows: President, Dr. A. Jacobi; Vice-President, Dr. C. C. Lee; Corresponding Secretary, Dr. L. Elsberg; Member of the Board of Trustees, Dr. A. L. Loomis; Member of the Committee on Admissions, Dr. A. S. Hunter; Member of the Committee on Medical Education, Dr. F. R. Sturgis; Member of the Committee on Ethics, Dr. Andrew H. Smith; Member of the Committee on Library, Dr. E. D. Hudson. The

#### ANNUAL REPORTS OF OFFICERS.

were read; and that of the treasurer of the Board of Trustees showed that during the past year \$1,880 had been contributed toward the liquidation of the mortgage on the building of the Academy. The report of the Library Committee showed the library now contains about 35,000 bound volumes and 9,000 pamphlets, and that during the past year there has been added to it 1,278 bound volumes and 1,875 pamphlets, in addition to 7,814 medical journals.

#### DEMONSTRATION OF KOCH'S CHOLERA BACILLI.

Dr. E. C. WENDT gave an exhibition under the microscope of cholera bacilli which he said had been sent to him by Dr. Robert Koch, of Berlin, and constituted the only authentic specimen now in this country, with the exception of one in the possession of Dr. Billings, of the United States Army. Under another microscope were exhibited specimens of the bacteria of the mouth, some of which Mr. Timothy Lewis, of the British Army, had claimed were apparently identical with the cholera bacilli of Koch. Although the latter microscope was of 800 smaller power than the former, Dr. Wendt thought there was no difficulty whatever in observing the marked differences between the two microbes.

Dr. W. D. SCHUYLER exhibited a

#### NEW OBSTETRIC FORCEPS AND VAGINAL SPECULUM.

The forceps are characterized by a well-marked pelvic curve, a somewhat short cephalic curve, and shanks that are shortened, closely approximated, and having a decided curve upward. It was claimed that they could be used with special advantage in cases of small ostium vaginæ and of marked elevation of the perineum, such as are frequently met with in primiparae, and also in cases where it was not advisable to bring the patient to the edge of the bed. The speculum was a self-retaining one and consisted of a combination of Sims's, Thomas's, and Nott's specula. Both these instruments had been previously described in the *New York Medical Journal*.

Dr. FREDERICK A. CARTER said that the speculum now offered for sale as the Nott speculum was an entirely different instrument from that originally devised by the late Dr. Nott. It was his design that it should be used in the Sims position; but in order to adapt it for use while the patient was lying upon the back the instrument-makers had changed its character altogether.

DR. W. GILL WYLIE read a paper on

DISEASES OF THE FALLOPIAN TUBES: THEIR RELATIONS TO UTERINE DISPLACEMENTS AND THE USE OF PESSARIES.

Having alluded to the brilliant achievements of Lawson Tait in operations for the removal of diseased Fallopian tubes, he said that since May, 1883, he had himself operated in fourteen cases, nine of which were at Bellevue Hospital and five in private practice. Out of the fourteen patients two died: both of them being hospital cases and both dying of septicæmia on the fifth day. Eight of the cases were of pyosalpinx, two of hydrosalpinx, and four of catarrhal diseases of the tubes with peritoneal adhesions. With four exceptions, the ovaries were also diseased and attached to the tubes by adhesions.

An increased knowledge of disease of the tubes would, he thought, do much toward clearing up the subject of local peritonitis, which was often erroneously attributed in this country to cellulitis. Retroflexion and lateral versions of the uterus, with adhesions, were also frequently due to salpingitis. When such was the case, it could readily be understood how much injury might result from the use of pessaries under these circumstances. With the light thus thrown on the subject, the mechanical theory of uterine displacements, he believed, would sink into insignificance, and the space which had heretofore been given to it in the textbooks would in the future be devoted to a consideration of diseases of the Fallopian tubes, with their consequences and treatment. As to the ætiology of these affections, they are, as a rule, due to the extension of some pathological process from the lining membrane of the uterus to that of the tubes. In injuries salpingitis was comparatively rare.

Gonorrhœa was a frequent cause of such disease, and in stating his convictions on this point, a number of years ago, Dr. Noeggerath had been well in advance of the scientific thought of the profession. Whether Dr. Noeggerath had as yet succeeded in establishing the invariable presence of the gonococcus, he was not able to state. The sterility that was so common among prostitutes was accounted for by the frequent existence of salpingitis in this class of women. Other causes of salpingitis are syphilis and septic poisoning after abortion and labor at full term. It had been found that local peritonitis was much more common over the posterior surface of the broad ligaments than over the anterior, and this was because the Fallopian tubes opened upon the posterior surface. His experience, he said, led him to attach much more importance to localized peritonitis than to cellulitis, and while phlegmons are undoubtedly sometimes met with in the cellular tissue, he no longer believed in the existence of the so-called chronic cellulitis. Hysterocœlepsy and allied affections, Dr. Wylie thought, are always associated with degeneration of the ovaries accompanied with a catarrhal condition of the Fallopian tubes.

The subjective symptoms of salpingitis could not be distinguished, as a rule, from those of other diseased conditions of the pelvic organs. As to the objective symptoms, while they might not be under-

stood by an inexperienced observer, he thought the expert ought to have no difficulty in making them out if proper care were observed. It was his own practice to subject his patients to a prolonged course of preparatory treatment, consisting principally of applications of glycerine and alum; and when this had been done he believed that a positive diagnosis could almost always be made with ease. For our knowledge of the pathology of salpingitis, he continued, we had to depend entirely on the German writers, who had given a full and accurate account of it. As had been before remarked, the affection was almost always due to an extension of an inflammatory process from the endometrium to the tubes. The manifestations of this diseased action, however, differed in accordance with the difference of the parts in size, shape, and the character of the mucous membrane in each. Moreover, as the tubes could not be reached by local treatment, salpingitis almost always caused a greater or less amount of peritonitis, and almost always became chronic.

If it were supposed that the uterus were enlarged and bent backward, and that the tubes were involved in an inflammation extending from the endometrium, it could be seen how lymph pouring out from them into the peritoneum would be likely to produce attacks of peritonitis. As the process went on, the broad ligaments would become rolled up with the tubes, and the ovaries be firmly fixed in them. Under such circumstances the pain produced by pessaries warned us against their use; but if this was persisted in, there was great danger of causing thereby a rupture of the inflamed tubes, which were usually swollen and filled with infectious matter. Having spoken at further length of the surgical pathology, and the manner in which the displaced uterus became fixed as a consequence of the salpingitis, Dr. Wylie referred to the treatment in cases with adhesions, where operative interference was not permitted. Instead of attempting to keep the uterus in position by means of pessaries, he said he was satisfied if he could get it in a movable condition, as far as possible.

He had succeeded in tapping three cases. One of them was cured by this procedure; but he believed it was in reality a case of abscess which had formed in the site of an old hamatocœle. The other was benefited, but not cured, by the tapping; and the only cure for these cases he believed to be the complete removal of the ovary and tube on both sides. The concluding portion of the paper was devoted to the best methods of performing this operation. In opening the abdomen he believed it was important that a small incision should be made. It should not be larger than three fingers' breadth, which would allow the free use of two fingers in the wound; for if a larger opening was made, ventral hernia was liable to result, because the abdominal walls had not been previously distended, as was the case when there were larger tumors present. It was also important after the removal of the ovaries and tubes to secure perfect apposition of the deep fascia lata. It was his practice to feed his patients solely upon paucerealized milk for a few days before operating, as this had the effect of greatly diminishing the quantity of gas in the intestines and ren-

dering them so flaccid that they would not interfere with the operation. When the omentum was found to be in the way and held fast by adhesions, he advised that the operator should get two fingers underneath it in one of the fossae, when the adhesions could easily be separated. In order to get at the ovary with facility, it was advisable to elevate the uterus and unroll the convoluted broad ligament.

DR. NOEGGERATH said that at the recent International Medical Congress in Copenhagen it had been clearly shown that the name "Tait's Operation" was a misnomer, since long before Tait had published his first cases, Hegar had reported (in September, 1879) no less than forty-two cases. Personally he was of the opinion that most cases of salpingitis are caused by gonorrhoea. He had for a long time been engaged in special studies to demonstrate the presence of gonococci, but had not, as yet, succeeded. The difficulty was that no gelatine had yet been found in which the gonococci could be raised. As to the relations between salpingitis and the inflammatory processes resulting therefrom and dislocations of the uterus, he believed that lateral versions combined with anteversion were the distinct form of displacement dependent on this disorder. Retroversion was met with in exceptional cases, in connection with pyosalpinx and hydrosalpinx; but in the great majority of cases of salpingitis, when the amount of exudation was not extreme, but the uterus was immovable, or only slightly movable, there would be found anteversion with slight lateral version. Retroversion with adhesions was rare in his experience.

It was not necessary to feel the tubes themselves in order to make a diagnosis; since peritonitis without salpingitis was extremely rare. The shape of the tumor, in cases where this could be made out was, however, of great importance. It was, as a rule, divided into three sections, conical in outline, and extending in the direction of the lateral diameter of the pelvis. As to the treatment, in the extreme cases nothing could be done except to resort to operation; but the large majority of cases were not ready for so radical a procedure, and something else had to be done for them. There was one kind of treatment which was much more successful than any other of which he was aware, and that was a sojourn at Franzensbad, in Bohemia; and he had seen a number of cases which had been practically cured by this, which for years had resisted all sorts of treatment both in this country and in Europe.

DR. SKENE, of Brooklyn, agreed with Dr. Noeggerath that it was a rare thing to see salpingitis unless it had been produced by gonorrhoea. On the other hand, he differed from Dr. Noeggerath in believing that perimetritis without any implication of the tubes was not at all rare. In the matter of diagnosis, he thought it was very difficult to distinguish between an enlarged tube, especially in the condition of hydrosalpinx, and a cystic ovary in Douglas's *cul-de-sac*. There was one point which had been overlooked, but which he thought might be of service in making a diagnosis, and that was aspiration. If ciliated epithelium was so common in pyosalpinx and hydrosalpinx as was represented, it was only necessary to draw off some fluid and examine it. Out of twenty-one specimens which

he had investigated, the epithelium was found in eighteen. This raised the question of treatment, and he believed that it was a fact that many cases had been operated on before other measures had been given a fair trial. This he believed to be due to a large extent to Tait's example and success; and he thought that operation should never be resorted to until more conservative means had been thoroughly tried. In pyo- and hydro-salpinx aspiration might perhaps result in a cure; the tube not refilling after the fluid had been withdrawn. Aspiration, therefore, he thought, might prove useful as a means of diagnosis and of treatment.

DR. MENDE said that he had paid special attention to the matter of diagnosis in salpingitis. He was, however, not yet satisfied on this point, and he thought that Dr. Wylie had failed to throw additional light upon it in his paper this evening. In the cases where it was most needed it was at present impossible to arrive at a positive diagnosis. In well-marked instances of pyo- and hydro-salpinx there was not this difficulty, and in such cases he had twice performed aspiration without the subsequent refilling of the tubal sac. The cases in which Dr. Wylie had operated seemed for the most part to be those of the kind in which there was diffuse thickening and infiltration in each broad ligament, with the occurrence of pain and a discharge of harmless matter at irregular intervals. In such cases he did not see how it was possible to make a positive diagnosis without resorting to laparotomy, and until we could perform this operation with the same success as Tait in England, he thought it was advisable not to attempt it. Under any circumstances, he did not think that gynaecologists would perform laparotomy very often in this condition; and it was his firm conviction that we were only justified in resorting to it in those cases of salpingitis in which a sausage-shaped tumor was present and there was no room for doubt about the diagnosis. As to displacements in connection with salpingitis, he believed that retroversion was as common as anteversion; although he agreed with Dr. Noeggerath that in the majority of cases of retroversion the uterus was not bound down by adhesions. In speaking of the treatment, Dr. Mundé recommended the systematic use of the galvanic current, from which he said he had seen considerable benefit derived in quite a number of instances. It seemed to have the effect of reducing the diffuse swelling and relieving pain; but he did not think that cases of hydrosalpinx could be cured by this means.

DR. WYLIE said that on account of the length of his paper he had omitted a considerable portion of it in the reading, and in the part omitted he had dwelt particularly on the assistance of preparatory treatment in enabling us to make a diagnosis. It was his practice to make applications of glycerine and alum on a thin pledget of cotton two or three times a week for at least six weeks, and sometimes for three months. Then, at the end of this course of preparatory treatment, he was in the habit of putting the patient under ether; when, the thickening of the tissues having been relieved by the glycerine and alum applications, there was usually no difficulty whatever in determining the exact size and shape of the Fallopian tubes. If Dr. Mundé would

adopt this plan, he felt convinced that he would not have the trouble in making the diagnosis, of which he had spoken.

But even if we did not feel positive that the tubes were diseased, there could be little doubt that the ovaries were in an abnormal condition; and he had rarely met with disease of these organs without accompanying disease of the tubes. In all the fourteen cases in which he had operated there was hardly one in which there was not more or less perimetritis. He therefore did not feel in doubt in regard to the diagnosis in these cases; and in all the more recent ones in which he had performed laparotomy he had been enabled to announce to his class the exact condition which would be found on opening the abdomen. As to aspiration, he had himself employed this, but not in the way that Dr. Skeene had suggested. The simple drawing off of the fluid would not, he believed, cure the patient, because in these cases of salpingitis a pyogenic membrane was formed, which would continue to cause accumulations. Diagnosis by aspiration had been proposed by Dr. Ferguson; but he thought it was safer to follow Tait's admonition: not to be tapping tumors upon which you were going to operate. The cases in which he had resorted to aspiration were those in which drainage was required. In the matter of displacements of the uterus in connection with salpingitis, his experience went to show that in women who had not borne children anteversion and lateral version were usually met with; while in others the salpingitis was nearly always associated with retroversion.

#### REPORT OF THE COMMITTEE ON MEDICAL EDUCATION ON A STATE BOARD OF EXAMINERS.

Dr. C. C. LEE, chairman of the Committee on Medical Education, reported, in regard to a series of resolutions which had been referred to it at the last meeting, recommending that the Academy should urge the passage of a bill by the Legislature providing for the formation of a State Board of Examiners with power to grant licenses to practise medicine, that, in the opinion of the committee, it was inexpedient that the Academy should take such action at the present time.

#### MEETING OF THE AMERICAN SOCIETY OF PUBLIC ANALYSTS, JANUARY 12th, IN BROOKLYN, N. Y.

A MEETING of the American Society of Public Analysts was held January 12th, with Dr. E. H. Bartley, of the Brooklyn Board of Health, in the chair.

Dr. CYRUS EDSON, of the New York Health Board, spoke of the decomposition of gelatine used to adulterate currant jelly, and of the use of chemicals in the curing of meats and the preparation of head cheese and sausages. In the latter borax, boracic acid, saltpetre, and phosphate were employed to such an extent to prevent decomposition that there was often a full medicinal dose in each meal made on them.

The rest of the session was spent in discussing brewers' grains as a food for milch cows, and they were condemned as injurious on account of their

tendency to shorten the lives of the animals and their effect of making the milk thin, reducing the quantity of fat and sugar below the normal standard, and increasing the amount of casein.

Dr. JOHN L. FINNEY, health officer of Port Richmond, stated that on account of the lupuline contained in these grains cows habitually fed upon them after a time get into the condition of persons addicted to the opium habit, and that the close confinement to which they are subjected added to the depression of their narcotism. In Orange County contracts for milk it was stipulated that grains should not be fed to the cows.

### Recent Literature.

*The Principles and Practice of Gynecology.* By THOMAS ADDIS EMMET, M.D. Third edition. Thoroughly revised. Philadelphia: Henry C. Lea's Son & Co. 1884.

We give a very hearty welcome to this book, for with so original a thinker and practical a worker as Dr. Emmet, four years in his life represents much that is new and of value to the profession. The work may now be said to fairly represent the present position of gynecology in America, and is one of the best, if not the best, that we have in the English language.

It has in this edition been "thoroughly revised, a great deal left out, and much new matter added." The author says in the preface: "The chapters on prolapse of the vaginal walls; on lacerations at the vaginal outlet, and through the sphincter ani and perineum; on the methods of partial and complete removal of the uterus for malignant disease; on the surgical treatment of fibrous tumors; on diseases of the Fallopian tubes, and on diseases of the urethra, are essentially new, containing the views and experience of the author in a form which has not been presented to the profession before."

Of these the chapter on prolapse of the posterior vaginal wall, in which the author describes the inside operation, by which the woman is saved much pain, and the after treatment is simplified, and that on diseases of the urethra, with the button-hole operations for affections of this canal, seem to us the most original and the most useful to the profession. While we have no doubt that the *rationale* of the first operation is perfectly clear to Dr. Emmet, yet we must confess to an inability to thoroughly understand the explanation of his views as to the function of the perineal body and its importance. The description of his operation, too, is not so clear and simple as we could wish; in fact, if there is any one criticism which we would apply to the whole book it is that of diffuseness and lack of simplicity. Many of the tables are complicated and unnecessary, showing a vast amount of work, we admit, but adding little that is valuable to our knowledge.

In spite of these minor defects it still remains a worthy exponent of a life devoted to the study and practice of gynecology; a book that will be of immense value to the profession at large, and one which will be a stimulus to better work wherever it is read.

*A Textbook of Hygiene: A Comprehensive Treatise on the Principles and Practice of Preventive Medicine from an American Standpoint.* By GEORGE H. ROHÉ, M.D., Professor of Hygiene, etc. etc. Baltimore: Thomas & Evans. 1885. Pp. 324.

Dr. Rohé has grouped together in this volume the various subjects comprised under the title of Hygiene. The arrangement of topics is convenient, and the general plan comprehensive. The subjects embraced in the chapters on Air, Water, Food, Soil, Removal of Sewage, Industrial Hygiene, and History of Epidemic Diseases, are fairly treated, while the important topics of Ventilation, Exercise and Training, Disinfectants, and Vital Statistics, would appear to have deserved a larger share of attention. The subject of ventilation especially is of sufficient importance to demand a separate chapter by itself.

While the author disarms criticism by saying in his preface that the volume contains but little new material, we cannot refrain from noticing certain obscure passages.

"The drainage of diluted sewage through a stratum of porous soil, not already saturated with putrefying matter, has no especially bad significance, even if the liquid should reach a well used as a source of drinking-water. It is probable that by the time the liquid portion of the sewage reached the well it would have arrived at that point when it could truthfully be termed pure water. At the same time it must be remembered that the purifying power of the soil cannot be relied upon if the supply of sewage or other animal or vegetable impurity is too abundant."

The adoption of any form of sewerage, either combined or separate, must depend largely on local conditions, hence the disposal of this question on pages 113 and 114 is too sweeping and arbitrary.

In alluding to the mode of propagation of vaccine virus, on page 264 the writer says:—

"Animal virus is obtained by vaccinating a calf or a heifer with vaccine virus, either derived from a case of small-pox or by reinoculating humanized virus into the animal." Query: Can that be called vaccine virus which is derived from a case of small-pox previous to its transmission through the heifer?

The entire absence of illustration is a notable feature of the work.

*The Brain and the Nerves: Their Ailments and Their Exhaustion.* By THOMAS STRETCH DOWSE, M.D., F.R.C.P.E. New York: G. P. Putnam's Sons. 1884. Pp. 150.

It is difficult to characterize this book. It is a combination of much that is excellent and of some weak statements with some extravagance in expression. The first chapter is headed "Of a few things which we do know, and of facts which have been established, in connection with the physiology and pathology of the nervous system, up to the present time." Very few "facts" are given; reflex action is explained rather obscurely; the function of "masses of gray and nervous matter, called central ganglia" is stated; a few words are said about "cerebrum or big brain, the cerebellum or little brain, and the spinal cord;" and a series of propositions given which the author says he will substantiate and which are not mentioned again.

The clinical descriptions are fairly good: several interesting cases are given. The author goes beyond most of us in saying "that every form of nervous disease and, as I would contend, every form of disease which is not nervous begins and takes its origin in nervous exhaustion." Making allowance for much irrelevant matter and some platitudes, which are probably not intended for professional readers, the chapter on treatment is not bad. It is scarcely necessary to tell a medical man, or others, that "Health means the bliss of man's mortal existence: disease entails discomfort, distress, wretchedness, premature decay, and death. Vice is the product of disease, and disease follows as the outcome of vice. A pure mind in a healthy body knows not vice. Man's responsibility and morality must be based upon the healthy state of both mind and body." Part of this is trite and part is not true.

The remarks about drugs are, on the whole, good. He values quinine, arsenic, and zinc highly; iron, cannabis indica, chloral, and phosphorus do not find favor with Dr. Dowse. Of the bromides, he says:

"They substantiate the *ego*, and give moral courage by establishing a balance of power between the volitional and automatic nerve centres." He says, he has "arrested cases of advanced consumption" with opium, "which appeared, and which were in fact progressing by rapid strides to death, when other remedies were absolutely useless."

Dr. Dowse is a firm believer in the moderate use of alcohol, as a common necessary of life, but condemns its excessive use. His picture of the total abstainer is gloomy: he "is frequently a grumpy, growling, cadaverous, ill-tempered, shriveled specimen of humanity, who is always dyspeptic, despondent, flatulent, and careworn, not like a man who was sent into this world to enjoy in due season the fruits of the earth." Perhaps the author had received a temperance lecture just before writing and his irritation had scarcely subsided.

The remarks about diet are rather unsatisfactory: about three fourths could have been omitted with advantage, and more attention have been given to the best methods of feeding patients. Under electricity, Ohm's law is stated, and the reader thinks useful information is about to be given, but on turning the page disappointment awaits the seeker for knowledge—Ohm's law is dropped. The author's statements as to travel, massage, mental recreation, and persistence of treatment are good.

We have only briefly mentioned some of the excellencies of the volume, not because there is not much to be commended; but the absurdities and unsatisfactory observations are so many they have absorbed all our time. There is a decided lack of uniformity, some parts are good, others are trash.

S. G. W.

*Handbook of the Diagnosis and Treatment of Skin Diseases.* By ARTHUR VAN HALLINGEN, M.D. Philadelphia: P. Blakiston, Son & Co. 1884.

This is an excellent little book of 282 pages in which for ease of reference the more common diseases of the skin are arranged in alphabetical order, while many good prescriptions are given, together with clear and sensible directions as to their proper application.

G. N. T.

**Medical and Surgical Journal.**

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**INSANE CRIMINALS.**

A SHORT TIME ago one of our daily newspapers stated there was under consideration the establishment of a hospital for insane convicts, in connection with the new reformatory prison for men at Concord, Massachusetts. The article in question went on to say that prisoners became insane in our penal institutions and were then necessarily removed to the State lunatic hospitals. Of persons so removed there were now about one hundred, a number sufficiently large to demand some separate plan of treatment, especially in view of the fact that the ordinary insane are brought into close daily contact with them.

The yard connected with the reformatory is large enough, it is said, to allow of the erection of a brick building for the insane criminals in its south-west corner. A small yard could be set off "and even if they should stray into the larger and adjoining yard, they could be watched by the guard on the wall, in the same manner the other prisoners now are."

For several years, as those of our readers who are interested in the matter will remember, we have called attention to the necessity of separate provision for insane criminals. We have urged this plan as being the best adapted to the care of this class of the insane. Mixed treatment with either the ordinary insane or sane criminals brings them at once under conditions unfavorable to recovery. In this view we are unanimously upheld by insane hospital superintendents, who have practically felt the disadvantages of associated treatment, and speak with authority.

We do not believe that a hospital for insane criminals would be well situated within the walls of the reformatory. Against such an arrangement is the history of the Asylum for Insane Criminals at Auburn, New York. This building is outside of the prison walls proper, but in its early days was reached through a gate in the wall. Such close proximity was found to be seriously demoralizing to the asylum, and the gateway was eventually closed, but even then the prison methods of discipline and moral treatment of prisoners prevailed at the asy-

lum, and made it more of a department of the prison than a hospital. Thorough reorganization of the asylum, under difficulties, has brought it up to the proper standard of a medical institution for the insane, but under inefficient management it would easily retrograde and become again a prison department.

For several years the superintendent of the Auburn asylum, in his annual reports, has urged the removal of the institution into the country, both for the purpose of escaping the demoralizing atmosphere, almost unconsciously emanating from the prison, and also to obtain a large farm on which the patients could labor unrestrictedly.

It would be practically impossible to have the insane criminals straying out of their own enclosure into the main yard of the prison and there watched by guards, as suggested in the above newspaper paragraph. Such a plan would bring them into contact with the convicts, and subject them to prison rules, and, as a member of the Board of Prison Commissioners said to the writer a day or two ago, interfere with the proper arrangement of the yard, which should be kept clear, that the guards might be able to watch, and, if necessary, shoot at, escaping prisoners.

The only plan at all feasible in connection with the reformatory would be a separate hospital some distance away on the land owned by the State. This hospital should be absolutely controlled by a medical superintendent, who could easily attend to the medical work at the reformatory. Some kinds of special work at the hospital could be performed by the convicts, such as helping painters, carpenters, plumbers, etc. And it is probable that the first cost of building could be lessened by employing convict labor. In addition, the cost of the land would be saved to the State.

It would seem at first sight that economy might be further practised by such nearness to the reformatory, as, for instance, in the use of one laundry, bakery, barn, etc., and the buying of stores and provisions. We would not deny that such might be the case, but the history of the Auburn asylum has clearly demonstrated that the less it has had to do with the prison the better hospital it has become, and we very much doubt if, in the long run, the conjoint plan of management would result in any appreciable saving of money.

**A MILITIA AMBULANCE CORPS FOR MASSACHUSETTS.**

ANY one who reads the annual report of the Surgeon-General of Massachusetts for the past year cannot fail to be struck by its progressive character. It is the desire of the medical commandant to render the part of the militia service under his charge ready for all emergencies. For he reports that the

medical department of the several commands is now fairly well equipped with the instruments and appliances, in a good and serviceable condition. necessary for active service should the troops be called upon for such duty. But the presence of medical officers with proper appliances does not, by any means, supply all that is needed for the care of sick and disabled. and the Surgeon-General calls attention to the necessity of men who shall be especially instructed in the proper handling and transportation of the sick and wounded. No more humane and important change in the organization of armies has been made in late years than that relating to the care and transportation of the sick and wounded, and during the late war no more important or better work was done in any department than that known as the ambulance corps.

A militia force should be a miniature army, perfect in all its appointments and departments. No addition or change that could be made in our military force would add so much to its efficiency, or serve so well to elevate it to a still higher standard than it now enjoys, as the enlistment and organization of such a body of men. The Surgeon-General, therefore, recommends that such a corps be organized for each brigade, these men and their officers to be known as the Ambulance Corps of the Militia of Massachusetts. In case of riot or other active service, such a corps would be of the greatest value, both by reason of doing the work for which they are to be organized much better than men untrained in this specialty, and in saving for other service men who would of necessity be taken for this duty.

If our militia are to be worth anything, they need to be ready for active service at a moment's notice. Active service means the possibility of wounds, and no militiaman will be less willing to do his duty for knowing that every provision is made beforehand for his care if he is so unfortunate as to suffer in the performance of that duty. Our own opinion of the desirability of such a corps was expressed in these columns not very long ago, and we hope that the Surgeon-General's recommendation will be favorably received.

#### A PAID SERVICE IN THE NEW YORK DISPENSARY.

The New York Dispensary, the oldest dispensary in that city, is about to change entirely its system of medical administration. In place of the thirty-two attending physicians and surgeons, who serve an hour or more three times a week, five medical officers are to be appointed after a severe competitive examination, to serve four hours daily, except on Sundays and holidays, when but one hour's service is to be required. The new appointees are to

receive eight hundred dollars per annum, and one of them, the Physician-in-chief, or House Physician, twelve hundred.

The examination was to have taken place yesterday. According to the stipulations announced, candidates must have served a term in some general or special hospital. Nearly forty applications had been received. The medical committee having charge of the new order of things, consists of Drs. T. A. McBride, S. Oakey Van Der Poel, G. G. Wheelock, G. L. Peabody, and W. T. Bull.

When this change is effected, all branches of this Dispensary service will be administered by salaried officers. The District Physician, an Italian practitioner, and four trained nurses have been in receipt of salaries for a year past.

Hitherto the medical services of the free dispensaries in our cities have been unremunerated, except by the experience gained by devotion to the work. The effects of this change of system at the New York Dispensary will be watched with interest. There is certainly much to be said in favor of the step which its managers have thought it best to take. There is absolutely no danger at present of overlucrative offices, or sinecures of any kind, being created for medical men; and least of all for the younger toilers in our hard-worked profession.

#### THE GERM THEORY OF DISEASE.

EVERY ONE who has intelligently noted the labors of the past twenty years, in all lands, by indefatigable workers, in the domain of mycology and microscopy, labors conducted with elaborate culture, apparatus and chemical appliances, and costly experimentation, and performed with one great end in view—to ascertain the causes of certain communicable diseases,—must have passed through a stage of scepticism to a firm persuasion that progress has been made, and that a clew has been found to many of nature's profoundest mysteries. The number of those who are in sympathy with investigations of this sort is, we venture to say, becoming greater every day, and yet there are some who still talk slightly and sneeringly of these undertakings—as did an honorable and influential member at a district medical meeting last week—as though the germ theory of disease were “an unfounded hypothesis,” a “visionary and fanciful theory,” devoid of any useful therapeutical outcome, and sure to continue to be unproductive of any valuable practical results.

Premising that a “theory” may be well founded or ill founded, and that hypotheses are sometimes of great use, we would here remark that only so far as the practice of medicine is based on correct views of causation can it be anything but empiricism, and if any one thing is clear it is that the drift of scientific therapeutical endeavor must be far away from

empiricism to treatment founded on known laws — the goal may be distant and difficult of attainment but the struggle toward it will ever go on.

In regard to the origin of the specific infectious diseases — and by infectious maladies we understand all diseases communicable from individual to individual — there can be but two theories entertained at the present day: either the morbid process is of the nature of a chemical fermentation, or we have ætiologically to do with a *contagium vivum*. The arguments which compel acceptance of this alternative position are so well stated by Liebermeister, in Ziemssen, that we need not reproduce them here. But the labors, the past thirty years, of Cagniard de la Tour, of Hchuholtz, of Schroeder, and Dusch, finally, of Pasteur, have shown that fermentation and putrefaction are dependent on the presence of certain microorganisms, so that, as Liebermeister observes, the theory of fermentation becomes virtually identical with the theory of a *contagium vivum*.<sup>1</sup> The study then of the phenomena of organic decomposition irresistibly suggests conclusions which are in harmony with the fundamental biological ideas of the age: the struggle for existence which characterizes all animate nature; the strict dependence of all organisms on their environment; the lower life everywhere pervading the higher, competing with it for the means of subsistence — where it can overcome the higher life doing so, and multiplying prodigiously and destroying without stint where the conditions are favorable for development and pollution.

The analogical argument from which the conclusion is drawn that all the human infectious diseases are due to a living ferment is very strong. The epidemic and contagious diseases of plants and the lower animals, as far as studied, countenance no other view; in fact, in numberless instances the specific morbid fungus has been found, isolated, cultivated in a proper medium — an infinitesimal product of one culture has been used to start another culture in a sterilized medium, and so on for many successive generations, and with a minute portion of the final culture healthy organisms of the same or of different species have been inoculated, and the original disease has been reproduced. By proof of this kind, Pasteur showed that the epizootic known as Pebrine, so prevalent among silkworms, is the result of the ravages of a microbe discovered by Filippi, and called by Lebert, *panhistophyton*. Another infectious disease, chicken cholera, has been shown to originate in the depredations of a little micrococcus, which is easily cultivated, with entire preservation of its virulent properties, in chicken broth, made alkaline by potassa, but which dies when sown in yeast, although the anthrax bacillus lives well in the latter medium, an illustration of the fact that microbes do

not thrive in all nutrient media, and that a favorable environment is necessary according to the great law appertaining to all living beings and formulated by Lamarck and Charles Darwin. It is hardly necessary to refer to the fact that the grape-vine disease (phylloxera), the ergot of grain, the potato disease, have been proved to be caused by microscopic fungi.

The investigations in this country of Salmon and Detmers have conclusively shown that swine plague and the Texas cattle fever are of bacterial origin.<sup>2</sup>

Salmon has made many interesting experiments confirmatory of Pasteur's discovery of the microphytic origin of fowl cholera, and justly observes, with reference to the power of propagation of infinitesimal portions of contagium: "Formless ferments are unable to reproduce themselves. Reproduction and multiplication is a function of living matter, and of this alone, and when we have proved that virus can be cultivated indefinitely it is equivalent to demonstrating that its essential constituent is a living thing."<sup>3</sup>

Among the communicable diseases which prevail among the lower animals is one which is also common to man, though always derived from the diseased animal: we refer to anthrax, also known as splenic fever, charbon, wool-sorter's disease, malignant pustule. This disease, endemic in some parts of Europe, has been observed in this country. Its ravages among cattle and sheep have been very great; in one Russian district alone there perished in the course of three years 56,000 domestic animals — horses, cows, and sheep — and 528 human beings.<sup>4</sup> Severe constitutional symptoms of a typhoid character attend the development of this malady, which may almost be looked upon as the type of acute contagious diseases.

Writers (as Belfield<sup>5</sup>) have insisted on the fact that this so-called "wool-sorter's disease" occurs both sporadically and epidemically; that it is limited to certain conditions of soil and of climate; that it is especially prevalent during certain seasons of the year; they have referred to the predisposing influence of heat and moisture, the stage of incubation, the self-limitation of the affection, and its non-recurrence.

The attempts which have been made these late years by careful, conscientious, and indefatigable workers, such as Pasteur, Toussaint, Greenfield, and Robert Koch, to ascertain the hidden cause of this disease have been followed by results as gratifying as they are surprising. Not only has the bacterial origin of anthrax been proved beyond the possibility of cavil, so that all authorities worthy of any respect admit it, but the specific microbe, the *bacillus anthracis*, has been found and cultivated, and with

<sup>1</sup> See Reports, Dep. Agriculture, 1880-82.

<sup>2</sup> Report of the Commissioner of Agriculture, 1881-82.

<sup>3</sup> Belfield, Cartwright Lectures, 1883.

<sup>4</sup> Loc. cit., Lecture III.

<sup>5</sup> Ziemssen's Cyclopaedia, vol. I, page 10.

the fungous product of long series of cultures the disease has been reproduced at will. Nay, more, a "protective attenuated virus" has been obtained by suitable cultures, and with this Pasteur believes he has saved the flocks of Europe by the hundreds of thousands.

The inference is almost irresistible that if anthrax be of bacillary origin, the other malignant infectious diseases are equally so, but we are warned that it will not do to press the analogical argument too far, or to make too large inductions from the facts already in our possession. We have a right to conclude from the data already acquired respecting anthrax that all cases of this disease, wherever occurring, are bacillary, but we are not justified from these data in affirming that the bacterial nature of the *materies morbi* of typhoid fever, diphtheria, scarlatina, etc., is proved. We can only say that such conclusion is very probable, in fact more probable in the present state of science than any other. But for each specific disease the problem of causation must be worked out independently, as has been done for anthrax.

It is needless to say that the work is being pushed with vigor, and that what has been done for anthrax has been—with great apparent success. confirmation by other experimenters being waited for—accomplished the past year for diphtheria by Loeffler, and for ordinary pneumonia by Talamon and Friedlander. It has, in fact, been rendered almost certain by these latter experimenters that pneumonia is an infectious disease, occasioned by the presence in the blood and tissues of the lungs or an oval wheat-shaped micrococcus; cultures have been made of this bacterium, and inoculations practised on animals with the remote product of the culture, and the original disease with all its characteristic symptoms and lesions has been reproduced.

We have thus far said nothing respecting Obermeier's spirillum of relapsing fever, or Koch's discoveries as to the etiology of tuberculosis. They both have been sufficiently referred to in former numbers of this Journal, and if *admitted* (as they certainly are by the great body of pathologists all over the world), they must be considered as giving increased probability to the germ theory of all other communicable diseases.

Nor have we touched upon the inevitable bearing of these new views of causation on therapeutics. This we propose to do in a future number.

#### MEDICAL NOTES.

—The theory and practice of politics, and the necessity imposed by that science of delicacy in shading between matters of right and wrong, develops in the minds of those who habitually devote themselves to such pursuits a facility in the drawing of subtle distinctions which causes admiration

in the uninitiated. We read, for instance, in an esteemed contemporary of the daily press of an accident which befel a prominent citizen of Boston, whereby "both bones in the lower portion of his leg were broken clear off, but, fortunately, without any fracture of either of the bones, so that the process of healing will probably be rapid." The curiosity of plain professional minds is excited to know what would have been the effect upon this gentleman if the bones had both been fractured but not broken, or in case one had been fractured and the other broken. The application of the transcendental methods of newspaper political writing to medical matters has before now caused confusion in the public apprehension, and we affectionately implore our brethren of the political press to guard against a careless handling of their sharp weapons.

#### PORTLAND.

—Abner Coburn, ex-governor of Maine, recently died in his eighty-second year, leaving property which is estimated by some to be worth eight millions. He bequeathed to the Maine General Hospital one hundred thousand dollars, the largest gift by far which it has ever received.

#### NEW YORK.

—That the small boy of the streets is willing to run his chances of death by poison from condemned candy was clearly shown by an incident which occurred the other day on the east side of the town. Between 7,000 and 8,000 pounds of candy toys colored with vermilion, chrome yellow, chrome green, and even Paris green (those with leaves), had been seized and were being dumped into a trench by the sanitary officers, when it became noised about the neighborhood what was going on; and soon there was gathered an enormous crowd of urchins, who made such a desperate attack upon the load of candies that it became necessary to call in the assistance of a section of policemen from a neighboring station-house before they could be driven back.

—Dr. Ludwig Senff, resident physician of the Montefiore Home, died at Mount Sinai Hospital, December 11th, of chronic Bright's disease. He was born at Schievelbrin, Germany, in 1832, and studied medicine in Berlin. He afterward became a surgeon in the army and served with distinction during the last three Prussian wars, for which he was decorated by the emperor with the Iron Cross. In 1879 he left the army and went to London, where he remained until about six months ago, when he came to New York. When the Montefiore Home for chronic invalids was opened in October, he was appointed resident physician. Dr. Senff was a widower, and leaves two daughters in London and two sons in Berlin.

## Correspondence.

## THE LATE DR. W. H. THORNDIKE'S SURGICAL SKILL.

BOSTON, January 17, 1885.

MR. EDITOR, — In the interesting obituary notice of the late Dr. Thorndike, published in the *JOURNAL* of January 15th, a few of the triumphs of this remarkable surgeon were mentioned. One, however, was omitted which deserves to be added to the record. It was the removal of a fibroid tumor from the walls of the stomach. The stomach was laid bare by laparotomy, and the tumor being found adherent was dissected off from the peritoneal layer of the stomach. Recovery from the immediate effects of the operation was good; death, however, took place three weeks later from some accidental cause. The operation was performed many years ago, before gastrotomy and gastrostomy had become firmly established as surgical procedures.

Very truly yours,

E. H. B.

## ACTINOMYCOSIS IN CHICAGO.

125 State Street, CHICAGO.

MR. EDITOR, — I am quite sure that the *Boston Medical and Surgical Journal* never intentionally allows any individual to be misrepresented, nor does it knowingly admit the misrepresentation of facts pertaining to medicine. The difficulties pertaining to medicine are great enough even when the student is an eye-witness of the facts obtainable from nature; the difficulty becomes immeasurably greater when they are reported second and third hand. To render this difficulty as small as possible, the indispensable requisition of any reporter is simple *veracity*. It makes no difference whether the lack of veracity arises from ignorance, negligence, or wilfulness. The result, as far as the difficulty associated with the appreciation of the facts is concerned, is the same. Allow me to inform your readers that your Chicago correspondent, in the issue of January 1st, has, from some cause, ignored in a remarkable manner this sterling virtue. I will illustrate this by referring to the closing sentence of his correspondence: "Next Dr. Murphy reads a careful report of his cases before the Medical Society, and exhibits his specimens."

Dr. Murphy not only did not exhibit "*specimens*," but he did not exhibit a single specimen. He or some one else brought one specimen; but Dr. Murphy was obliged to apologize for not exhibiting it, giving as a reason that the glycerine had leaked out, and nothing was visible. Dr. Belfield exhibited a specimen, but that was from a bovine case, as he himself stated.

As to whether the editor of the *Medical Review*, your humble servant, quoted "*ad nauseam*" paragraphs from the public press, which he distinctly stated were quoted as more likely to be efficient than any exhortation to show the profession what should be avoided, is a matter of taste, and depends somewhat on which side of the fence the individual happens to be.

As to the implied supposition that it is imperi-

ment to dissent from the opinion of a good pathologist, the subscriber claims the birthright, and even essential quality, of every physician, namely, the right to form his own opinion. The most charitable view that can be taken of the question is that your correspondent was not present at the Medical Society when the cases were presented.

A fair discussion of the presentation, if the editor is capable of discussing a question fairly, was given in the issue of the twenty-seventh of December, 1884, of the *Chicago Medical Review*.

R. TILLEY, M.D.

## LETTER FROM THE ADIRONDACKS.

JANUARY, 1885.

MR. EDITOR, — A recent hasty trip to the Adirondacks has interested me in the colony of consumptives located at Lake Saranac, and I trust the information I obtained will be welcome to your readers. A few words from one who has obtained recent experience of a little-known health resort may sometimes furnish just the information needed by some invalid or his medical adviser.

Saranac Lake is a township of some five hundred inhabitants, situated in the Northern Adirondacks, about half way between Lake Placid and Paul Smith's. It lies at an elevation of about twelve hundred feet above the sea-level, in the valley of the Saranac River, an insignificant little stream emptying into Lake Champlain, and is noted for a uniform winter climate, very cold to be sure, but clear and dry and bracing. The township extends far into the country, but the village itself is quite small. The houses and stores are nearly all upon one narrow street that runs parallel to the river, and the public buildings consist of a church and a library. It is simply a quiet mountain town. In this little village collects each fall a colony of invalids and their families, numbering some fifty or sixty in all, who pass the winter in this very retired place.

It is well known what the friends of the Adirondack region claim for its influence upon pulmonary troubles. In many cases of phthisis a winter in the mountains, as well as one or more summers, forms the plan of treatment. It is this fact that accounts for the presence of the little winter colony. These invalids lead very largely an out-of-door life. They drive morning and afternoon without regard to the weather, except to wrap themselves up very thoroughly. They all wear buffalo coats, fur caps and hoods, and felt boots; well wrapped up in furs they will take a sleigh-ride of ten or fifteen miles when the thermometer is twenty or thirty below zero. Even people in the later stages of phthisis experience no discomfort or bad after effects from this, and taking cold seems to be unknown. They walk out when possible, go to bed very early, and lead in every way a very healthful sort of life, except for the depressing effects of association with so many invalids. The results of such a winter regimen are said to be excellent.

But the place is very inaccessible; it lies thirty-five miles from the railroad at Ausable, and fifty miles from the main line at Port Kent. The stage-ride from either place to Saranac is over a rough plank road; it is long and tiresome, and for the

most part uninteresting. It takes a whole day to accomplish it, and in winter the stage accommodations are very poor, although there is one stage each way daily. All this, of course, makes the price of provisions very high. Board is from fifteen to thirty dollars a week, and there are only one or two good boarding-places in the village. Some people are able to hire houses of the natives for the winter, but such a plan is very costly, and out of the reach of the majority of people. In any way the place is a very expensive one to live in, and therefore not available to other than well-to-do people.

About a mile outside of Saranac village there stands on a hillside, some two or three hundred feet above the road, a group of new buildings known as the Sanitarium. The object of this little charity is to furnish a place where people of the middle classes, clerks, shop-girls, mechanics, and the like, can have the benefit of the Adirondack air and life at a moderate rate of board which shall be far below the very high rates charged in the boarding-houses and hotels. The situation of the place is superb. It stands on a spur that runs out to the east; protected upon all sides but the south by mountains, it lies open to the sun all day long. A magnificent view stretches off to the south, and the mountains that lie around are quite respectably covered with timber, as Adirondack mountains go. A wooden house of some ten or twelve rooms forms the centre of this group of buildings. It is intended for the matron's quarters, the dining-room, and the bedrooms of the sicker patients. Near this are two or three little cottages, standing apart, containing only one room each, in each of which two patients are to sleep, who will take their meals at the central building. It is hard to imagine what an attractive little group of buildings the Sanitarium forms. The central house is painted dark red, and has a gable roof, with piazzas here and there, and sunny little rooms with open fireplaces. The cottages stand around only a rod or two away, cheap little affairs to be sure, but neat and comfortable. The whole atmosphere of the place is bright and cheerful.

The institution is not intended to be self-supporting. It is proposed to charge each patient three dollars a week for board and medicine, which, of course, falls far below the real cost. The remaining expense must be made up for by the contributions of charitably disposed people. A small farm is to be managed in connection with the place, which will furnish out-of-door work to the men in summer, and the women are expected to help in the necessary work of the house. For it is not intended for cases of advanced phthisis, nor will such be received, but for the cases of beginning pulmonary trouble which are so likely to be benefited by a change to this sort of life. Dr. Loomis, of New York, is to be the consulting physician, and applicants for admission must obtain a certificate of fitness from him or from Dr. Trudeau, of Saranac, the attending physician.

The accommodations at first are to be limited to ten or twelve patients; later it is hoped to extend the accommodations of the place by building more cottages as the funds are at hand. It is to be opened in February.

This charity, like everything else in Saranac, is unique. The whole life of the place is unconventional and peculiar; to an outsider it seems particularly delightful and unlike American life elsewhere, and even to the invalids exiled there the quiet out-of-door life, although to a degree monotonous, is particularly acceptable and congenial.

Very truly yours,

ROBERT W. LOVETT.

## Miscellany.

### THE INDEX MEDICUS DISCONTINUED.

THE following notice, we are sorry to say, addressed to the subscribers to the *Index Medicus*, accompanies the Annual Index which completes the sixth volume of that publication:—

#### NOTICE.

With this issue, containing the title-page and annual index of Volume VI., the *Index Medicus* will cease to be published.

During its six years' career it has been supported by its special friends with a generosity perhaps unparalleled in the history of medical journalism. The publisher, the late Mr. Leybold, notwithstanding a heavy loss at the outset, and a but slowly diminishing annual deficit, maintained the undertaking with characteristic spirit and zeal. His successors, who are managing his estate and business enterprises, have made strenuous efforts to place the *Index Medicus* on a self-supporting basis, remembering with what particular favor Mr. Leybold regarded it.

Their latest effort has been unsuccessful, and the few additional subscriptions which were required have not been obtained.

The time has come, therefore, when neither zealous friends nor generous publishers can be allowed to make further efforts or sacrifices, and the publication is discontinued.

Whether it will in some other shape, or under some other auspices, again appear, is for the future to decide.

JOHN S. BILLINGS.

ROBERT FLETCHER, Editors.

### ANNUAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE. OCTOBER 1, 1884, TO DECEMBER 31, 1884.

BAILLIACHE, P. H., surgeon. Granted leave of absence for thirty days. October 9, 1884.

To proceed to Wilmington, N. C., as inspector. November 10, 1884.

Relieved from duty as chief of purveying division; to proceed to Philadelphia, Pa., and assume charge of the service. December 10, 1884.

WYMAN, WALTER, surgeon. Granted leave of absence for fifteen days. October 15, 1884.

Leave of absence for fifteen days in December, 1884, and thirty days in January, 1885, also for a further period from January 31, 1885, without pay, and with permission to visit Europe. December 8, 1884.

PURVIANCE, GEORGE, surgeon. When relieved to proceed to Cincinnati, Ohio, and assume charge. November 12, 1884.

To Louisville, Ky., as inspector. November 24, 1884.

AUSTIN, H. W., surgeon. To proceed to Boston, Mass., and assume charge. November 12, 1884.

SMITH, HENRY, surgeon. When relieved to proceed to Cairo, Ill., and assume charge. November 9, 1884.

Granted leave of absence until January 15, 1885. December 17, 1884.

STONER, G. W., passed assistant surgeon. Relieved from duty at Delaware Breakwater Quarantine, to proceed to Cairo, Ill., in accordance with former orders. October 14, 1884.

To Norfolk, Va. November 19, 1884.

IRWIN, FAIRFAX, passed assistant surgeon. To close Cape Charles Quarantine October 31, 1884, to proceed to Washington, and to report to Surgeon-General. October 14, 1884.

To take charge of the service, port of Georgetown, D. C., and detailed as acting chief clerk, Surgeon-General's office. October 30, 1884.

To Philadelphia, Pa., and Baltimore, Md., as inspector. December 20, 1884.

MEAD, F. W., passed assistant surgeon. When relieved to proceed to Baltimore, Md., and assume temporary charge. December 10, 1884.

HEATH, W. H., passed assistant surgeon. Granted leave of absence for thirty days on account of sickness. October 24, 1884.

When relieved to proceed to Pittsburgh, Pa., and assume charge. December 26, 1884.

GUIERAS, JOHN, passed assistant surgeon. To report to Surgeon-General. November 8, 1884.

Leave of absence extended fifteen days, without pay. November 14, 1884.

WHEELER, W. A., passed assistant surgeon. Relieved at Chicago, Illinois, to proceed to Buffalo, N. Y., and assume charge. December 26, 1884.

BANKS, C. E., passed assistant surgeon. When relieved, detailed for special duty; upon completion of same, to Boston, Mass., for duty. October 28, 1884.

PECKHAM, C. T., passed assistant surgeon. Granted leave of absence for twenty days. December 26, 1884.

BENNETT, P. H., assistant surgeon. When relieved to rejoin his station (Detroit). November 20, 1884.

AMES, R. P. M., assistant surgeon. To report to Surgeon Hutton, at Louisville, Ky., for examination for promotion. November 13, 1884.

DEVAN, S. C., assistant surgeon. To proceed to Tacoma, W. T., as inspector. October 14, 1884.

KALLOCH, P. C., assistant surgeon. Granted leave of absence for thirty days. November 19, 1884.

GLENNAN, A. H., assistant surgeon. To proceed to Key West, Fla., for temporary duty. October 8, 1884.

BATTLE, K. F., assistant surgeon. Granted leave of absence for thirty days on account of physical disability. December 6, 1884.

BROOKS, S. D., assistant surgeon. To proceed to New York, N. Y., for temporary duty. October 20 and November 26, 1884.

WHITE, J. H., assistant surgeon. To proceed to New Orleans, La., for temporary duty. October 3, 1884.

To escort insane seaman to Government Hospital for the Insane. December 17, 1884.

Granted leave of absence for fifteen days. December 23, 1884.

## RESIGNATION.

SMITH, HENRY, surgeon. Resignation accepted by the Secretary of the Treasury, to take effect January 15, 1885. December 17, 1884.

## APPOINTMENT.

WHITE, JOSEPH H., M.D., of Georgia, having passed the examination required by the Regulations, was appointed an assistant surgeon by the Secretary of the Treasury, October 2, 1884.

## PROMOTIONS.

PECKHAM, C. T., passed assistant surgeon. Promoted and appointed passed assistant surgeon by the Secretary of the Treasury from December 1, 1884. November 28, 1884.

AMES, R. P. M., passed assistant surgeon. Promoted and appointed passed assistant surgeon by the Secretary of the Treasury from December 1, 1884. November 28, 1884.

DEVAN, S. C., passed assistant surgeon. Promoted and appointed passed assistant surgeon by the Secretary of the Treasury from December 1, 1884. December 5, 1884.

URQUHART, F. M., passed assistant surgeon. Promoted and appointed passed assistant surgeon by the Secretary of the Treasury from December 1, 1884. December 5, 1884.

## OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 17, 1885, TO JANUARY 23, 1885.

TREMAINE, W. S., major and surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 14, A. G. O., January 17, 1885.

MANS, LOUIS M., captain and assistant surgeon. Granted leave of absence for two months on surgeon's certificate of disability, with permission to leave the Division of the Missouri. S. O. 16, A. G. O., January 20, 1885.

STEPHENSON, W.M., first lieutenant and assistant surgeon. Relieved from duty at Fort Omaha, Neb., and ordered to Fort Niobrara, Neb., for duty. S. O. 6, Department of the Platte, January 19, 1885.

## REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 17, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	643	263	21.92	18.08	5.60	2.24	5.92
Philadelphia . . . . .	927,995	427	157	15.36	13.44	7.68	2.16	.48
Brooklyn . . . . .	644,526	248	91	15.72	22.57	8.46	.40	1.29
Chicago . . . . .	632,100	240	111	25.20	18.48	10.92	4.26	.42
Boston . . . . .	423,800	197	61	14.79	17.85	8.16	2.55	—
Baltimore . . . . .	408,520	180	61	10.64	14.56	2.24	2.80	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	152	30	—	—	—	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	91	12	17.57	10.98	3.29	3.29	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	17	3	5.88	23.52	5.88	—	—
Nashville . . . . .	51,400	22	6	9.11	22.75	—	—	—
Charleston . . . . .	52,286	36	14	22.24	30.58	—	—	—
Lowell . . . . .	71,447	21	10	4.76	14.28	—	—	—
Worcester . . . . .	69,442	36	24	22.24	30.58	13.90	—	—
Fall River . . . . .	62,674	20	7	5.00	5.00	—	—	—
Cambridge . . . . .	60,995	27	13	11.13	29.68	2.78	2.78	—
Lawrence . . . . .	45,516	10	5	30.00	—	—	—	—
Lynn . . . . .	44,895	11	3	18.18	—	18.18	—	—
Springfield . . . . .	38,090	10	3	10.00	10.00	—	—	—
Somerville . . . . .	31,250	11	0	—	18.18	—	—	—
Holyoke . . . . .	30,515	9	6	33.33	—	—	22.22	—
New Bedford . . . . .	30,144	16	5	6.25	12.50	—	—	—
Salem . . . . .	29,503	14	1	—	—	—	—	—
Chelsea . . . . .	24,347	7	0	—	14.28	—	—	—
Taunton . . . . .	22,633	8	2	25.00	—	12.50	—	—
Gloicester . . . . .	21,400	10	5	10.00	20.00	—	10.00	—
Haverhill . . . . .	20,905	7	2	14.28	—	14.28	—	—
Newton . . . . .	19,421	3	1	33.33	—	—	—	—
Brookton . . . . .	18,323	6	2	—	16.66	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	3	1	—	—	—	—	—
Fitchburg . . . . .	13,433	4	0	—	25.00	—	—	—
Waltham . . . . .	13,568	3	3	—	33.33	—	—	—
Northampton . . . . .	13,165	7	0	—	—	—	—	—
85 Massachusetts towns . . . . .	—	62	13	9.66	9.66	4.83	4.83	—

Deaths, reported 2,558; under five years of age, 915; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 219, consumption 308, lung diseases 351, diphtheria and croup 151, scarlet fever 65, measles 44, diarrhoeal diseases 44, typhoid fever 38, erysipelas 18, cerebro-spinal meningitis 16, malarial fever 15, whooping-cough 10, puerperal fever 7, small-pox one. From *diarrhoeal diseases*, New York 25, Chicago 6, Boston 4, Brooklyn and District of Columbia three each, Baltimore, Fall River, and New Bedford one each. From *typhoid fever*, Philadelphia 14, Chicago 10, New York, Baltimore, and District of Columbia three each, Boston, Springfield, and Newton one each. From *erysipelas*, New York 8, Philadelphia and Brooklyn three each, Boston two, Baltimore and Nashville one each. From *cerebro-spinal meningitis*, New York 5, Chicago 4, Worcester 3, Philadelphia two, Boston and Nashville one each. From *puerperal fever*, New York five, Baltimore four, Brooklyn three, Philadelphia, District of Columbia, and Lowell one each. From *whooping-cough*, New York three, Chicago and District of Columbia two each, Brooklyn, Baltimore, and Holyoke one each. From *puerperal fever*, New York and Brooklyn two each,

Chicago, District of Columbia, and Taunton one each. From *small-pox*, Philadelphia one.

In 105 cities and towns of Massachusetts with an estimated population of 1,385,051 (estimated population of the State 1,955,104), the total death-rate for the week was 18.37 against 19.62 and 19.80 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,762,354, for the week ending January 31 the death-rate was 25.0. Deaths reported 4,195; infants under one year of age 949; acute diseases of the respiratory organs (London) 537, whooping-cough 45, measles 78, scarlet fever 65, diphtheria 36, fever 35, diarrhoea 33, small-pox (London) 33. The death-rates ranged from 20.0 in Plymouth to 34.6 in Cardiff; Birkenhead 26.4; Birmingham 22.8; Blackburn 26.4; Leeds 23.9; Leicester 28.2; Liverpool 28.1; London 24.9; Manchester 26.4; Nottingham 25.9; Sheffield 22.4; Sunderland 22.0. In Edinburgh 18.0; Glasgow 39.1; Dublin 38.5.

The meteorological record for the week ending January 17th in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Date.	Barometer.	Thermometer.		Relative Humidity.		Direction of Wind.		Velocity of Wind.		State of Weather. <sup>1</sup>		Rainfall.
		Daily Mean.	Maximum.	Minimum.		7.25 A. M.	3.25 P. M.	7.25 A. M.	3.25 P. M.	7.25 A. M.	3.25 P. M.	
January, 1885,		Daily Mean.	Maximum.	Minimum.		7.25 A. M.	3.25 P. M.	7.25 A. M.	3.25 P. M.	7.25 A. M.	3.25 P. M.	Duration, Hrs. & Min.
Sunday, 11	30.132	37.6	51.4	18.6	62	61	70	64.3				
Monday, 12	29.661	49.1	60.1	36.0	100	72	61	71.1				
Tuesday, 13	30.335	27.9	39.0	20.0	77	73	73	74.3				
Wednesday, 14	30.623	23.6	30.0	14.9	55	44	64	54.3				
Thursday, 15	30.252	29.9	34.3	23.5	69	92	87	81.7				
Friday, 16	30.437	32.3	36.7	27.4	92	100	94.7					
Saturday, 17	29.433	30.7	47.6	23.0	100	66	83	83.0				
Mean, the Week.	30.359	33.1						75.7				47.00 2.94

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

\* Anemometer stopped by ice.

DEATH.—Died, in Chelmsford, Mass., January 23, 1885, Lewis Howard, M.D., M.M.S.N., aged sixty-five years.

#### APPOINTMENTS.

BOSTON CITY HOSPITAL.—Drs. H. L. Burrell and F. S. Watson have been appointed surgeons in the Out-Patient Department.

#### BOOKS AND PAMPHLETS RECEIVED.

One Hundred Years of Publishing, 1785-1885. Philadelphia: Lea, Brothers & Co., 1885.

A System of Practical Medicine by American Authors. Edited by William Pepper, M.D., LL.D., assisted by Louis Starr, M.D., Vol. I. Pathology and General Diseases. Philadelphia: Lea, Brothers & Co.

Brief Instructions as to the First Symptoms of Transmissible Diseases. Compiled for the use of Teachers in the Public Schools, by the Health Department of Brussels. Translated by L. B. Turckman, M.D. Published by order of the Cleveland Board of Education.

Report of the Surgeon-General, Commonwealth of Massachusetts, 1884. Public Document.

The Diagnosis and Treatment of Chronic Nasal Catarrh. Three Clinical Lectures. Delivered at the College of Physicians and Surgeons, New York. By George Morewood Lefferts, A.M., M.D. (Lecturer from The Medical News.) St. Louis: Lambert & Co., 1884.

Twenty-ninth Annual Report of the Trustees of the State Lunatic Hospital at Northampton. For the Year ending September 30, 1884. Public Document. Boston, 1884.

Circulars of Information of the Bureau of Education. No. 6, 1884.

Rural Schools: Progress in the Past; Means of Improvement in the Future. Washington: Government Printing Office, 1884.

Topographical Anatomy of the Brain. By J. C. Dalton, M.D., Professor Emeritus of Physiology, College of Physicians and Surgeons, New York. Philadelphia: Lea, Brothers & Co., 1884.

Insanity and Allied Neurosis, Practical and Clinical. By George H. Savage, M.D., M.D.C.P. With nineteen illustrations. Philadelphia: Henry C. Lea's Son & Co., 1884.

A Manual of Organic Materia Medica: being a Guide to Materia Medica of the Vegetable and Animal Kingdoms. For the use of Students, Druggists, Pharmacists, and Physicians. By John M. Maisch, Phar. D., Second Edition. With 242 illustrations. Philadelphia: Lea, Brothers & Co., 1885.

Report for the year 1883-84, presented by the Board of Managers of the Observatory to the President and Fellows of Yale College.

Aphonia, due to Chronic Alcoholism. Paralysis of the Lateral Crico-arytenoids. By Ethelbert Carroll Morgan, A.B., M.D., Washington, D. C. (Reprint from Journal of American Medical Association, December 6, 1884.)

Biennial Message of Governor Jacob B. Jackson to the Legislature of West Virginia, Session of 1885.

The Fourth Annual Report of the Secretary of the State Board of Health of West Virginia. (Preliminary.) For the Year ending December 31, 1884. By authority.

Sixth Annual Report of the State Board of Health of Illinois. With two Appendices. A. Considerations of the Medical College of America. (Revised to December 20, 1884.) B. Official Register of Physicians and Midwives in Illinois. (Revised to December 1, 1884.)

First Public Report of the Boston Boys' Temperance Union. Tenth Annual Report of the Boston Women's Christian Temperance Union. For the Year ending October, 1884. Headquarters, Old Fellows' Building.

The Induction Coil: Its Varieties and the Differential Indications for their use. By A. D. Rockwell, A.M., M.D. New York. (Reprint from Medical Record, November 8, 1884.)

Malformation of the Female Sexual Organs resulting from Arrest of Development. By B. Bernard Browne, M.D., Professor of Gynecology and Obstetrics in the Baltimore Polyclinic and Post-Graduate Medical School, etc. Read in the Section of Obstetrics and Diseases of Women of American Medical Association, May, 1884. (Reprint.)

Elements of Practical Medicine. By Alfred H. Carter, M.D., London, etc. etc. Third Edition. New York: D. Appleton & Co.

The Revival of Ovariotomy and its Influence on Modern Surgery. An Address delivered at Kensington, November 5, 1884, by Sir Spencer Wells, Bart. London: J. & A. Churchill, 1884.

## Original Articles.

TREATMENT OF FRACTURES OF THE FEMUR WITHOUT SPLINTS.<sup>1</sup>

BY D. B. VAN SLYCK, M.D.

FOR more than twenty years I have treated all cases of fracture of the femur coming under my care without splints of any sort, and with results more satisfactory to myself than by the old method with a Liston splint or any of its modifications. Nor have I seen any mode of treatment, with any sort of contrivance or combination of splints, that can at all compare in simplicity, ease of application, efficiency, and uniform good results, with the mode I am about to describe.

As far as I know this originated with, or at least was first given to the profession in print by, Dr. John Swinburn, of Albany, N. Y., who read a paper on the subject before the New York State Medical Society, which published it in its *Transactions*, I think, but I am not sure, 1861. Dr. Swinburn reported about forty cases treated in this way with remarkable success.

In the same volume, and in connection with Dr. Swinburn's paper, was another by Dr. Thorne, of Troy, N. Y., detailing a number of cases treated in the same way, and also describing a mode of treating fractures of all the long bones on the same principle, giving cases, cuts of apparatus, etc.

I have had no practical experience in treating by this method any fractures but those of the thigh and certain forms of fracture of the leg, and I shall, therefore, confine my remarks to this branch of the subject, though I am decidedly of the opinion that the same principle might be successfully applied to the treatment of other fractures, and my recollection of Dr. Thorne's apparatus and mode of treatment is that they were very ingenious and philosophical, and his cases very successful.

I have never seen a word in print on the subject since 1861, and as I have abundant reason to be satisfied with my own experience in the treatment of fractures of the femur without splints, I concluded to give the result of that experience to the Society, in the belief that it would prove of interest, and in the hope that useful discussion may result.

The mode of treatment in detail, as I employ it, is as follows:—

The bed should be at least two feet longer than the patient. For children, and many people below medium height, any ordinary bed with hair mattress is sufficient. For adults of ordinary stature I have a sort of bunk, or bedstead of plain boards, which a carpenter or, in an emergency, I myself could make in an hour. It should be about eight feet long, and of a width to fit whatever mattress may be most convenient, though the width of a single bed is better. The side pieces may be about a foot wide, and the foot- and head-boards as much wider as desired or your lumber will permit. Thin strips of board in the corners for legs, coming up to the top of the side pieces; cleats on the side pieces to support the cross slats, and all put together with screws or wrought nails, will make a very simple

and easily constructed bedstead, and with a firm, smooth mattress on this you are ready for business.

Now, for an adult, take a strip of adhesive plaster—preferably Martin's—three inches wide and long enough to reach from the knee down the outside of the leg and back on the inside, leaving an ample loop below the foot. On each side of the plaster tear a narrow strip about three-fourths inch wide down to the malleoli. Apply the middle strips on each side of the leg, and the side strips spirally around the leg over them, so that the traction may be distributed as much as possible around the leg, and draw evenly. This is a matter of some importance, as a single strap at the sides is apt to pull off the skin before the treatment is ended. For the perineal band I like a piece of one and one-quarter or one and one-half inch rubber tubing, though the usual band made wide answers well enough. The tubing is easily kept clean, and soft cotton may be kept under it to prevent chafing, and changed when soiled. Tie to each end of about a yard of this tubing strong cords, which are to be passed through a hole in the head-board and tied around a bit of wood. At the bottom of the foot between the strips of plaster place a short piece of lath, or a bit from a cigar-box, of proper length to prevent pressure on the malleoli; tie a strong cord around the middle of the loop of plaster, and pass the two ends through a hole in the foot-board. Now place the patient so that the extension, counter-extension, and shaft of the femur are in line, reduce the fracture, and secure the cord at the foot as you have already done at the head of the bed. A couple of sand-bags on each side will keep the foot in place with the proper eversion of the toes, and two half-hoops from a small butter-tub, wound and fastened in the middle, and placed over the foot, will protect it from the pressure of the bed-clothes. If the sand-bags do not secure sufficient eversion of the toes, a bandage around the foot fastened to one of the hoops will accomplish this purpose. In the first stage of the treatment but little more extension is needed than is necessary to overcome the spasmodic contraction of the muscles. After the process of repair has fairly begun, say after ten or even fifteen days, the provisional callus is still soft and plastic enough to afford ample time to secure the proper length of the limb by gradually increased extension, while, in the meantime, the patient has become accustomed to confinement, and the perineum toughened and prepared for the increased pressure. If necessary to prevent excoriations the foot of the bed may be raised, and a weight and pulley arranged at the foot, and the counter-extension taken off during the daytime. But this should be only a temporary expedient. As a mode of treatment I consider the weight and pulley, or any elastic extension objectionable, for the reason that they do not prevent the spasmodic contraction of the muscles, and it is impossible by this means to graduate the extending and counter-extending force so as to correspond to the actual resistance. In the treatment described you can measure the limb as often as you please, and have only to tighten the foot-cord to keep the injured limb of absolutely the same length as the other, and it is a very easy matter to keep it so.

<sup>1</sup> Read before the Norfolk County Medical Society.

A simple experiment illustrates the principle on which this treatment is based. Take a wooden rod—say a piece of a broomstick, saw it in two anywhere in its length, either transversely or obliquely, surround it with a number of elastic cords fastened at each extremity, so as to allow the middle ends, representing the fracture, to overlap each other. Now make extension and counter-extension, and these ends of necessity fall into opposition and the stick becomes straight. The same experiment may be tried on the cadaver, by dissecting up and separating the muscles of the thigh in their continuity, and breaking the bone, when extension will surely reduce the fracture and all deformity disappear. With the bone surrounded by live muscle in a state of tension, can a better splint be imagined to retain the fragments in position?

If then we have such a splint of nature's provision next the bone where its effectiveness is absolutely perfect, how irrational it is to apply splints and bandages on the outside of the limb with the inevitably evil result of producing, by pressure on the contused and infiltrated tissues, adhesions that prove a serious hindrance to the usefulness of a leg long after the bone itself is substantially sound.

I am aware that the theoretical objection can be raised that some of the muscles—as the adductors—act upon the bone at an angle, and not in the line of the shaft, and that their tendency is to produce lateral deformity. According to my experience the objection does not hold in practice. I think the perineal band has some influence in restraining the lateral traction of these muscles, while the tenseness of the muscles which do directly envelope the bone prevents any displacement. At any rate, I know it as a clinical fact, that when there is no shortening there is no deformity, an argument which will stand against any amount of theory.

Suppose yourself just called to a case of this injury, what do you find? A patient in great suffering, with a crooked shortened thigh, and every fibre of its muscles you can feel under your hand quivering and straining with spasm, as they are gored and irritated by jagged ends of bone at the seat of fracture.

Now let some one grasp the patient under the arms to fix the body, while you seize the ankle of the injured limb, and slowly and firmly draw it down to its normal length, and so fix it till the spasm subsides. What surgeon has not seen in a like case the sudden transition from intense agony to perfect ease and contentment? Still holding the ankle, and maintaining full extension, rotate the leg. Is there any grating of the broken ends of bone together? Not at all, nor does the movement give the sufferer any appreciable pain. The head of the bone rotates in the socket, and the whole limb turns precisely as though no fracture existed, showing that as long as the muscles are held tense, you have a perfectly effective splint immediately around the bone. By reason of this, all through the treatment, the patient, unembarrassed by external splints, enjoys a good degree of comfort and freedom of movement. On one heel and

his elbows, he can raise himself up to use a bedpan, can turn toward the injured side, and assume almost a sitting posture, without pain, displacement of dressings, or injury of any sort to his case. Another important consideration is that the seat of the injury is always open to inspection, a matter of very great consequence in cases of compound fracture. When I have added that in simplicity and ease of execution this treatment surpasses any other, and that I believe it will give far better average results, I may claim to have summed up the case.

My first opportunity to put in practice the method above described was in the United States service, at Fredericksburg, Virginia, in 1863, after the battles of the Wilderness. The mortality after amputations on the field for gun-shot fractures of the thigh was so great that these cases were ordered to be sent to general hospital and primary amputation forbidden. The sufferings of these poor fellows in transportation was so great that, at my request, all such cases in the cavalry hospital were assigned to me, and I made rude bunks, similar to the one I have described, with projecting sides for handles, and of a size to fit an ambulance. After removing all loose pieces, as well as the sharp points of bone in the wound, the men were placed in these bunks, extension applied, and they were carried to their destination in the greatest comfort. Spasmodic action of the muscles was controlled, the sharp ends of bone no longer gored the tender flesh with every jolt of ambulance or car, and, as many a poor fellow expressed it, he felt as though in a new world. After this I managed to improvise some sort of extension and counter-extension for these cases even on the field, with only a stretcher to work with, and was amply repaid for my trouble, by seeing how much more comfortable these cases were.

Since then I have treated in private practice, without splints, twelve cases of fractured femur, two cases of fractured tibia, two cases of fractured tibia and fibula—one of the latter compound.

I had intended to give these cases in detail from my notes, but I should exhaust your patience and will only give results. Of the femur cases, nine were fractures at different points in the shaft of the bone, and in eight the results were perfect, no deformity in any, absolutely no shortening in five, and not more than half an inch in three.

The ninth was an exceedingly unmanageable case—a very nervous and excitable woman, sixty-six years of age—fracture at the upper third. She could not bear a perineal band at all, and I depended on the weight and pulley, and elevating the foot of the bed, and I found out afterward that whenever she thought the extension uncomfortable, she made her daughter put a cricket under the weight. There was two and a half inches shortening, and considerable deformity.

In the other three cases the fracture was intra-capsular, and they were treated with weight and pulley extension, without perineal band. All were women. In the first, aged sixty-five, there was good union, and a useful limb, with one and a half inches shortening; walked without crutches in thirteen weeks.

The other two cases, aged respectively sixty-eight

and seventy-four, recovered with as good results as could have been expected. At the end of eight weeks, when extension was discontinued, the limbs were of equal length, but shortening began at once, and at the end of a month amounted to three inches. Both wore crutches the rest of their lives, being cases of non-bony union.

In the eight typical cases, extension was discontinued in from four to seven weeks; they were on crutches in from five to eight weeks, and cured in from six to eleven weeks.

The last case, treated in October, 1883, illustrates the special advantage of this treatment in a marked manner. B. W., a boy of nine, suffered an oblique fracture of the femur at the lower third, by being run over and kicked while witnessing a football fight. He was sufficiently quiet by day, but perfectly unmanageable at night. He would toss about in his sleep, have night terrors, scream, and kick with his well leg and try to do so with his broken one, and would often be found with his head and part of his body hanging over the side of the bed. This was almost a nightly experience with his parents for three weeks, yet extension was discontinued in four weeks. He was on crutches at five, and walked without in seven. To-day it would be impossible to tell which thigh was broken.

The fractures of the leg were all above the middle, and were treated previously as the thigh case, and with perfectly satisfactory results.

I apply in all cases a silicate of potash bandage before letting a patient out of bed.

#### CASE OF CHRONIC DIFFUSE NEPHRITIS AND AMYLOID DEGENERATION OF THE KIDNEYS, COMPLICATED, TOWARD THE CLOSE OF LIFE, WITH GLYCOSURIA AND INOSTURIA.<sup>1</sup>

BY EDWARD S. WOOD, M.D.

J. McC., thirty years of age, single, born in Glasgow, Scotland, and a stonecutter by occupation, was admitted to the nervous and renal service of the Boston City Hospital October 22, 1881, when the following history was obtained, which I have copied substantially from the Hospital Records:—

Family history good; not addicted to drink; has never had venereal disease; when quite young, and at various times since, has had abscesses in the neighborhood of the right hip; has also had necrosis of the tibia, according to his own statement. Four weeks ago the patient was admitted on the surgical side with a hard mass below Poupert's ligament on the right side, which finally broke, and a large amount of pus was discharged. There is now (October 22d) slight edema of the legs and feet, and some ascites, which were noticed four weeks ago; the patient said he had had the same trouble six years ago in London. There is also slight swelling of the scrotum, considerable headache, no cough, some pain in the chest, palpitation upon exertion, poor appetite, bowels constipated, great thirst, and frequent micturition day and night.

<sup>1</sup> Read before the Boston Society for Medical Observation, January 5, 1885.

October 23d. Was given tinct. digitalis.

October 24th. Analysis of urine: Amount of urine, 1,420 cub. cent. Color, pale. Specific gravity, 1,014. Reaction, acid. Amount of sediment, much. Urophæcin, diminished. Indican, much increased. Chlorides, slightly diminished. Sulphates, normal. Urea, diminished. E. phosphates, slightly diminished. Uric acid, normal. Alk. phosphates, diminished. Albumen, about one-half per cent. Sugar, not tested for. Bile pigments, absent. Sediment, numerous hyaline and granular casts, some of which have fatty renal epithelial cells adherent. An occasional waxy cast. Free fatty renal epithelial cells.

November 2d. Cardiac sounds very faint. No murmur. Liver dulness diminished. Obscure fluctuation of abdomen.

November 5th. Analysis of urine: Amount of urine, 1,150 cub. cent. Color, pale. Specific gravity, 1,012. Reaction, acid. Amount of sediment, much. Urophæcin, diminished. Indican, much increased. Chlorides, slightly diminished. Sulphates, normal. Urea, diminished. E. phosphates, slightly diminished. Uric acid, normal. Alk. phosphates, diminished. Albumen, between one-fourth and one-half per cent. Sugar, not tested for. Bile pigments, absent. Sediment, hyaline, granular, and fatty casts. Fatty renal epithelial cells. No waxy casts detected at this examination.

November 7th. Edema diminished.

November 18th. Analysis of urine: Amount of urine, 2,395 cub. cent. Color, pale. Specific gravity, 1,012. Reaction, acid. Amount of sediment, slight. Urophæcin, diminished. Indican, much increased. Chlorides, diminished. Urea, diminished. E. phosphates, diminished. Alk. phosphates, diminished. Albumen, about one-half per cent. Sugar, not tested for. Bile pigments, absent. Sediment, hyaline and granular casts. Few fatty and waxy casts. Fatty renal epithelial cells. Total amount of urea, 21.50 grm. Total amount of chloride, 6.16.

November 19th. Analysis of urine: Amount of urine, 2,118 cub. cent. Color, pale. Specific gravity, 1,012. Reaction, acid. Amount of sediment, considerable. Urophæcin, diminished. Indican, increased. Chlorides, diminished. Urea, diminished. E. phosphates, diminished. Alk. phosphates, diminished. Albumen, between one-fourth and one-half per cent. Sugar, present, 0.5 per cent. Bile pigments, absent. Sediment, hyaline and granular casts. An occasional fatty and waxy cast. Numerous fatty renal epithelial cells.

The peculiar behavior of this specimen of urine with Fehling's copper solution, when testing for sugar, led me to suspect the presence of inosite, or muscle-sugar, also. Therefore, the total amount of urine received the next day was analyzed for that substance. The urine was first freed from albumen by heating upon a water-bath until the albumen had coagulated, and filtering. The filtrate was then precipitated completely with a sugar-of-lead solution, filtered, and the warm filtrate treated with a solution of basic acetate of lead so long as any precipitate occurred. This precipitate, which contained any inosite which was present in the urine, was washed, suspended in water, and decomposed by a current

of sulphuretted hydrogen. The sulphide of lead formed was separated by filtration from the fluid, which was concentrated by evaporation, and, while hot, was treated with four or five times its volume of alcohol. From this mixture the inosite gradually separated in the form of crystals.

These crystals responded to both the Scherer and the Gallois tests for inosite.

Unfortunately, this analysis was not completed until it was too late to obtain more urine for further investigation.

December 1st. Has had headache for a number of days. Given a hot-air bath. December 3d. Some nausea and vomiting. December 4th. Omit medicine. December 9th and 10th. Pilocarpine given. December 11th. Nothing has been successful in making patient sweat. Has had hiccough, which was controlled by atropine. Given solution of pilocarpine. Has passed no urine for twenty-four hours; catheterized, but none obtained. Died at 11.35.

*Autopsy*, by Dr. W. W. Gannett, twenty-three hours after death.

Body small, much emaciated, poorly developed. Slight lividity. Rigor mortis present.

Right thigh flexed on the pelvis, and moves only with the pelvis.

Neither the pericardium nor the heart showed any appearances worthy of note. The pleural surface on the left side adherent over the apex; on the right side adherent over the whole lung by old firm adhesions. Left lung contracted and dark. On section of the lung the surface is dark red, at the apex a dried-apple appearance; the vessels contain considerable dark fluid blood. The right lung only partially retracted, much denser than the left, only slightly crepitant, and pitting on pressure. On section the surface is moist, yielding considerable aerated fluid on pressure.

The spleen is about one half as large again as normal, of usual color; density considerably increased. On section trabeculae rather indistinct; follicles not to be seen at all, and the whole surface presenting a uniform, homogenous, pale-red, translucent appearance.

The kidneys about one third larger than usual, pale in color, density considerably increased; capsule detached with some difficulty, removing with it, here and there, small particles of kidney substance. The external surface presents a mottled red and gray appearance, the gray portion being translucent. On section the cortex is diminished about one third in thickness. The tubular regions are indistinct, the cut surface showing a mottled appearance like that already described on the external surface, with the addition of here and there yellow opaque areas.

The bladder not remarkable.

The œsophagus and stomach not remarkable.

The mucous membrane of the small intestines is deeply injected, thickened, and velvety. The contents are thin, grayish, and very foul-smelling fluid. The large intestines presented similar appearances, though less in degree. The liver was of the usual size, color, and density, showing on section nothing worthy of special note.

Aorta not remarkable.

Examination of calvaria and dura not remarkable. Pia and brain itself remarkably pale, the vessels containing but little blood. Beyond this nothing remarkable.

The diagnosis made from the autopsy by Dr. Gannett was: Anæmia of the brain; chronic adhesive pleurisy; œdema of the right lung; diffuse amyloid degeneration of the spleen; chronic diffuse nephritis, with amyloid degeneration of the kidneys, and acute diffuse catarrhal enteritis. There was also complete ankylosis of the hip-joint, of which the record was not completed at the time of copying.

The following record of the amount of urine passed daily while the patient was in the hospital presents some points of interest:—

	Cub. Cent.		Cub. Cent.
October 24th . . .	1,420	November 15th . . .	2,425
October 25th . . .	1,272	November 16th . . .	2,365
October 26th . . .	1,508	November 17th . . .	2,425
October 27th . . .	1,242	November 18th . . .	2,395
October 28th . . .	1,360	November 19th . . .	2,118
October 29th . . .	1,745	November 20th . . .	2,247
October 30th . . .	1,804	November 21st . . .	2,365
November 3d . . .	1,508	November 22d . . .	2,425
November 4th . . .	1,420	November 23d . . .	2,395
November 5th . . .	1,450	November 24th . . .	2,307
November 6th . . .	1,360	November 25th . . .	2,395
November 7th . . .	2,100	November 26th . . .	2,365
November 8th . . .	2,070	November 27th . . .	2,336
November 9th . . .	2,365	November 28th . . .	2,395
November 10th . . .	2,129	November 29th . . .	2,247
November 12th . . .	2,484	December 7th . . .	888
November 13th . . .	2,395	December 10th . . .	680
November 14th . . .	2,573		

The interesting features in regard to the quantity of urine passed are: the sudden increase to 2,100 cub. cent. on November 7th, while, previous to that date, it had averaged considerably less than this (1,462 cub. cent.). After this, until within less than two weeks before death, the amount did not fall below 2,000 cub. cent., whereas usually in either chronic interstitial nephritis or amyloid degeneration the amount of urine falls to or below the normal for a considerably longer period before death. Unfortunately, no test was made for sugar or inosite previous to November 7th, so that it is impossible to say whether glycosuria first appeared at that time, and was the cause of the sudden increase in the amount of urine, or not.

Inosite has been found several times associated with grape sugar in diabetes mellitus and in chronic Bright's disease. In the celebrated case of Vohl (*Journ. de Physiol.*, vi. 344) the proportion of grape sugar gradually diminished, while that of inosite increased, until the amount reached eighteen to twenty grammes in twenty-four hours. By puncturing the floor of the fourth ventricle in rabbits Gallois sometimes found inosituria to be produced, and sometimes glycosuria. It has been found in the urine of diabetes insipidus in two cases by Schultzen, in two cases by Strauss, in one case by Gscheidlen, and in two cases by Külz. Strauss has also found it in the urine of healthy men after drinking excessive amounts of water, as ten liters in twelve or twenty-four hours, and he concludes that the large amount of water flowing through the body removes the inosite from the tissues (muscles, kidneys, liver, and lungs) before it has time to become changed into carbonic acid and water.

## REPORT ON PROGRESS IN GYNECOLOGY.

BY F. H. DAVENPORT, M.D.

## GONORRHOEA OF THE FEMALE GENITAL ORGANS.

Dr. BUMM<sup>1</sup> refers to the discovery of the Gonococcus, the germ peculiar to gonorrhœa, as of the greatest importance, but regrets that its value has not been more appreciated in cases of this disease occurring in women. With the exception of this we have no sure means of diagnosis. Venereal warts so called, "condylomata acuminata," undoubtedly occur without any gonorrhœal infection, and inflammation of the vulvo-vaginal glands, though usually of gonorrhœal origin, yet occurs too seldom to be of much diagnostic value. The urethritis, when not caused by tumors or violence, is always a result of infection, and were it not for its rapid course and tendency to heal, would be useful in a majority of cases.

Then follows a description of the "gonococcus," its distinguishing marks from other microbes, and the various methods of cultivating and staining it. There appear to be two other forms of micro-organisms which occur in the vaginal secretions so similar to the gonococcus that it is with difficulty they are distinguished, even by the practised observer.

The generally accepted opinion is that vaginal gonorrhœa is the most frequent form. The author takes exception to this view, however, claiming that the vaginal mucous membrane anatomically resembles the epidermis, and hence is not so likely to be infected by the morbid material; and that in those cases where we find redness, swelling, and increased secretion, these conditions are generally due to the irritating character of the pus which comes from the infected cervix or urethra. The rapid yielding of the symptoms to the simplest remedies also speaks for this view, as well as the fact that numerous cases of gonorrhœa of the cervix without the vagina being implicated have been observed.

The most frequent seat of the gonorrhœal infection is, therefore, the cervix uteri, a location especially favorable on account of its anatomical peculiarities. The rôle the vagina plays is that of receptacle and sometimes breeding-place of the contagium.

The gonorrhœa of the uterus and its adnexa is the most stubborn to yield to treatment, and its results in endometritis, salpingitis, oöphoritis, and peritonitis the most serious.

## GONORRHOICAL AFFECTIONS OF THE APPENDAGES OF THE UTERUS, AND THEIR TREATMENT.

Sanger, of Leipzig, in a paper read before the gynecological section of the fifty-seventh meeting of the German Naturalists and Physicians at Magdeburg,<sup>2</sup> expresses the opinion that these troubles have not received the attention they should. Gonorrhœa is the cause of a greater number of severe chronic affections of the pelvic organs than puerperal fever or syphilis, and of all gynecological cases about one ninth originate in this way.

The severity depends upon whether the tubes, ovaries, and pelvic peritoneum are affected or not, and of all forms of disease of these organs the gonorrhœal are the most frequent and the most serious.

Noeggerath's division of these affections into three forms of perimetritis, an acute, a relapsing, and a chronic, and ovaritis, the author would reject for one based on the seat of the trouble. He makes four divisions: (1) of the urethra; (2) of the vulva and its glands; (3) of the vagina and uterus; (4) of the uterine appendages and the neighboring peritoneum. The author places less reliance on the presence of the gonococcus as a means of diagnosis, since the researches of Bumm have shown the difficulty of distinguishing these from other similar germs, and considers that in the majority of cases the history and examination are sufficient to establish the gonorrhœal origin.

In the way of prophylactic treatment the author would particularly urge advising against marriage until every trace of gonorrhœa had disappeared. The treatment of acquired gonorrhœa in the woman should not be considered so hopeless as many authors, especially Noeggerath and Fritsch, have thought. For the affection of the urethra, vagina, and uterus, corrosive sublimate injections are most effectual. For the later stages applications of solutions of nitrate of silver, iodine, or dilute nitric acid may be tried.

When the uterine appendages are diseased their removal is recommended as holding out a definite prospect of cure. The writer finally gives the account of four cases operated on by him. One was completely successful. In the other three some cellulitis followed, which, however, in two cases promptly disappeared.

## MURIATE OF COCAINE IN GYNECOLOGY.

Dr. Polk<sup>3</sup> reports two cases where this drug was used to produce local anæsthesia for the operation of trachelorrhaphy. In the first case, after thoroughly washing the cervix and its neighborhood, a four per cent. solution of the drug was painted on with a camel's-hair brush, and repeated twice at intervals of two or three minutes. Within three minutes of the last application the operation was begun. It lasted forty minutes, and the only complaint the patient made was of a feeling of soreness the last ten minutes. The second case was a more nervous, sensitive woman, and the anæsthesia lasted only twenty minutes. A fourth application was then made directly to the cut surface, and the operation completed without further pain. Dr. Polk was of the opinion that the drug not only blunted sensibility but retarded the appearance of blood upon the cut surface.

In an article on "The anæsthetic use of the hydrochlorate of cocaine upon parts of the body other than the eye," Dr. H. A. Kelly<sup>4</sup> gives the notes of two cases. The first was one of bilateral laceration of the cervix, where after sensitiveness had been tested by the tenaculum, and found to be marked, a pledget of cotton saturated with an eight per cent. solution of muriate of cocaine was laid upon the parts. In seven minutes sensation was abolished, and the operation was begun. It lasted two hours, during which time the patient made no complaints, and only winced when the sutures were introduced. The second case was one of excessive sensitiveness of the uterus, where the passage of a sound was ex-

<sup>1</sup> Archiv für Gyn., Band 23, Heft III.<sup>2</sup> Centralblatt für Gynäkologie, No. 41, 1884.<sup>3</sup> Medical Record, November 1, 1884.<sup>4</sup> Medical News, December 27, 1881.

ceedingly painful, and always followed by a night of suffering. A pledget of cotton wet with a four per cent. solution of the drug was introduced into the canal. An Ellinger's dilator was then passed without pain, though the dilatation itself was painful. She had none of the usual after pain.

#### SO-CALLED OBSTRUCTIVE DYSMENORRHEA.

Dr. Burton<sup>5</sup> refers to the difference of opinion which exists among leading gynecologists as to the existence of a form of dysmenorrhea due to obstruction from closure of the uterine canal: some holding that a spasmodic closure of the internal os in some cases, or a flexion by which the calibre of the canal is lessened in others, is a cause of dysmenorrhea; while other good observers claim that no amount of flexion can so affect the size of the canal as to cause obstruction. With the view of throwing some light upon this vexed question, the author examined six women who suffered from paroxysmal pains during menstruation, when such pain was at its height. He found that so far from there being spasm or constriction at the external or internal os, there was actual dilatation, and the canal was really more patent from one end to the other, than at any other period of the month. In cases of limp antelexion he found that the menstrual congestion had so affected the uterine structures that the canal was almost straight.

The writer considers the pain to be due to pressure on the nerves from congestion.

#### RAPID DILATATION OF THE UTERINE CANAL.

Dr. Goodell<sup>6</sup> in this paper gives his experience with other methods of dilatation, and describes his present practice. He formerly enlarged or straightened the uterine canal either by tents or by Sims's operation, until the occurrence of two deaths, one from septicaemia following Sims's operation, and one from peritonitis after the dilatation with tents and ennetting, induced him to try rapid dilatation. Since then he has had no such mishaps. He recommends two Ellinger's dilators of different sizes, the smaller one to pilot the way for the larger, which is a powerful instrument, and opens to an outside width of an inch and a half.

Dr. G. employs rapid dilatation in cases of dysmenorrhea or sterility from flexion, or from stenosis, and uses the larger instrument under complete anesthesia. For slight dilatations in office practice the more delicate instrument is strong enough, and an anesthetic is not needed.

After complete dilatation the canal rarely returns to its previously angular or contracted condition; in a few cases, however, the operation has to be repeated. This method is also useful to open the canal to facilitate the use of the curette, or to make applications to the uterine mucous membrane, and especially in order to explore the womb with the finger.

Dr. G. thinks he has performed this operation under ether over three hundred times, and gives statistics of one hundred and sixty-eight cases. Of sixty-two unmarried from whom data could be obtained, thirty-eight were cured, seventeen more or less improved, and seven not improved. Five of these seven had their ovaries removed subsequently,

and in all they were so altered by disease as to make the dysmenorrhea otherwise incurable. Fifty-three of the married were heard from. Of these thirty-nine were cured, ten improved, and four unimproved. A very fair proportion of those who were in a condition to conceive, became pregnant afterward.

#### STATISTICS OF UTERINE CANCER AND ITS OPERATIVE TREATMENT.

Dr. Hofmeier<sup>7</sup> in this paper adds a good deal of valuable information on this subject from the records of the Berlin Gynecological Polyclinic, and from Schroeder's private practice of the last seven and three-quarters years.

Of 16,800 gynecological patients of the Polyclinic, 3.6 per cent. had cancer of the womb; of 9,400 private patients, 2.18 per cent., making of 26,200 patients altogether 3.1 per cent., or 812. (The statistics for fibroids were 1.9 per cent. of the clinical, and 5.7 per cent. of the private, patients.)

Of the 812 women who had cancer of the uterus there were only 39 who had never had children, 76 had had more than 10, and the average was five. (On the contrary, of the patients with fibroids who numbered 822 in 24,000, 32 per cent. had never had children.)

As regards the seat of the affection, in 236 it was confined to the vaginal cervix; in 181 it had affected the whole cervix; there were 28 of the body, and in 367 its point of origin could not be determined.

The average age of patients with carcinoma of the vaginal cervix was 42, only one being over 60. The average number of births was six, there being only seven nulliparae and 33 uniparae among the 236. The average age of those with cancer of the whole cervix was 47, 20 patients being over 60. The average number of births was 6.5, and of the 181 there were four nulliparae and 23 uniparae. Of patients with cancer of the body the average age was 54.5, with six of the 28 over 60 years of age; 21 per cent. were nulliparae, while only 2.5 per cent. of those where the cervix was primarily affected had never borne children.

Of the 812 cases, 160 were operated upon with a hope of radical cure. There were 105 vaginal amputations, 34 total extirpations by the vagina, eight by Freund's method, and 13 laparotomies with supra-vaginal amputation. Of these thirty-one died within the first few days, principally from hemorrhage and septic processes. There had been an interval of two years since 92 had been operated upon, of which number 77 were still alive. Of these 28 were well, 33 showed return of the disease, and with regard to 16 the condition was not known.

Of the 28 who were still healthy two years after the operation, 20 were amputations of the cervix, three vaginal total extirpations, four supra-vaginal amputations by means of laparotomy, and one Freund's operation.

These are results which compare favorably with those of the extirpation of malignant growths in other parts of the body, and are calculated to silence the objections of those who question the value of radical operations for cancer of the uterus.

<sup>5</sup> Brit. Med. Jour., September 27, 1881.

<sup>6</sup> N. Y. Med. Journal, October 25, 1881.

<sup>7</sup> Zeitsch. für Geburtshilfe und Gynäkologie, Band, X.

The article contains besides interesting operative details, and there are added a number of drawings of extirpated uteri and uterine segments.

#### THE CURETTE: ITS PLACE AND ITS POWER IN UTERINE THERAPEUTICS.

Dr. Geo. T. Harrison<sup>8</sup> in this paper seeks to define the value of this instrument. He refers first to the various opinions which have been expressed about it by writers, from the warm praise of it by Sims and Martin, to the sweeping condemnation by Emmet and others. He then describes the modifications which the instrument has undergone from its introduction by Récamier in 1846 to the present time.

The use of the curette he would consider indicated in the following morbid states of the uterine mucous membrane: (1) in sarcomata and carcinomata of the inner surface of the body of the uterus, in cases where more radical measures cannot be employed, though the result is of course only palliative; (2) in cases of retention of the products of conception. This applies particularly to the early months when the cervix is apt to be too myielding to admit the finger; (3) in the various forms of endometritis characterized by menorrhagia and metrorrhagia. In some of these cases the sharp curette is needed in order to remove the deeper layers of the diseased mucous membrane; (4) in small benign neoplasms such as mucous and fibrinous polypi, and adenoid growths; (5) to a limited extent in the secondary endometritis of areolar hyperplasia, and the endometritis complicating myoma; (6) for diagnostic purposes.

The author concludes with a description of the methods of operating, and cautions to be observed in the after treatment.

### Therapeutic Memoranda.

#### MONSEL'S IRON IN DIARRHŒA.

BY EDWARD T. WILLIAMS, M.D.

I HAVE been urged by one or two friends to communicate to the JOURNAL something I said before the Norfolk District Medical Society, at a recent meeting, on the use of the powdered sub-sulphate of iron in diarrhœa.

Ever since I began practice in 1868 I have been looking for a really satisfactory astringent in chronic catarrh of the bowels. There is, as every one knows, a class of cases where the ordinary vegetable astringents fail to act, or at least act too feebly to do real good. The intestinal lining is in an ulcerous, or quasi-ulcerous, condition, and requires the potent action of a mineral astringent to treat it, as in cases of external ulcer. The acetate of lead is one of the best remedies in these cases, but cannot be safely given for any great length of time. Oxide of zinc in pill form is safe and efficient, but with children, who must take it in powder, often vomits and gripes. Sulphate of copper and nitrate of silver are still harsher, and for children quite out of the question. Subnitrate of bismuth is worse.

I began trying, in 1876, at the Seashore Home,

iron alum (the officinal sulphate of iron and ammonia). I found it better than anything I had previously tried and have used it freely ever since. It is not quite so well borne by the stomach as lead and bismuth, but far better than zinc or copper. The dose for a child is from one to three grains; for adults, from three to ten. At the Seashore Home we make up powders containing one grain of the salt to a twelfth of a grain of opium, giving one or more for a dose according to the age of the child. For adults the pill form is of course preferable. I have had the best results from its use.

Last summer I began using Monsel's salt in its place both in public and private practice. This I did from my experience of its great efficiency as a styptic, and a presumption that it might do equally well in diarrhœa, and have found it even better than iron alum. I have tried it only in the dry form, manufactured by Squibb under the name of Pulvis Ferri Subsulphatis. In this State it is not officinal, though it is precisely the same as the officinal liquid Ferri-Subsulphatis evaporated to dryness. It may be given in the same doses and in the same way as iron alum.

As I know nothing in print on this subject, you will perhaps excuse this note. It may be welcome to such of your readers as are interested in the homely subject of therapeutics.

#### COCAINE IN URETHROTOMY.

OPERATION BY DR. G. M. GARLAND.

REPORTED BY W. J. GLEESON,  
House Physician, Carney Hospital.

PATIENT, aged fifty-eight, contracted gonorrhœa twelve years ago which resulted in gleet, the latter persisting ever since.

During last three or four years he has had scalding, increasing difficulty in micturition and some urethral hemorrhage, though the latter had been very slight and not at all constant.

On examination, No. 12 French acorn bougie passed with difficulty through the anterior portion of the penile urethra, and on withdrawal was followed by a little blood. Seven distinct hitches of the instrument within three inches of the meatus could be readily counted.

At 9.56 A.M. forty minims of a four per cent. solution of chloride of cocaine were injected into the urethra and retained four minutes by pinching the meatus. At 10.07, the operation by the Otis method was begun and lasted twenty minutes.

The patient lay perfectly quiet and only winced once or twice during the repeated cuttings. He expressed himself as delighted with the effect of cocaine. After the division of the strictures up to 33 French, a No. 28 steel sound was passed into the bladder, the patient declaring that he scarcely felt it at all. Seven hours later he passed his water, and remarked that the pain attending this act was greater than that of the operation itself.

As showing the previous irritability of the urethra, I may say that the single introduction of a sound by Dr. Garland at his first examination of the case caused far greater immediate and subsequent suffering than did the operation itself.

\* N. Y. Med. Jour., December 29, 1881.

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL OBSERVATION.

JANUARY 5, 1885. DR. R. H. BLOOD reported a case of puerperal convulsions coming on some hours after delivery, in which pilocarpine and bleeding were resorted to.

DR. J. STEDMAN spoke of the advantages of ether in such cases.

DR. W. L. RICHARDSON said that post-partum convulsions were rarer and more severe than other forms. He spoke of a case which came to the hospital ten days ago, at nine in the morning; she was delivered of a healthy child one hour later; everything passed off well, but her face was somewhat swollen and she complained of slight headache. When her urine was drawn it became nearly solid with albumen on heating. The attendant was cautioned to look out for convulsions, and acetate of potash was ordered. In about two hours she had a convulsion, followed by two more. One sixth of a grain of pilocarpine was given and repeated once, causing only a slight amount of perspiration. Extra bedclothes were given, and a piece of small stovepipe, with an elbow, was arranged so that one end led under the bedclothes and the other was placed over a lighted kerosene lamp standing on the floor, thus giving a temperature of about 120° in the bed. A profuse perspiration soon followed, and there were no more convulsions. Five days later patient was doing well. He usually placed main reliance on pilocarpine in such cases; does not think bleeding is often indicated. In cases of ante-partum convulsions he had seen, several times, a more profuse hemorrhage than usual at time of delivery. In regard to ether he always had an attendant at the bedside until the urine has started, with instructions to etherize when any sign of convulsion appeared; and has even kept a patient under its influence for thirty-six hours. He advised giving ether at once to control the convulsion, then pilocarpine, and then bromide of potash, with chloral, to prevent a return. In reply to a question he stated that he used morphia for some five years in such cases, but now has given it up. He thinks the kidneys act less readily when morphia has been given than when the other treatment has been followed.

DR. WOOD spoke of a decomposition which takes place when chloral is given with syrup, alcohol, or bromide of potash, in which the chloral is decomposed and a chloral alcoholate formed which rises to the surface, and unless the bottle is shaken before measuring out the dose we may get a much harsher and more dangerous effect than was intended.

DR. DAVENPORT called attention to the fact that very little pure bromide of potash was to be had; that it always contained carbonates which decomposed the chloral. If the chloral is given in aqueous solution, with the addition of a small amount of chloroform, it keeps better and does not decompose.

DR. E. S. WOOD reported a

### CASE OF CHRONIC DIFFUSE NEPHRITIS AND AMYLOID DEGENERATION OF THE KIDNEYS, COMPLICATED TOWARD THE CLOSE OF LIFE WITH GLYCOSURIA AND ISOSTURIA.<sup>1</sup>

DR. GANNETT said that he had made an examination of a case that afternoon, in which the kidneys exactly resembled those in Dr. Wood's case; there was an ankylosis between the head of the femur and the acetabulum, and there had been considerable absorption of bone, and about the femur a considerable infiltration of gelatinous material; no examination for sugar had been made in the urine of this case.

DR. F. H. HOOKER remarked concerning a case of acute otitis media with naso-pharyngeal catarrh, in which cocaine had been used with marked success: "The value of cocaine is now so firmly established that I dare say one is hardly justified in taking up the time of the Society by saying much about it. But I have recently used it with so much success in an important case, to which I was called by Dr. Kyle, of South Boston, that I would like to say a word concerning it. The case is of interest from more than one point of view, and illustrates very vividly the effect of cocaine, as it afforded relief in this instance which could not have been obtained so rapidly by any other means. Without entering into a detailed history of the case, it will be sufficient to state that I found the young patient suffering intense pain from an acute inflammation of the middle ear, which was accompanied by a copious serous discharge. This condition in the ear was consequent upon, and complicated by, a severe catarrhal inflammation of the nose, pharynx, and larynx. There was some cough. Respiration through the nose was impossible. In addition, therefore, to the pain, we have all the discomforts of mouth-breathing. The patient was in bed, with her head bundled up, and a hot-water bottle by the side of the ear, weak and pale on account of the pain, which was aggravated each time she moved her jaw or attempted to clear the nose. Clearly the first thing to be done was to relieve the pain and free the obstructed nostrils. It was doubly important in this case to have unimpeded nasal respiration; for, if we accept with Tillaux, Woakes, and others that the physiological opening of the Eustachian tube is the external nasal meatus, we may say that we had here a closure of the tube throughout its entire length. To treat, therefore, rationally the ear disease, as well as to remove the distress that breathing only through the mouth implies, free nasal respiration was imperative. This was speedily accomplished by a few drops of a four per cent. solution of cocaine applied in the following manner: The ear was carefully wiped out with absorbent cotton. There was a small perforation in the posterior inferior segment of the membrana tympani. A few minims of the solution, very warm, were dropped into the auditory meatus, which was followed almost instantly by complete cessation of the pain. The interior of the nasal cavities was then thoroughly 'cocainized' by means of the cotton-tipped probe. Immediately the swollen and congested tissues collapsed, an effect we can now always count upon with absolute certainty. It may

<sup>1</sup> See pages 123, 124.

truly be said that in less than one minute the entire character of this patient had changed. The pain, which extended over quite an area around the ear and down the neck, had vanished, and free respiration was going on through the natural channels, which were but a moment before occluded. The result, in fact, to use the sufferer's own words, was 'simply magical.' The treatment in addition to the cocaine, I need scarcely state, was on general principles."

Dr. HOOPER stated that after the application of cocaine the patient was given chloral. The next day the nose had become again occluded, but yielded readily to cocaine. The effect lasts from one to three hours, but after a second application the nose often remains open.

Dr. LANGMAID spoke of trying the drug with similar effect.

Dr. FITZ referred to some cases where the actual cautery had been used in the nasal passages without any pain, the parts having been first treated with cocaine.

## THE NEW YORK COUNTY MEDICAL ASSOCIATION. ANNUAL MEETING JANUARY 19, 1885.

### ELECTION OF OFFICERS.

THE annual election of officers was the first business in order, and resulted as follows:—

President, Dr. Charles A. Leah. Vice-President, Dr. Edward G. Janeway. Recording Secretary, Dr. P. Brynberg Porter. Corresponding and Statistical Secretary, Dr. C. S. Bull. Treasurer, Dr. Whitman V. White. Member of the Executive Committee, Dr. Wm. T. White.

### DISTRICT ASSOCIATIONS.

The Treasurer's report having been read and other executive business transacted, Dr. J. W. S. GOULEY presented the following resolutions, which were adopted:—

*Resolved*, That the President of the New York County Medical Association appoint a committee of three—with power to increase its number—to take into consideration the propriety and expediency of organizing district associations, in New York City, as branches of this Association.

*Resolved*, That, in case that this committee should decide to report in favor of such district associations, they be authorized to prepare a plan of organization to be presented to this Association for action at as early a date as practicable.

The chair appointed Drs. Gouley and A. Flint, Jr., on this committee, with power to select a third member.

On motion of Dr. A. FLINT, JR., the Secretary was requested to complete the collection of papers and discussions of the Association which had been published in the medical journals during the past year, and to preserve copies of all such printed records in the future.

### THE RETIRING PRESIDENT.

Dr. DETMOLD then made some appropriate remarks on vacating the chair, in which he spoke of

the remarkable success which the Association had achieved during the first year of its existence. This success, he said, would serve to mark in all time to come one of the most brilliant events in the medical history of this country; and in his own professional career, which had now lasted for over half a century, there was nothing upon which he looked with so much pride as the fact that he had been selected to be the first President of the New York County Medical Association. He then thanked the members for their unvarying courtesy and indulgence toward himself, as well as their hearty co-operation, and bespoke the same for his successor; after which he spoke of the great scientific value of the papers which had been read before the Association, and of papers read and the discussions which they had elicited, and requested a full attendance at all the meetings of the Association for the encouragement of those who were to read papers in the future. He then introduced the President-elect, Dr. Charles A. Leah, who delivered a short

### INAUGURAL ADDRESS,

in which he made a number of suggestions for increasing the efficiency of the Association. The clinical advantages now offered in New York were so great that he thought much benefit could be derived from the narration of cases of special interest, and he encouraged each member of the Society to contribute something of this kind to the proceedings, however insignificant it might be. He believed that the suggestions made in the resolutions of Dr. Gouley, if properly carried out, would be of the greatest benefit to the Association, and he also expressed the hope that the transactions would be embodied in permanent form.

On motion of Dr. AUSTIN FLINT, SR., the thanks of the Association, with its best wishes for his continued health and happiness, were unanimously tendered to the retiring President, Dr. Detmold.

## CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

### SOME EXPERIMENTS AND OBSERVATIONS IN REFERENCE TO THE DIAGNOSTIC SIGNIFICANCE OF EPITHELIAL CELLS WHEN FOUND IN THE URINE.

By William Henry Porter, M.D., associate professor of Clinical Medicine and Pathology in the New York Post-Graduate Medical School and Hospital, etc.

It is well known that there is great variety in the form of the epithelial elements that are found in the urine, some of which are derived from the urinary tract, others from the generative organs, while a less number may come from the air-passages, mouth, or skin. But of all these the variety known as flat or pavement cells, the tailed cells, and the small angular, commonly called "renal" cells, have given rise to the most discussion.

Naturally, epithelial cells from the urinary tract are found most frequently in the bladder whether of the female or male. On the other hand the

urine of the female almost invariably contains a peculiar sort of large and angular cell that has been regarded as distinctively diagnostic of the sex. But it is well to state here that all varieties, sizes, and forms of epithelial cells may come from the bladder, the ciliated form excepted.

The structure of the bladder distinctly explains this, because it is divisible into three separate layers. The innermost or deepest is composed of several strata of small cells, varying in size and shape, but usually cuboidal or rounded in outline. When these cells are desquamated rapidly they increase in size and have a more globular form, especially in catarrhal conditions, or when the membrane is inflamed.

The intermediate plane is made up of a single, or in part double, layer of pyriform cells. Their tail-like prolongations are either single or double, but usually single, and dovetail in between the epithelial cells of the deeper layers.

The third or outer layer is composed of a form of flattened cells called transitional. These cells are composed of large masses of protoplasm which usually appear to have two or more nuclei, but often this phenomenon is an optical illusion, the apparent nuclei being produced by the fossa on their under surface where it rests upon the underlying corpuscles.

In cases of an ordinary catarrhal condition or inflammation, the epithelial membrane may be desquamated in separate layers in its entirety, the three strata adhering together, and appearing together under the microscope.

But a careful examination of the mucous membrane of the renal pelvis, of the ureter, and of the vagina demonstrates that, in all these regions, the membrane is composed of three strata of cells similar to those found in the urine.

Now, though the variety known as vaginal epithelial cells has been said to be the most common in female urine, investigation tends to show that these peculiar cells are quite as likely to come from the bladder, and even from the ureter and pelvis of the kidney.

In this connection there is another quite interesting point of medico-legal interest in connection with these cells, some alleging that they are always absent in the virgin.

My attention was especially called to this subject when making a necropsy upon a female patient aged eighteen, who had died twenty-four hours after a fracture of the skull. When the kidneys were examined they unexpectedly gave every macroscopic evidence of a chronic parenchymatous metamorphosis. The urine was desired for examination to see if it contained evidence of the renal lesion, which it did in every particular. It was also found to contain an abundance of large flat cells identical with commonly called vaginal, and single and bifid cells also were abundant. In this case the urine was not withdrawn through the urethra, but the bladder, which happened to be distended, was opened from the abdominal cavity, and its contents were withdrawn through a clean syringe.

Excluding the vagina and tracing the origin of these flat cells to the bladder, their frequency in the female, and rarity in the male, urine can be explained

as follows: From the loose attachment of the bladder to the movable anterior wall of the vagina there is of necessity greater mobility in the female than in the male.

The frequent motion and tendency to pouching of the trigonum vesicale, and the more frequent over-distention in the female, tend to excite a mild catarrh which damages the epithelial cells, loosens their attachment, and easily explains their frequent and abundant desquamation.

On the other hand, the firm attachments of the male bladder to the surrounding tissues, and its less mobility and distensibility, tend to hold the epithelial cells in their proper relations.

Regarding the dependence upon the tailed cells as a positive diagnostic point in pyelitis, a series of observations were cited showing the impossibility of locating with certainty the source of any given variety of epithelial cells when found in the urine. These experiments were made from subjects in which the membrane was free from any inflammatory process at the time of death. If the membrane were the seat of any inflammatory action, the rapid metamorphosis, subdivision, and desquamation of the cells would tend to make the similarity still greater.

Renal epithelial cells are often described as occurring free in the urine and being recognizable as such, under the microscope, but observations and comparisons show that it is absolutely impossible to diagnose with certainty between renal cells and those of the deeper layer of the mucous membrane of the urinary tract. Either one might be mistaken for the other.

Buccal epithelial cells may occasionally find their way into the urine, as when the receptacle for the urine serves the purpose of a spittoon. They are, however, said to be distinguished from the vaginal cells by a more regular outline and being larger; samples of these cells were prepared for comparison, but in size and shape they presented so many points in common that no marked difference could be drawn. Measurements of these cells gave the same results as in the cells taken from the urinary tract and vagina.

Ciliated epithelial cells are occasionally found in the urine, and may come from the air-passages through the sputa, but they are more likely to come from the uterus or Fallopian tube in the female and the ejaculatory ducts, vesiculae seminales, or vas deferens in the male.

The results obtained by Dr. Creedon and the observations in these two cases add additional proof to the untrustworthiness of the statement of Professor Elstner in Ziemssen's *Cyclopædia of Medicine* (vol. xv, p. 571): "that the occurrence of tailed epithelial cells in purulent urine was the most positive indication that the patient had pyelitis."

The conclusions deduced from this study are: that flat epithelial cells are found in the urine of females more frequently than in males; that they originate both from the vagina and bladder, and probably more frequently from the bladder and urinary tract; that they desquamate more frequently and in larger numbers from the female bladder on account of the loose attachment and greater mobility in the former, and are more frequent after virginity on account of the increased mobility of the genito-urinary tract;

that isolated angular "renal" cells cannot be distinguished from those of the third strata of epithelia at any point of the urinary tract; that no distinctive feature can be ascribed to any cell or set of cells by which their place of origin can be localized.

#### PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY evening, December 11, 1884. The President, DR. SHAKESPEARE, in the chair.

##### THREE CASES OF TUBERCULOSIS.

presented by Dr. Edward T. Bruen.

The following cases I desire to submit to the Society because they have seemed to me valuable as showing grounds for the belief in the non-specific inflammatory character of some tubercular lesions.

CASE I. — Carrie C., aged eighteen years, was admitted to the venereal wards of the Philadelphia Hospital, June, 1884. She was the type of a strong, healthy Irish girl, and until a short time previous to her admission had never been ill in her life. When admitted she was suffering from secondary syphilis and gonorrhoea, the primary syphilitic lesion having occurred three months previous. She was put on the usual specific treatment and seemed to be doing very well until about the twentieth of July, when she began to complain of abdominal pain in the right inguinal region, and a vaginal examination showed a purulent discharge exuding from the mouth of the uterus. Upon dilation of the os with sponge tents an abundant purulent discharge followed, but after transitory improvement an abscess formed in the cellular tissue of the vaginal wall, which finally ruptured, and, after discharging freely, closed. After a period, during which there seemed gradual improvement, she again commenced to complain of abdominal pain and was transferred to the medical ward in October, from which time health progressively declined, great emaciation occurred, and she died November 26th.

*Autopsy.* Thorax — The pleura were normal, presenting neither effusion nor adhesions. Lungs were extensively hepatized and oedematous, presenting marked signs of croupous pneumonia.

Heart — Pericardium was normal. The heart itself showed no valvular lesions. The cardiac tissue, however, was pale and atrophied. There was a large ante-mortem clot both in right and left sides of the heart.

Abdomen — There was no peritoneal effusion. The omentum as well as the whole peritoneal surface was studded with minute nodules of a tuberculous nature. There were adhesions between all the viscera. Catarrhal changes were present throughout the intestines.

Liver — There was extensive peri-hepatitis. The connective tissue was everywhere covered with minute tuberculous nodules. The parenchyma of the liver was granular and rather anæmic, but no tubercles were visible microscopically.

Spleen — This organ was slightly enlarged, but of normal consistence. There was slight perisplenitis, and numerous tuberculous nodes throughout the whole splenic substance. Kidneys were slightly above normal size. Their surface was smooth, but, as well as the parenchyma, presented

whitish-yellow spots, alternating with congested points. There were also lesions indicating parenchymatous nephritis.

Pelvis — There was a prominent abscess in the psoas muscle of the right side. The opening of the abscess revealed a large amount of pus. There were lesions of purulent endometritis as well as vaginitis.

The brain, with the exception of an excess of fluid in the fourth ventricle, was normal. Cause of death — Tubercular peritonitis.

CASE II. — A male patient aged forty years, admitted to the medical wards of the Philadelphia Hospital, suffering with chronic parenchymatous nephritis. This disease was complicated by pleural effusion on the left side. Under treatment this effusion was absorbed, but within two months he developed symptoms of peritonitis, and died of this complication.

*Autopsy.* Kidneys revealed the changes of chronic parenchymatous nephritis. Lungs, structure normal. The visceral and costal pleura on the left side adherent. Examination of the abdominal cavity reduplicated the appearances of the previously related case in so far as the peritoneal surfaces were concerned, and also the condition of the spleen and intestines. The inferior surface of the diaphragm was more thickly studded than elsewhere with minute nodules of tuberculous nature.

The suggestion of peritoneal infection through transference of material from the remains of the pleural inflammation seemed the most natural inference, especially when we recollect the free inoculation of the peritoneal and diaphragmatic lymphatic system with the pleural lymphatic channels.

CASE III. — Edward C., aged fifty. *Autopsy.* External appearances. Middle-sized, much emaciated man. Subcutaneous adipose tissue wasted.

Thorax — The lungs were somewhat swollen from hypostatic congestion. On section both lungs showed a pronounced tubercular broncho-pneumonia. The left lobe was riddled throughout with tubercles, and pneumonic foci; but no cheesy foci nor cavities. The right lung was similarly affected, but in a higher degree, and showed a cavity in the upper lobe near apex, which communicated with several smaller cavities around it. There was also a scar at apex of right lung indicating an old healed cavity. The bronchial glands were all enlarged and somewhat cheesy.

Heart — Was comparatively small in dimensions. Pericardium normal. The heart muscles, valves, and orifices normal. Large ante-mortem clot on right side. Mediastinal glands enlarged, and some of them calcified. In the group of mediastinal glands and encapsulated in the connective tissue on the right side was found a mink-ball (rifle); no injury to the lungs could be discovered, but the connective tissue in the mediastinum in this locality showed the scar tissue riddled by tubercles. Subsequent examination showed that the ball from the rifle (ball received twenty-two years ago) had entered at a point an inch and a half within the right nipple, slightly above the mammary line, and must have passed through the right lung to reach locality where found, although no scar could be discovered in the lung.

Abdomen — Peritoneum, normal. The lymphatic glands somewhat enlarged. The liver was of normal size, in second stage of fatty infiltration. Kidneys and supra-renal bodies normal. Spleen atrophied. Rest of organs normal.

It is a reasonable hypothesis that the phthisis in this case had a traumatic origin.

In conclusion it would appear to the writer that the mass of observations already made and constantly increasing demonstrate beyond question the very constant presence of a peculiar organism in tuberculous processes. Yet at the same time there was a certain nodular and cheesy process, undoubtedly tuberculous, in which the organism has not been formed. Probably some of these failures are traceable to imperfection in the method of search for it, but other cases are inexplicable on this ground. It seems probable that certain local inflammations, or irritants, can give rise to tubercular and cheesy tubercular non-specific (in the sense of organisms present) products quite local in character. When these lesions are diffused throughout the body, their diffusion is evidently governed by lymphatic circulation which may permit transference of irritant materials from the site of the primary inflammation to a new situation.

The bacterium on the contrary is capable of developing a tubercular specific process over the entire system, and researches seem to warrant us in designating this process as a specific tuberculosis.

Thus considered, the bacillus tuberculosis becomes one of the causes of tubercular inflammation. The question of the frequency of its operation is still unsettled, but side by side is possible the non-specific (in sense of the presence and aetiological relation of organism) inflammatory nodule, which is subject to similar degenerative processes as the so-called specific nodule. Were this Society a clinical body, very weighty clinical evidence, it seems to the writer, could be adduced to defend the above statements.

DR. SHAKESPEARE said that no examination for the tubercle bacillus had been made. He thought, therefore, that neither of the three cases as they stand could, with our present knowledge, be considered to be of such undoubted significance as to warrant the claim that they are representative of a class of tuberculosis in men without the presence of the tubercle bacillus. In the minie-ball case, too much time had elapsed, namely, twenty years, in view of the fact that experimental investigation seems to show that only a short time, at the shortest two weeks, is required for the development of artificial or inoculated tuberculosis. He thought, therefore, that we were hardly justified by such testimony as presented by these three cases in assuming, in the face of positive evidence of experiments, that there was a tuberculosis without bacilli. With regard to one of the abdominal cases, it may be remarked that there are cases on record where abdominal serous tuberculosis seems to have arisen by the passage of the virus along the Fallopian tubes.

DR. FORMAN said that he plainly recalled the minie-ball case, and that examinations of the sputum during life, and of scrapings of the lung postmortem, failed to reveal bacilli; at least any

which gave a typical reaction. DR. BRUEN desired to say in conclusion that no one was in a position to affirm the positive aetiology of tuberculosis; but the two cases of abdominal tuberculosis might inferentially be considered instances of non-specific inflammatory tubercular disease rather than specific.

**HYPERTROPHY OF PROSTATIC GLAND; CHRONIC CYSTITIS; CYSTIC AND CIRRHOTIC KIDNEYS; DEATH FROM EXHAUSTION.**

J. H. MUSSER, M.D. Mr. C., in good health until 1879. Then he began to suffer from pain at the neck of the bladder, with frequent micturition. From this time until his death he suffered from constant pain and irritable bladder, with recurring attacks of cystitis. During the attacks of cystitis the urine presented the usual changes of that disease. Two or three times in the course of the disease he passed a little blood. After a year's illness catheterization, which had to be performed occasionally, became the rule. On account of the pain morphia had to be given in increasing doses until death. The combined influence of his depressing disease and the morphia habit rendered Mr. C. unfit for any duties, the nutritive processes failed, and death resulted in February, 1884, from exhaustion.

On examination eighteen hours after death, rigor mortis was well marked, the body was emaciated, the face sallow in appearance; abdomen alone examined. The stomach and intestines presented the usual appearances found when death occurred from long-continued exhaustion. The kidneys were granular in appearance and very hard; the capsules were adherent, the cortical portions contracted. On the surface numerous small cysts were seen in both organs. They were not weighed, but both were atrophied. The liver was fatty; the lumbar lymphatic and mesenteric glands normal; the bladder was small and its walls much thickened and somewhat ribbed. At the base the mucous membrane was congested but not ulcerated. The prostate was much enlarged, very hard, and encrusted on the cavity of the bladder.

The interest of the case centred in the microscopical examination of the prostate. Ten years previous to the present illness, Dr. G. removed a small tumor, probably a fibroid, from the patient's head, while shortly afterward a persistent tendency to ulceration on the bone, recurring for a year, was only checked by a frequent application of nitrate of silver. Then there was a marked tendency to carcinoma in his family, with other evidence, that of his sister's history, she having had mammary carcinoma. Sections of the tumor showed the histological appearance of a chronic inflammation, with hypertrophy of the gland.

**TUMOR OF BLADDER; ENLARGED THIRD LOBE OF THE PROSTATE GLAND; RETENTION OF URINE; FALSE PASSAGE MADE BY SOFT CATHETER; SEPTIC FEVER; DEATH FROM EXHAUSTION.**

J. H. MUSSER, M.D. J. M., aged eighty-four, in early life unusually robust and active, in his calling a gardener. The latter ten years of his life have been sedentary, chiefly on account of a large leg ulcer and varicose veins. Moderately using alcoholic stimulants, he

smoked to excess. Never confined to bed from any illness. Family history good. Six months previous to coming under my care M. experienced difficulty in micturition. This gradually increased, until finally the effort to relieve his bladder had to be continued half an hour before being successful. I saw him the fifth day of complete retention of urine. After some difficulty I passed a soft catheter, and drew off about half the contents of the bladder, this organ having reached to the umbilicus. The operation had to be repeated twice a day until his death. It was noticed that the instrument twisted in its course. For one week chills and irregular fever followed the passage of the catheter. Death took place from exhaustion three weeks after the retention took place. It may be noted that in the rectum, by the fingers, a growth was discovered corresponding to the prostate gland. There never was any vesical hemorrhage.

*Autopsy.* Heart, liver, kidneys, and bladder alone examined. The rigor mortis was marked, the body not emaciated. The man was very large, and yet his heart was unusually small, especially when the condition of the kidneys is taken into consideration. They were cystic, and the seat of interstitial inflammation. Neither organs were weighed, and they were not allowed to be removed. The liver was fatty. The bladder was removed for examination. It was much enlarged, its walls thin and markedly "ribbed"; its mucous membrane not inflamed. In the trigone corresponding to the middle lobe of the prostate, a soft tumor, with a flat base and pointed apex, was seen. It grew directly into mouth of the ureter, completely occluding it. It was very red, but not ulcerated. The catheter had passed through the floor of the urethra half an inch from the vesical terminus and emerged in the bladder to the right of the base of the tumor. I have purposely not made any sections, as I desired to show the growth in its entirety. I suggest its reference to the committee on morbid growths.

REPORT OF THE COMMITTEE ON MORBID GROWTHS  
ON DR. MUSSER'S SPECIMEN OF TUMOR OF THE  
BLADDER, PRESENTED AT THE MEETING OF NOVEMBER 13, 1884.

(The notes of the cases having been mislaid, they were read at the meeting of December 11, 1884.)

"Your committee reports that this specimen is a hypertrophy of the third lobe of the prostate gland."

SARCOMA OF SKIN; SECONDARY SARCOMA OF LIVER;  
OVARIAN TUMOR; RAPID DEVELOPMENT OF HEPATIC  
SYMPTOMS; DEATH FROM EXHAUSTION.

K. G. Sim, white, single, aged twenty-eight, housekeeper, good habits. Family history good. No previous illness. Under care of Dr. Ludlow in Presbyterian Hospital. Health good until five weeks ago. She then experienced an attack of abdominal pain which occurred suddenly and, although relieved, continued with more or less severity until death. She noticed one week after this accident a swelling below the ribs of the right side. During the two years previous to the development of these symptoms she had to micturate fre-

quently, but since then the urinary symptoms subsided.

On admission, November 22, 1883, the abdomen was distended from ascites and a tumor was noted in the epigastrium and right hypochondrium. The liver dullness extended from an inch below the nipple to six inches below the ribs in the nipple line. By palpation its outline could be defined at the umbilicus, and, on the right side, at the crest of the ilium. The surface of the liver appeared smooth, its border even; tenderness was marked. In addition œdema of the legs was very marked, the body was much emaciated, the countenance of a dusky hue, the conjunctiva slightly tinged with bile pigment.

Further, the murmur of mitral regurgitation was heard over the heart, the breathing was labored, and the lungs œdematous. Her temperature was normal.

Appetite poor, tongue heavily coated, bowels constipated; one passage showed the feces dark and hard. Urine albuminous, sp. gr. 1.010, light color. Death two days after admission from exhaustion and œdema of lungs.

Autopsy eight hours after death. Rigor mortis marked; trunk emaciated; abdomen distended, legs œdematous; face dusky and yellow-tinged. On section cavity of abdomen filled with bloody serum. Lungs œdematous. Heart small, left ventricular wall thickened, averaging half an inch. Mitral leaflets thickened and incompetent. Spleen enlarged twice its normal size, soft and pulpy. Kidneys cirrhotic, but not granular; congested. In the left iliac fossa a cyst found with dark-colored grumous fluid contents, lobulated and springing from left broad ligament. It was to the liver and a tumor of the groin, however, that I wish to call especial attention.

The liver was not weighed, but was about three times its normal size. Two large round yellow-white umbilicated masses were seen on the surface corresponding to the nipple line. On section they were soft, cream-colored, vascular at the periphery, the size of small oranges. Similar smaller masses were found scattered throughout the liver. The tissue of the liver between the masses was normal. The gall-bladder contained normal bile; the large bile-ducts were free and healthy.

In the right groin two flat wart-like growths, hard and pale, the size of hickory nuts, were seen, firmly connected with the subcutaneous tissues and inguinal glands. Rather than warty in appearance, they looked not unlike a mulberry imbedded in the skin, save in color. The glands of the corresponding groins were enlarged and matted together by a local inflammatory process.

Microscopical sections of the tumor of the skin and of the growths in the liver showed the appearance of an alveolar sarcoma; that of the skin developing from the adjacent connective tissues and being the primary growth in all probability. These sections were made by my student, Mr. Weaver, and the character of them confirmed by Dr. Formad.

I remark that the tumor of the skin was probably the primary growth, for on examining the cyst of the broad ligament, the left ovary could not be well

defined, but in its place a nodule was seen which might have been a sarcomatous ovary. The tissues were too much destroyed for microscopical examination.

Dr. DAVIS considered that the point of origin was the most important question. He doubted whether it had really started from the skin. Most of the cases which he had seen had started from the connective tissue, that is, the deep fascia. The fact of the ready enucleation of Dr. Musser's tumor would go to prove that there was a pedicle deeper down, which might have been found if sought for.

Dr. GUY HINSDALE presented a specimen of

COMPOUND FRACTURE OF LEG AND FOOT; AMPUTATION AFTER ONE YEAR; RECOVERY.

Wm. M., aged thirty-five, while at work in a mine was severely injured by a large quantity of coal which fell upon him, crushing his right ankle. The external and internal malleoli were broken, and the soft tissues considerably lacerated. The patient was then transported to the Pennsylvania Hospital, Philadelphia, and placed under the care of Dr. R. J. Levis, and at the patient's urgent request conservative treatment was adopted. Drainage was provided for by means of large incisions; sinuses formed, the joint became ankylosed, and dead bone was felt in every direction. After remaining eleven months in the hospital he was discharged. He was admitted to the Episcopal Hospital in November, 1882. Sinuses extended toward the joint and behind the calcaneum. The lower extremities of the tibia and fibula were necrosed. Several attacks of erysipelas delayed operative treatment, to which the patient had consented.

January 11, 1883, Dr. C. B. Nancrede amputated the leg at the upper third, making use of a short anterior and long posterior flap, cutgut ligatures, and silver sutures. The operation was done with full antiseptic precautions. The spray was from a solution of acetate of alumina, equal to two and one-half per cent. of saturation. The instruments were kept in a two and one-half per cent. carbolic-acid solution. The wound was dressed with lint saturated with the acetate of alumina solution; over that was placed carbolicized gauze; then the Mackintosh, which was secured by a rubber band above, and by strips of plaster. Four dressings were made under the spray, and boracic-acid ointment was applied over the stump on the third and fourth dressings, which were about three days apart. In four weeks the patient was up in a chair. The most gratifying feature of the case was that at no time after the operation did the temperature rise above 98.5° F.

The specimen has been macerated, and shows the original fractures, with complete ankylosis of the joint. The fragment of the internal malleolus has disappeared. Above its site the bone is rough and carious. A broad osteophyte is situated on the inner side of the lower end of the bone. The tibia is firmly united to the astragalus, and also to the fibula. The latter bone was fractured one and a half inches from its lower extremity. The fragments are united by a small band of bone about one fifth the thickness of the shaft. The fragments

abut firmly against the tibia, the lower fragment resting under its articular surface, and being coëssified with it. The upper fragment is also firmly united to the tibia. The scaphoid, cuboid, calcaneum, and astragalus are thoroughly coëssified.

Dr. DAVIS said that the case had already been under treatment for two weeks before admission to the Pennsylvania Hospital. It had been merely dressed with resin cerate, and the parts had become much swollen, and large quantities of pus exuding. After consultation Dr. Levis had attempted conservative treatment.

Dr. NANCREDE explained his reasons for so severe a procedure as amputation, which briefly were the utter uselessness—nay worse, excessive painfulness—of the member when used, and the frequently recurring attacks of erysipelas after even the slightest probing or use. In view of this latter fact the admirable course pursued by the case under antiseptic treatment was eminently suggestive.

Dr. J. H. MUSSER presented a specimen of Ulcerative Endocarditis, the notes of which will be shortly published.

Dr. E. O. SHAKESPEARE presented several microscopic slides of the Cholera Bacillus sent him by Dr. Koch, the remarks upon which will be shortly published.

Dr. A. S. ROBERTS presented two specimens of hip-joint disease, the notes of which are reserved for future publication.

The following report was read by the chairman of the committee:—

Report of the Committee on Morbid Growths on Dr. Fisher's specimen of Peritoneal New Growths, presented at the meeting of November 13, 1884: "Your committee reports that this specimen is one of peritoneal carcinoma, primary in the pancreas and thence spreading to the omentum and expressing itself as a miliary carcinosis."

## Recent Literature.

*A Pharmacopœia for the Treatment of Diseases of the Larynx, Pharynx, and Nasal Passages. With Remarks on the Selection of Remedies and Choice of Instruments, and on the Methods of making Local Applications.* By GEORGE MOREWOOD LEFFERTS, A.M., M.D., Clinical Professor of Laryngoscopy and Diseases of the Throat, College of Physicians and Surgeons, Medical Department of Columbia College, New York: G. P. Putnam's Sons, 1884.

This volume contains the formulæ of local applications used by the author in his treatment of the various affections of the larynx, pharynx, and nasal passages. Useful hints are offered to the student to aid him in his choice of remedies, and the remarks on the proper method of making applications to the various parts are clear and concise. The deductions in regard to the time-honored gargle are exposed. It is of no value when we wish to medicate parts situated posteriorly to the anterior pillars of the fauces, and contra-indicated in all cases where the necessary movements of the parts in the act are painful. Its employment, therefore, is a restricted one, and has been superseded by the

direct application of the medicated solution in the form of spray. The galvano-cautery is recognized as an efficient agent in destroying redundant tissue in the nose and larynx, but the author wisely points out that the same results, in the majority of cases, may be obtained with less heroic means. In the nasal passages the destructive agents employed, in their order of merit, are: acidum nitricum, acidum aceticum glaciale, and acidum chromicum. Nitrate of silver as a destructive agent is strongly condemned, as it causes but a superficial slough, and owing to its stimulating qualities it excites cell proliferation, and produces structural changes that are not desirable. Considering the author's objections to its use in the nose and his reasons therefor, it is not quite clear why, in another part of his book, he should place the same caustic at the head of his list, and recommend it to destroy the base of laryngeal growths after their removal by forceps or otherwise.

The muriate of cocaine was not known to us until within a few days after this book issued from the press. With a chapter added on this most important drug of all to laryngologists the book will be as complete as a work of the kind need be. II.

*Elements of Surgical Diagnosis.* By A. PEARCE GOULD, M.S., M.B. Lond., F.R.C.S. Eng. Cassell & Co., Limited. 1884.

The task of the reviewer becomes a pleasant one when he finds so much to praise and so little to criticize, as is the case in this little manual.

Mr. Gould touches the secret of good surgical instruction when he says: "I would urge upon the student the importance of grasping the fact that the principles of diagnosis are of more value and importance than any given application of them, and that he should endeavor always to look through and behind the application to the principle itself. In other words, the knowledge of *why* certain signs or symptoms justify or compel a given diagnosis is the key to correct diagnosis, and is the essential point for students to grasp."

The line of teaching indicated in this paragraph is most successfully followed, and the student is instructed in the methods of investigation and taught how to see, instead of being, as is so generally the case in textbooks, presented with tables of symptoms which are too often forgotten or but half remembered when the occasion for their use arrives.

Morbid appearances and deformities are for the most part clearly described, and Mr. Gould does not allow his reader to rest satisfied when he has arrived at the name of the affection under consideration, but goes on to show how to discover its relations to the parts about, and urges the importance of investigating also its effect upon the system at large.

The book is of convenient size and the print is excellent, making it a matter of wonder that so much information can be put legibly in so small a space. No beginner who studies this manual can fail to get from it much help in forming sound surgical habits, and to a practitioner in the country it would be a valuable saddle-bag companion.

*The Diagnosis and Treatment of Chronic Nasal Catarrh. Three Clinical Lectures delivered at the College of Physicians and Surgeons, New York.* By GEORGE MOREWOOD LEFFERTS, A.M., M.D., Professor of Laryngoscopy and Diseases of the Throat in the College of Physicians, etc. Reprinted from the *Medical News* of Philadelphia, April 26 and May 3, 1884, and from *American Clinical Lectures*, vol. ii., No. 6. St. Louis: Lambert & Co. 1884.

The origin and scope of this little book are fully set forth in the title. It is clear, concise, accurate, and readable.

*The Elements of Physiological Physics.* By J. MCGREGOR-ROBERTSON. Philadelphia: Henry C. Lea's Son & Co. 1884. Sm. 8vo. pp. xii., 528. [One of the Manuals for Students of Medicine.]

*A Textbook of the Principles of Physics.* By A. DANIELL. London: Macmillan & Co. 1884. 8vo. pp. xx., 653.

These two books are prepared by instructors in the medical schools of Glasgow and Edinburgh, and thus address themselves especially to students of medicine. They may justly claim their attention, but for different reasons. By an oversight a notice of them has been unduly delayed. The smaller book, that of McGregor-Robertson, deals with physics almost only in its application to experimental physiology. Indeed, it originated in courses explanatory of apparatus and methods of investigation. In consequence of this point of view much that is of the greatest importance to even an elementary knowledge of physics is omitted or most briefly treated. For what it professes to do the book is admirable, and can be heartily recommended. The numerous illustrations are, as a rule, clear and helpful; a few have suffered in the process of reduction or copying. Some of the practical applications concerning electricity and cathartics are incomplete or misleading. The metric system is not consistently used, and there are occasional linguistic irregularities, but these are insignificant trifles. A second edition will, we trust, mention some of the devices for short-circuiting either of the two induction currents. As a convenient aid to the memory of the galvanic current we would suggest the simple rule that in all common batteries it runs down through the wire in an alphabetical sense.

Mr. Daniell's textbook is a much more important work on physics proper, and has already been very generally commended by those qualified to speak of its special merits. As the preface, however, distinctly mentions the author's desire to adapt it to the particular requirements of medical students, we may humbly venture to fear that he has not been altogether successful. The medical student whose thirst for knowledge is yet unquenched will find occasional applications to physiology, but they are not frequent enough to prevent the book from being an excellent work on physics, whose perusal will probably convince him that the subject is much larger than his entrance examination had led him to suppose. A second edition, which we trust will be called for at

no distant day, ought to contain a few of those tables of specific gravities, boiling points, etc., which are so dear to the beginner and useful for reference. The confusion of digestion with resorption, on page 252, will bear correction. In the "Bibliography" we miss both the *Methodik* of Cyon and that of Gscheidlen, although the latter is mentioned in the text. This valuable list of books would also be better were the date and edition mentioned, and if some brief hint of the character of the work were added. The apparatus ("stromuhr") described on page 283 is not the invention of Vierordt, but of Ludwig, although it has some resemblance to the hæmodrometer of the former.

*Holden's Anatomy: A Manual of Dissection of the Human Body.* By LUTHER HOLDEN. Fifth edition. Edited by JOHN LANGTON. With over two hundred illustrations. Philadelphia: P. Blakiston. Son & Co. 1885.

Holden is deservedly a popular author with students. Though not very accurate, he is clear and practical, qualities which are readily recognized and highly valued. The new edition is a good deal larger than the preceding one; there are many new figures, and type, paper, and binding are excellent. The text, though essentially the same, shows many additions. The account of the surface of the brain is much more thorough than before. The book is a good one, as, indeed, it is hardly necessary to say after the editions it has passed through, but we must add that it is so good that we wish it were better. There are errors and inaccuracies that would not be found had the distinguished author given due attention to recent anatomical literature. The diagram of the Torcular Herophili is incorrect. The account of the tongue and the pharynx is unsatisfactory. Due stress is not laid on the fact that the posterior third of the dorsum of the tongue is practically vertical. We see no mention of the fossæ of Rosenmüller. The essentially adenoid nature of the tonsils is not insisted on. They are called glandular bodies, which is vague if not misleading. There is no proper account of the lymphoid tissue which forms an arch across the pharynx. The carotid is not so near the tonsil as is implied. The important insertion of the extensor communis digitorum into the base of the proximal phalanx is not mentioned. Figure 117 shows a median section of the pelvis in which the vagina is represented as a tube, an error which we must call inexcusable. We are astonished to find the statement that the round ligament of the hip is quite tight in the erect position. If the author has no confidence in the researches of Humphrey, Morris, and others, he should at least trephine the acetabulum and examine for himself. We can hardly suppose that he has never done so, yet we cannot conceive that he could make this statement if he had. These are defects that should not be found in a work by Professor Holden, but in justice to him we should say that it appears by the preface that the revision is by the editor, not the author. In spite of these blemishes there is much to praise, and we do not doubt the continued popularity of the work.

T. D.

## Medical and Surgical Journal.

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### THE MASSACHUSETTS HEALTH REPORT.<sup>1</sup>

We are glad to see again a report of the Massachusetts Health Department fully up to the standard of the former State Board of Health reports, both as regards the subject-matter and the ability with which the various topics have been treated.

Mr. J. C. Hoadley's paper on Tubular Wells for Domestic Water-Supply discusses the whole question of underground water-supply, with interesting graphic representations of some very useful experiments made to illustrate the phenomena of springs, subterranean streams, wide, diffused underground flow, and wells of every kind. These the writer shows to be subject to the law of gravitation, as their moving force, and to a retarding force caused by interstitial friction of the earth. The whole effect of reading Mr. Hoadley's excellent paper, which we would like to compel every selectman in the State to study, is to impress strongly upon the mind the importance of keeping all sources of contamination at a great distance from every well used for domestic purposes.

There are two papers on the sanitary condition of towns. Dr. Couch's report on Somerville, in continuation of the series begun with Dr. Pinkham's classic analysis of the vital problems of Lynn, is the record of an efficient and intelligent board of health and shows work worthy of imitation. In Nantucket, the old style of privy and cesspool admits of the escape of filth into the soil and stinks into the air. To avoid the high death-rate from infectious diseases, a pure water-supply and sewerage are recommended. Next to the little town of Florida, on the top of Hoosac Mountain, Nantucket has had the most virulent epidemic of diphtheria in our State.

A review for the year of weekly mortality reports from about one hundred cities and towns, representing nearly three-fourths of the population of the State, shows that the board has thereby increased local interest in accurate registration, and it has also improved medical diagnosis. It is unfortunate

<sup>1</sup> Fifth Annual Report of the State Board of Health, Lunacy, and Charity of Massachusetts. Supplement containing the Report and Papers on Public Health. Boston: Wright & Potter Printing Co., State Printers, 1884.

that our State registration could not be placed in the same able hands. But, instead of a State Board of Health, there is a board of health, lunacy, and charity, and the greatest of these is charity.

Nearly a third of the volume is devoted to the reports and analysis of food, including milk and drugs. Prof. E. S. Wood gives some admirable directions for methods of analysis. In 96 samples of milk he found 11 up to the standard of the law of 1880 (13 per cent. solid), 25 below 10 per cent. of solid, and 5 below 9 per cent. Of 7 samples of cheese, said to have produced poisonous symptoms, the results of examination were negative, owing to an imperfect knowledge of the nature of the poison. Four samples of butter out of 21 were condemned, although it was thought probable that several others were more or less adulterated with oleomargarine. Of 205 samples of spices, 135 were adulterated. In coffee 39 out of 40 were pure, 1 being adulterated with chicory. No foreign leaves were found in 15 specimens of tea; the examination of the ash showed one (green) to be adulterated. Of 5 samples of cocoa and chocolate and 2 of glucose, all were found pure. Of 3 samples of honey, 2 were chiefly glucose. There was considerable paraffine in 1 sample of beeswax. In 4 samples of cheap confectionery there was considerable starch and glucose but no injurious ingredient. Of 6 samples of granulated sugar, 5 were pure and 1 contained glucose; 6 of granulated sugar were pure, and 1 of yellow sugar had but 2.8 per cent. sugar. Of 18 samples of syrup, 16 were good, 1 was wholly glucose, and 1 (maple syrup) was largely adulterated with cane-sugar. Of 22 spurious lots of olive oil out of 49 examined, there were probably none that were not simply cottonseed oil. Of 17 samples of vinegar, 3 were condemned. In pickles 1 of 7 was soft and unfit to eat, but no injurious substances were found; many were undoubtedly more or less watered. In 10 samples of bread, no adulteration was found but all contained more water than is allowed by Wanklyn's standard (34 per cent.). In 17 specimens of wheaten flour and 29 of cornstarch, cornmeal, rye flour, rye-meal, barley, oatmeal, sago, and tapioca, there was no impurity. In 12 baking-powders no alium or deleterious substance was found. In 67 samples of cream of tartar, 20 were adulterated. Two bottles of wine were found watered and plastered. Four of 5 boxes of sardines were acknowledged to be herrings in cottonseed oil. Dr. Charles Harrington found that of 241 samples of milk 77.45 per cent. were below a standard of 13 per cent. solid, and 71.37 per cent. below a standard of 12.5 per cent, the principal methods of adulteration being the abstraction of cream and addition of water. Professor Goessmann, of Amherst, found in 79 samples an average of 12.92 per cent. solid; only 2 fell below 11 per cent. In one farm the milk was found to contain 13 per cent. solid, the same milk in the hands of a milkman 11.37 per cent. and when

it had got to the retail grocer 9.84 per cent.; showing additions of respectively 15 per cent. and 25 per cent. water. There is no statement of the cases in which there were prosecutions.

Dr. B. F. Davenport, the analyst of drugs, examined 680 samples of pharmacopoeial drugs and 8 of proprietary cough syrups. He has acted as expert for the board in seven prosecutions for violation of the adulteration act, in all of which the fact of an adulteration was proved, although in two cases the defendant escaped being held therefor.

In continuation of their investigations regarding trichinæ, the board reports four cases of trichinosis, not fatal, in Broekton. Of 500 hogs examined 10 (or 2 per cent.) contained trichinæ. The usual precaution against infection from trichinous pork is given, namely, thorough cooking of the meat.

Prof. E. S. Wood contributes an exhaustive article on Arsenic as a Domestic Poison, which seems to leave nothing to subsequent investigations. As the principal sources of domestic arsenical poisoning he mentions wall-papers and other papers, the most dangerous of which are the glazed papers used for wrapping confectionery; for the use of children in Kindergarten schools; for theatre and concert tickets; for the manufacture of playing-cards; for covering paper boxes which are often used for containing confectionery; clothing and other textile fabrics, such as cretonnes for covering furniture, for lambrequins—and even linen glaze has been found to contain arsenic; artificial flowers and leaves, which are sometimes worn in contact with the skin, in which case they are sure to produce a troublesome eruption; children's toys are frequently colored with arsenical pigments; articles of food or drink may sometimes contain arsenic in small amount, such as confectionery colored with arsenical fuchsine or arsenite of copper, or red wines and syrups artificially colored with an arsenical red pigment. Green wall-papers have been so long suspected that the green colors used now are for the most part mixtures of non-arsenical blue and yellow pigments. Red and blue papers are arsenical more frequently than green. Papers of any shade and of any color may be arsenical, and there is absolutely nothing in the appearance of a paper by which an opinion may be formed as to its containing arsenic or not. In a few instances, of different rolls of what appears to be the same paper, the pattern and the shades of color being precisely the same, so far as could be seen, one roll contained arsenic and another not, the pigment of the two rolls coming from different lots, one pure and the other arsenical. In the case of arsenic found in the white groundwork of paper intended for a nursery, it was thought probable that the pigment was added to the paste or size with which the pigment was made to adhere to the paper. Acute arsenical poisoning arises most often from the careless use, especially by children, of various poisons prepared

in various ways for the destruction of insects. Professor Wood details the symptoms of arsenical poisoning with forty-three cases as illustrations. He gives thirty-four samples of papers and two of cloths.

The paper, a model sanitary essay, closes with a description of the most approved tests for arsenic and a summary of the legislation of different countries on the subject.

Of 295 cities and towns replying to the circulars of the board, 147 have independent boards of health; in 148, including two cities, the local officials constitute the board of health. There were no complaints during the year (1883) of noxious trades under the law, and only twenty-one cases of small-pox (with four deaths) were reported. Some charcoal kilns in Charlemonst were investigated without any very definite result as to the effect of the smoke on health.

#### EXTRAVAGANCE IN THE USE OF ETHER.

WE published last week an article on the administration of ether and a discussion on the paper which ought to furnish our readers with food for reflection. The discussion was confined, more closely than such discussions usually are, to a single point in a very wide subject—the proper method of giving ether in perfectly normal cases; and the point of the paper, if it can be summarized in a single sentence, would, we take it, be expressed as follows: Gentleness and tact in administration will shorten the stage of excitement, lessen the necessity for forcible restraint, render the process of inducing anaesthesia easier and more agreeable alike to patient and physician, and greatly reduce the present reckless waste of the drug.

The opportunity to say a word upon the point of extravagance in the use of the drug is too good to be lost. The waste of ether, so common wherever this anæsthetic is used, has greater importance than is usually accorded to it. The great bulk of the drug usually required is a bar to its universal adoption. The amount which a man in civil practice must carry with him is quite a burden to one accustomed to the small amount of chloroform needed to obtain the same result, and it makes its use in army practice almost, if not quite, an impossibility. The use of chloroform in the army maintains in our midst an intelligent minority who are taught to use the more hazardous anæsthetic.

We are far from wishing to see economy carried to the point of niggardliness or to see patients deprived of the benefits of a free anaesthesia, but the vapor which announces the presence of a surgeon in the neighborhood to his brother practitioner who happens to enter the same street is certainly superfluous; when it causes the fire in an air-tight stove in the same room to burn with unwonted rapidity, it approaches the limit of safety.

Whether the quantity required can be reduced to so small a bulk as to compare favorably with chloroform for army use is extremely doubtful, but it can be greatly reduced from its present waste to respectable proportions; and those interested in extending its use and desirous of seeing it supplant entirely the more dangerous chloroform should bear in mind that any diminution in the amount necessary for anaesthesia favors its more extended use.

#### PREPARATION AGAINST CHOLERA.

OUR Atlantic seaboard cities are, some of them, taking timely steps to prepare, as far as may be, against the appearance of cholera on our shores with the return of warm weather. In New York a "Sanitary Protective League" has been organized for the purpose of guarding the city against a possible epidemic of cholera in the spring, at the suggestion of Mr. Charles F. Wingate, a prominent sanitary engineer, and a member of the Tenement-House Commission appointed by the Legislature. At a preliminary meeting, at which over fifty gentlemen were present, it was decided to call a public meeting, at Chickering Hall, and a pledge was adopted which requires the members of the league to sustain and stimulate the health authorities in their official work, to look after the sanitary condition of their own homes, and to secure the safety of employees and dependents.

In speaking of the matter, Mr. Wingate said: "Our idea is to unite all existing sanitary societies in a league to protect the city against cholera. There are several such societies, including the Ladies' Health Protective Association, the Hebrew Sanitary Society, the Sanitary Committee of the State Charities Aid Association, and others, and we shall group all the members together and then divide them up into local committees, whose duty it shall be to act as investigators of the condition of their several districts and report to a general committee any facts which may come to their knowledge regarding sanitary defects. The general committee will investigate these and report them to the Board of Health; when, if it is found that the board has no power to take action in any specific case, the committee will take proper measures itself. The money to do the work has already been pledged, so that no pecuniary responsibility will attach to the members of the league."

Such a league will, no doubt, be of considerable service in supplementing the work of the Board of Health, and, as the management of the Board is certainly less efficient at present than it was under the direction of Professor Chandler, it is to be hoped that it will have the further good effect of spurring on the sanitary authorities to a more thorough performance of their duty.

In Boston, a meeting of leading physicians and

sanitary engineers was lately called by the Mayor at his office, to consult with the Board of Health as to what steps should be taken to prepare for any possible emergency. The discussion which took place resulted in the appointment, by His Honor, of an advisory committee, consisting of nine prominent physicians of the city.

A Board of Health at such a time, however well disposed, needs, and should have, moral, legal, and financial support to an unusual degree, and such a committee may be very serviceable in insisting upon such support.

### ANOTHER HEALTH BILL BEFORE CONGRESS.

MR. PALMER, on January 9, 1885, introduced a bill in the United States Senate, which has the title of a "bill to prevent the introduction and diffusion of contagious and infectious diseases in the United States," and which has the following provisions in its various sections, namely:—

Sections 1, 2, and 3, establish a Bureau of Public Health in the Treasury Department, charged with the execution of all laws passed by Congress relating to quarantine and the public health, and with the framing and execution of sanitary regulations. The chief officer of the Bureau is to be designated the Commissioner of Public Health, and to be under the general supervision of the Secretary of the Treasury. He is to hold office for five years and to receive an annual salary of \$4,500, and actual necessary traveling expenses.

Section 4 gives him the power of appointing, by and with the advice and consent of the Senate, seven superintendents of external and internal quarantine, embracing both infected persons and infected or adulterated goods, for certain defined districts. Their tenure of office to be the same as that of the Commissioner of Public Health, and their compensation to be \$3,600 per annum and necessary traveling expenses.

Section 5 provides for the framing by the Commissioner and his superintendents of a code of regulations for the conduct of the external and internal quarantine of the United States, solely for the protection of the people against contagious and infectious diseases, and against the dangers to life and health from poisonously adulterated goods for the use of the people. Such regulations shall conform, as far as practicable, to the local quarantine regulations in the several States. It shall be the duty of the Bureau of Public Health to supplement, and not to antagonize, the efforts of State and municipal boards of health in the work of sanitation. Such regulations may embrace provisions for obtaining, in connection with the consular service of the United States, special information concerning the shipment to this country of infected persons and of infected or poisoned goods, and for the

arrest of the same before landing; such regulations may also contain proper provisions for the detention and disinfection of infected persons and goods in transit from one State to another, and for the destruction of goods infected and poisoned to such a degree that no reasonable process of purification can make the same safe. Such regulations shall be approved by the Secretary of the Treasury, the Attorney-General, and the President, and also by the Secretary of State, so far as any provisions looking to the coöperation of foreign consuls are concerned, before the same shall become of any validity; but after such approval, and after official publication, they shall have the force of law, for the violation of which the proper Federal courts shall take cognizance.

Section 6 appoints an inspector of the ventilation, draining, and plumbing of all buildings belonging to the United States.

Section 7 provides for a chief clerk who shall act as Deputy, or as head of the Bureau, in case of removal or death of the Commissioner, until the vacancy be filled.

Section 8 provides for a public analyst, who shall make or superintend chemical analyses and microscopical examinations of all substances submitted to him for such purpose by the Commissioner of Public Health, and prepare full reports of the same. He shall be provided with a proper laboratory, apparatus, and instruments for doing his work well by the Secretary of the Treasury.

Section 9 provides that the Commissioner of Public Health and the Surgeon-General of the Army shall prepare a code of proper regulations for the better sanitation of the Army of the United States; the same to be done with the Surgeon-General of the Navy; with the Commissioner of Education for the better sanitation of all schools within the jurisdiction of the United States; with the Surgeon-General of the Marine-Hospital Service; for the better sanitation of merchant-vessels sailing under the flag of the United States, any vessels neglecting or refusing to comply to forfeit their right of registration; with the Commissioner of Agriculture for the better sanitary transportation from State to State of animals designed for the food of man; and with the President of the American Medical Association for the practice of physic and surgery, and midwifery, in any place or territory under the jurisdiction of the United States. Such regulations shall not include the Army, Navy, and Marine-Hospital medical services. For the service aforesaid the President of the American Medical Association is appointed, and shall receive such compensation therefor as may be agreed upon between him and the Commissioner of Public Health, with the approval of the Secretary of the Treasury.

Section 10. That all goods designed for food or drink of man, for wearing apparel, or for the furniture or decoration of habitations, so poisoned, by

adulteration, by coloring matter, or by any ingredient whatsoever, as to become demonstrably dangerous to human life or health, are declared to be contraband of commerce anywhere within the exclusive jurisdiction of the United States, and may be seized, detained, confiscated, or destroyed by the Commissioner of Public Health or his agents.

Section 11 provides for the detail of Army or Navy surgeons, to investigate special diseases or their causes, gives them no extra compensation, but allows for their actual traveling expenses, and requires from them full reports to the Commissioner of Public Health.

Section 12 provides for the temporary employment of competent physicians to aid the superintendents of quarantine during the invasion of an epidemic disease, and allows them compensation at the rate of \$10 per day during the time of actual service, and their actual and necessary traveling expenses.

Section 13 provides for the issue of a weekly bulletin for free distribution to all health boards, and to the press of the country, containing an abstract of such sanitary information as may be useful and interesting to the people. It also provides for a full annual report.

Section 14 provides pains and penalties for violation of the provisions of the act, by fines not less than \$100 nor more than \$1,000, or by imprisonment not less than 30 days nor more than one year, or by both fine and imprisonment.

Section 15 provides \$1,000 to defray expenses incurred in carrying out the provisions of the act.

Section 16 repeals all acts or parts of acts conflicting with the provisions of this act.

The introduction of bills seems to be as far as the present Congress is likely to go with legislation bearing on Public Health.

#### FALSE ECONOMY TOWARD THE NATIONAL LIBRARY AND MUSEUM.

RECENT advices from Washington inform us that the annual appropriation for the Medical Museum and Library in the army appropriation bill has been cut down from \$10,000 (\$5,000 for the Museum and \$5,000 for the Library) to \$5,000, which is certainly inadequate. This is the action of the House. It is expected that the Senate will restore the original figures, possibly it has already done so, and that a committee of the two houses will be necessary to make the two houses agree.

The only argument used against the first appropriation, in the same committee which passed the full amount last year, is, we understand, the fear that it will become a permanent appropriation.

We know of no way in which a more valuable precedent could be established, and we prefer to believe that it is rather an inconsiderate attempt at economy, and that a little further thought will

restore the appropriation to its original figures. Ten thousand dollars for the encouragement of medical study is not a large sum for a nation to expend whose income is we dare not think how many millions.

#### MEDICAL NOTES.

—Mayor O'Brien, of Boston, has appointed Drs. H. I. Bowditch, H. J. Bigelow, Francis Minot, R. M. Hodges, S. A. Green, J. G. Blake, W. L. Richardson, George B. Shattuck, and C. F. Folsom, an advisory committee in regard to the question of a possible epidemic of cholera next summer.

—We learn that a meeting of the citizens of East Boston was recently held with reference to the erection of a memorial to the late Dr. Thorndike, and that action was taken looking to the building of a public hall to be named after the deceased surgeon.

—The Cleveland, Ohio, Board of Education has issued an English version of the Brussels Manual for teachers, and adopted it for use in the public schools. This manual contains brief instructions as to the first symptoms of transmissible diseases.

—The fellows of the Royal College of Surgeons of Ireland have voted to concur with the Council of the College in having the charter altered so as to admit women to all diplomas of the college on terms equal with men.

#### WASHINGTON.<sup>1</sup>

—*Apothecaries in the Army and Navy Medical Service.*—Mr. Randall has introduced a bill (H. R. 8,017) into the House of Representatives, which provides: That the apothecaries of both army and navy shall receive a commission, those of the army to have the relative rank of a second lieutenant of infantry, those of the navy to have the relative rank of an ensign in the navy.

SECT. 2. That the said apothecaries of both army and navy shall not be in the line of promotion.

SECT. 3. That the said apothecaries of both army and navy shall receive the pay and emoluments of said grades in their respective branches of the service.

SECT. 4. That the said apothecaries of both army and navy shall not be entitled to any of the benefits that may be conferred by this act until they have passed a satisfactory examination in the following branches, namely: Elementary chemistry, materia medica, pharmacy, and botany.

SECT. 5. That each and every apothecary who shall be serving in such capacity at the time of the passage of this act shall be granted an examination, and if found proficient in the above-mentioned branches shall receive a commission in that branch of the service to which he may be attached.

<sup>1</sup> From our Special Correspondent.

— *The Garfield Memorial Hospital.* — Statements have been made respecting this hospital which go to show that it is about to be closed for lack of funds, but its financial condition is not so depressing as has been represented. It is true the hospital is in need of funds; but it has no debts. The institution was opened on May 30, and admission of patients began early in June. Since that time one hundred and fifteen patients have been cared for, of whom seventy-nine were occupants of free beds. A published statement says that Surgeon-General Murray gives his unqualified approval of the management; that the funds now in the treasury will support the hospital till June, and that the women of the "Ladies' Aid" in the Garfield Memorial Hospital are not discouraged, and feel that when the true condition of the hospital is known their appeal for contributions will meet with a generous response.

— *Bill for the Promotion of Anatomical Science, etc.* — On January 12th the House of Representatives passed a bill to the effect that any public officer or officers having lawful charge of, or control over, any hospital, prison, almshouse, jail, morgue, or asylum, within the District of Columbia, may deliver to the duly authorized agent of any medical college or colleges in the said District of Columbia the bodies of such deceased persons as are required to be buried at the public expense, said bodies to be distributed among the several colleges equitably, the number assigned to each being proportioned to that of its students; provided, however, that if the deceased person, during his last illness, of his own accord, requested to be buried, or if, within twenty-four hours after his death, any person claiming to be, and satisfying the authorities that he is, of kindred to the deceased, asks to have the body buried, or if such deceased person was a stranger or traveler who suddenly died, the body shall not be so delivered, but shall be buried.

SEC. 2. That every physician and surgeon, before receiving such dead body, shall give to the officers surrendering the same to him a sufficient bond that each body shall be used only for the promotion of anatomical and surgical knowledge within the District of Columbia, and that after having been so used the remains thereof shall be decently buried; and whosoever shall use such body or bodies for any purpose other than that aforesaid, or shall remove the same beyond the limits of the said District of Columbia, and whosoever shall sell or buy such body or bodies, or in any way traffic in the same, or who shall disturb or remove bodies from graves in which they have been buried, shall be deemed guilty of a misdemeanor, and shall on conviction be imprisoned for a term not exceeding three years, at hard labor, in the District (or city) jail.

The Committee on the District of Columbia, by whom the bill was recommended, recognize in their report that there are now several flourishing medical

schools in Washington well established, and one or more of them of long standing; that the laws of the District are very severe against the crime of grave-robbing. With such laws in operation, and such necessities for the schools of medicine, the authorities of the District are compelled either to wink at this offence or seriously to cripple, if not to destroy, the efficiency and success of these schools. Furthermore, the heads of these institutions, professors and students of science, are compelled to supply their admitted necessities by confederating with and employing professional grave-robbers, and constantly to incur the risk of detection and criminal prosecution; and it being known in a community that the trade of resurrecting bodies for dissection is a common one, kindred and friends are frequently tortured with anxiety lest the hand of the resurrectionist shall remove the bodies of their dead. This bill is intended to relieve from such fears, to do away with the necessity or temptation for violating the laws, and at the same time in an open and legal way to provide the requisite dissecting material for the study and advancement of anatomical science in the District. A careful comparison with the statutes of some of the States shows its provisions to be prudently and aptly framed, and intended to accomplish the purpose in view in a manner as little repellant to public sentiment and sensibility as practicable.

— *Dentistry in the District.* — The House of Representatives passed, on January 12th, a bill establishing a board of examiners whose business it shall be to issue certificates to all who shall be found competent to practise dentistry in the District of Columbia, and to require their proper registration. It imposes a fine for non-compliance with the provisions of the act of not less than \$50 nor more than \$200, and in default of its payment imprisonment of not less than thirty days nor more than ninety days; provided that nothing in the act shall be construed to prevent surgeons and physicians from extracting teeth and prescribing for, or treating, diseases of the mouth.

#### NEW YORK.

— A tenement-house commission appointed by the Legislature, which has for some time past been making investigations in the city, sent a preliminary report to Albany on the fifteenth of January, in which they made a number of recommendations in regard to tenement-houses, among which were the following: Abolish all vaults. Render all cellars impervious to water. No building to occupy more than sixty-five per cent. of a lot. That the hall of each tenement-house have free opening to light and air. All air-shafts to be open at top and bottom. All tenements to be inspected twice a year.—Some \$2,000 of the \$5,000 appropriated for the use of the commission still remains unexpended.

— Frankie Roberts, a "midget," on whom the the Cæsarian operation was performed at Syracuse January 14th, died on the 16th.

— Dr. Richard C. Brandeis, professor of laryngology in the New York Polyclinic, disappeared from his home December 22d, and since then nothing has been heard of him. At first a reward of \$500 was offered for information concerning him, and now this amount has been increased to \$1,000. It is believed that a sudden development of mental aberration, of which there had previously been slight indications, caused him to wander away, and his friends fear that he has committed suicide.

— At a meeting of the Medico-Legal Society, held January 21st, at Hamilton Hall, Columbia College, an address was made by the retiring President, Clark Bell, Esq., and the installation of the officers elected at the preceding meeting, took place. Then, after listening to an address by the President-elect, Dr. R. Ogden Doremus, the members and a number of invited guests, adjourned to the Murray Hill Hotel, where the annual banquet of the society was partaken of.

### Correspondence.

#### CIRCULAR PAVILION WARDS.

MR. EDITOR, — In your issue of January 8, 1885, appears a letter from London devoted chiefly to consideration of the circular-ward system in hospital construction. According to your correspondent's statements Dr. McKenna would seem to be entitled to the claim of priority in originating the system, while M. Baeckelmans would be second and Professor Marshall third. The idea probably has occurred to many physicians and architects, though they may have neglected to publish it.

In January, 1882, I conceived the idea of circular wards from a study of the octagon pavilions accepted by the Johns Hopkins Hospital management, I had never heard of any such form being advocated, and it was not till last year, during a correspondence with Dr. Billings, U.S.A., that I learned of the Antwerp circular wards and of Professor Marshall's valuable paper.

From a review of the facts stated in the magnificent work of Moutat and Snell on hospital construction and management, I should say that to M. Baeckelmans is due the lion's share of credit for having given to the world, both theoretically and practically, the best form of building yet devised in which to treat the sick.

The wards in the Antwerp Civil Hospital and in the Miller Memorial Hospital, the only completed types at present, are by no means as perfect as the system admits. I am convinced that the full benefits can only be obtained in a pavilion of one story, where the automatic ventilation, characteristic of the domed circle, can be best effected. The circular ward surpasses all others in cheerfulness; it allows a flood of light to fall upon the patient from almost every direction; heat may be distributed equally in

all directions; in arceage it far exceeds any other geometric form yet used; and with a ceiling in the form of a parabolic dome the cubic air-space is vastly increased and ventilation rendered almost automatic.

Now, as to expense, it is well known that the cost of a building bears a direct ratio to its wall length; therefore the circle having a minimum wall length for included arceage should be naturally the cheapest structural form.

The circular ward that I designed in 1882 has an inside diameter of 67.5 feet, a total arceage of 3,578.47 square feet, and an arceage per bed of 147 feet. It accommodates twenty-four patients, who have each 2,425.05 cubic feet of air-space and 41.5 square feet of window. The ceiling is a parabolic dome, fourteen feet high at wall and eighteen feet high in centre. Through the centre of the ward passes a heating and ventilating shaft. The ward offices are detached by a lobby, and through them access is gained to the general corridor.

Yours truly,

A. C. HEFFENGER, M.D.,

P. A. Surgeon, U.S.N.

### Miscellaneous.

#### BRILLIANTS FROM THE EXAMINATION ROOM.

Is an amusing article in *All the Year Round* on examination blunders are several stories of a medical complexion. Those at the expense of medical students present a mixture of ignorance and of impudence. Among the latter are the following: A "badgering" examiner asked a student what means he would employ to induce copious perspiration in a patient, and got for answer: "I'd try to make him pass an examination before you, sir." The most frequently cited anecdote of this kind is that of the brusque examiner — said by some to have been Dr. Abernethy — who, losing patience with a student who had answered badly, exclaimed: "Perhaps you could tell me the names of the muscles I would put in action if I were to kick you?" "I'doubtlessly, sir," came the prompt reply; "you would put into motion the flexors and extensors of my arm, for I should knock you down." Of a similar nature was the retort made to M. Lefebvre de Fourey, a French examiner, celebrated not only for his learning but also for his severity and rudeness. He was examining a youth who though well up in his work hesitated over answering one of the questions put to him. Losing temper at this the examiner shouted to an attendant: "Bring a truss of hay for this young gentleman's breakfast." "Bring two," coolly added the examinee: "Monsieur and I will breakfast together."

Some of the best of the examination stories are those told of answers actually on record by her majesty's inspectors of schools, and other official persons, regarding especially the tests applied for the pupils' knowledge in the "specific subjects" in a public school within the metropolitan area. The specific subject selected was Physiology, and the answers, which are vouched for as genuine, will be interesting reading to those who are seeking to

popularize physiological and anatomical knowledge. To the question "Describe the process of digestion," one of the children "presented" in physiology replied in this wise:—

"Food is digested by the action of the lungs. Digestion is brought on by the lungs having something the matter with them. The food then passes through your windpipe to the pores, and thus passes off your body by evaporation, through a lot of little holes in your skin called capillaries. The food is nourished in the stomach. If you were to eat anything hard you would not be able to digest it and the consequence would be you would have indigestion. The gall-bladder throws off juice from the food which passes through it. We call the kidneys the bread-basket, because it is where all the bread goes to. They lay up concealed by the heart." Domestic economy, as nowadays taught to "children of the elementary school class," embraces a good deal of physiological knowledge or rather jargon. It is a subject which affords hosts of amusing answers. Thus, in reply to the question, "Why do we cook our food?" one fifth-standard girl gives the delightfully inconsequent reply: "Their of five ways of cooking potatoes. We should die if we eat our food roar." Another girl

writes: "The function of food is to do its proper work in the body. Its proper work is to well masticate the food, and it goes through without dropping, instead of being pushed down by the skin." A third pupil puts in her paper that "food digested is when we put it into our mouths, our teeth chews it, and our tongue roll it down into our body. We should not eat so much bone-making foods as flesh-forming and warmth-giving foods, for if we did we would have too many bones, and that would make us look funny."

On the subject of ventilation, one student informs us that a room should be kept at ninety in the winter by a fire, and in the summer by a thermometer; while a classmate writes: "A thermometer is an instrument used to let out the heat when it is going to be cold." Another girl sets down: "When roasting a piece of beef place it in front of a brisk fire, so as to congratulate the outside." But an answer perhaps best illustrating the jargon that comes of the cram system is the following: "Sugar is an amyloid, if you was to eat much sugar and nothing else you would not live because sugar has not got no carbon, hydrogen, oxygen, nitrogen. Potatoes is another amyloids."

## REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 24, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Whooping-Cough.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	650	257	18.63	16.94	1.08	4.77	3.39
Philadelphia . . . . .	927,995	435	168	14.26	8.74	.46	8.51	2.76
Brooklyn . . . . .	644,526	259	87	20.80	20.80	1.60	8.40	2.40
Chicago . . . . .	632,100	230	169	24.64	14.06	.88	11.44	5.28
Boston . . . . .	423,800	183	59	17.05	22.55	2.50	6.05	1.11
Baltimore . . . . .	408,520	129	41	7.69	10.01	.77	4.62	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	273,400	—	—	—	—	—	—	—
New Orleans . . . . .	224,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	82	32	13.42	19.52	1.22	1.22	7.32
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	172,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	26	8	—	1.90	—	—	—
Nashville . . . . .	54,400	21	11	19.04	14.28	—	9.52	—
Charleston . . . . .	52,286	35	4	2.86	14.30	—	2.86	—
Lowell . . . . .	71,447	26	7	11.40	7.60	—	.38	—
Worcester . . . . .	69,442	27	14	7.40	29.60	—	7.40	—
Fall River . . . . .	62,674	29	8	6.80	13.60	—	—	—
Cambridge . . . . .	60,985	24	7	16.64	12.48	—	12.48	—
Lawrence . . . . .	45,516	18	6	11.41	16.66	11.11	—	—
Lynn . . . . .	44,805	11	3	9.09	18.18	—	—	9.09
Springfield . . . . .	38,080	9	2	11.11	11.11	—	—	—
Somerville . . . . .	31,350	11	3	27.27	—	—	—	—
Holyoke . . . . .	30,515	15	8	33.33	25.50	6.66	13.33	13.33
New Bedford . . . . .	30,144	10	4	20.00	—	10.00	—	—
Salem . . . . .	29,503	9	1	—	—	—	—	—
Chelsea . . . . .	24,347	8	2	12.50	—	12.50	—	—
Taunton . . . . .	22,403	8	1	—	—	—	—	—
Gloucester . . . . .	21,400	6	2	—	16.66	—	—	—
Haverhill . . . . .	20,905	9	2	33.33	22.22	—	11.11	—
Newton . . . . .	19,421	4	2	—	—	—	—	—
Brockton . . . . .	18,323	7	1	—	—	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	—	—	—	—	—	—	—
Fitchburg . . . . .	13,433	4	0	—	—	—	—	—
Waltham . . . . .	13,568	7	1	14.28	14.28	—	14.28	—
Northampton . . . . .	13,165	7	1	—	14.28	—	—	—
84 Massachusetts towns . . . . .	397,771	62	8	4.81	12.88	1.61	3.22	—

Deaths reported 2,361: under five years of age, 859; principal infectious diseases (small-pox, measles, diphtheria and croup), whooping-cough, erysipelas, fevers, and diarrheal diseases) 391; lung diseases 357, consumption 332, diphtheria and croup 149, scarlet fever 63, measles 50, whooping-cough 27, diarrheal diseases 26, typhoid fever 23, malarial fevers 17, puerperal fever 14, cerebro-spinal meningitis 12, erysipelas 7, gastric fever two, typhus fever one. From *measles*, New York 33, Philadelphia 9, Brooklyn 4, Chicago 2, Boston and Lowell one each. From *diarrheal diseases*, New York 9, Boston 7, Chicago 4, Brooklyn 3, District of Columbia, Nashville, and New Bedford one each. From *typhoid fever*, Philadelphia 10, Chicago 4, New York 3, Brooklyn, Boston, New Haven, Lowell, Cambridge, and Somerville one each. From *malarial fevers*, New York 8, Brooklyn 5, Chicago 2, Baltimore and District of Columbia one each. From *puerperal fever*, Brooklyn 6, Chicago three, Boston two, Philadelphia, Baltimore, and Somerville one each. From *cerebro-spinal meningitis*, New York 3, Haverhill two, Chicago, Boston, and Springfield one each. From *erysipelas*, Boston two, New York, Brooklyn, Baltimore, District of Columbia, and Nashville one each. From *gastric fever*, Fall River two. From *typhus fever*, Brooklyn one.

In 105 cities and towns of Massachusetts with an estimated

population of 1,386,162 (estimated population of the State 1,955,400), the total death-rate for the week was 18.54 against 18.37 and 16.62 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending January 10th, the death-rate was 24.9. Deaths reported 4,255: infants under one year of age 813; acute diseases of the respiratory organs (London) 609, whooping-cough 91, measles 88, scarlet fever 51, diphtheria 42, fever 37, small-pox (London 34, Liverpool and Newcastle one each) 36. The death-rates ranged from 19.0 in Bolton to 36.0 in Cardiff; Birkenhead 26.3; Birmingham 23.7; Bradford 20.4; Brighton 19.1; Leeds 20.5; Leicester 31.0; Liverpool 27.5; London 25.0; Manchester 30.9; Nottingham 22.7; Sheffield 19.6; Sunderland 22.1. In Edinburgh 29.8; Dublin 31.2; Glasgow 35.6.

For the week ending January 3d, in the Swiss towns, there were 20 deaths from consumption, lung diseases 20, measles 7, diphtheria and croup 2, typhoid fever 2, small-pox one, scarlet fever one, whooping-cough one. The death-rates were: at Geneva 13.2; Zurich 11.8; Basle 14.7; Berne 18.9.

The meteorological record for the week ending January 24th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Date.  January, 1885.	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration Hrs. & Min.	Amount in Inches.
Sunday, 18	30.245	19.8	26.5	15.8	63	75	60	66.0	W	W	W	19	14	12	C	F	C	—	—
Monday, 19	30.347	19.1	26.9	14.1	61	74	59	64.0	W	W	W	12	15	10	C	C	—	—	—
Tuesday, 20	30.250	19.6	25.0	15.9	68	54	61	61.0	W	W	W	12	9	7	C	C	—	—	—
Wednesday, 21	29.775	23.7	39.2	16.9	83	55	67	68.3	S W	W	W	19	20	0	C	C	C	—	—
Thursday, 22	30.329	3.3	16.9	-0.5	36	48	47	43.7	N W	N W	W	18	27	18	C	C	C	—	—
Friday, 23	30.363	18.0	27.4	0.5	35	52	64	57.0	W	S W	S W	11	18	16	C	C	—	—	—
Saturday, 24	29.765	29.1	35.0	22.2	57	92	79	86.0	E	N	N	12	19	4	S	C	O	—	—
Mean, the Week.	30.153	18.6	27.1	9.5				63.3										—	—

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow; M., sleet.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 21, 1885, TO JANUARY 30, 1885.

WEINSTEIN, WARREN, major and surgeon. Granted leave of absence for one year on surgeon's certificate of disability. S. O. 20, A. G. O., January 21, 1885.

KEAN, J. R., first lieutenant and assistant surgeon. Ordered for duty in Department of Missouri. S. O. 23, A. G. O., January 28, 1885.

#### PROMOTIONS.

LIEUT.-COL. JOHN E. SUMMERS, surgeon, to be surgeon, with rank of colonel. January 9, 1885.

MAJOR JOSEPH R. SMITH, surgeon, to be surgeon, with rank of lieutenant-colonel. January 9, 1885.

CAPTAIN ERIC A. KOEHLER, assistant surgeon, to be surgeon, with rank of major. January 9, 1885.

#### APPOINTMENT.

HENRY I. RAYMOND, to be assistant surgeon, with rank of first lieutenant. January 12, 1885.

#### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The Section for Clinical Medicine, Pathology, and Hygiene will meet at 19 Boylston Place on Wednesday, February 11, at 7.45 o'clock. Dr. J. Cheston Morris, of Philadelphia, will read a paper on "The Milk-Supply of Large Cities." Final Report of the Committee on "The Milk-Supply of Boston." Members of the Legislature, Drs. Abbott and Walcott, of the Massachusetts State Board of Health, members of the Boston Board of Health, Prof. R. F. Davenport, City Inspector of Milk, Dr. C. Harrington, of Harvard University, Dr. H. C. Haven, of the West End Nursery, members of the Milk Producers' Association, and others, are expected to take part in the discussion. All interested in the subject are cordially invited to be present. A collation of bread and milk will be served at the close of the meeting.

ALBERT N. BLODGETT, Secretary.

GYNÆCOLOGICAL SOCIETY OF BOSTON.—The regular meeting of the Society will be held at No. 19 Boylston Place, on the second Thursday of February, at 7.30 P. M. A paper, communicated by Dr. H. G. Bigelow, of Washington, P. C., entitled "Conservation of Energy and Conservative Gynecology," will be read. Members will please notice the change in the hour of meeting.

H. J. HARRIMAN, M.D., Secretary.

DELEGATES and others purposing to attend the meeting of the American Medical Association at New Orleans, April 28th to May 1st, are informed that arrangements are being made for an excursion party with parlor and hotel cars. Particulars may be obtained by addressing

W. B. ATKINSON, M.D.,  
Secretary Am. Med. Association,  
1400 Pine St., Philadelphia.

ERRATUM.—In the announcement of deaths in JOURNAL of January 29th, for "Lewis" read Levi.

#### BOOKS AND PAMPHLETS RECEIVED.

Extensive Burn involving the Cavity of the Knee-joint. Read in the Section of Surgery at the Annual Meeting of the British Medical Association, by W. H. Daly, M.D., Pittsburgh, Penn., U. S. A. (Reprint.)

Address in Medicine delivered before the Medical Society of the State of Pennsylvania, by W. H. Daly, M.D., of Pittsburgh, at its Annual Meeting, held in Philadelphia, May, 1884.

Inflamed and Sensitive Teeth. By John T. Codman, D.M.D., Boston, Mass. Read before the New York Odontological Society, October 21, 1884. (Reprint.)

Transactions of the American Ophthalmological Society, Twentieth Annual Meeting, Catskill Mountains, 1884.

Nineteenth Report of the Board of Trustees of the Connecticut Hospital for the Insane, State of Connecticut, 1885.

Poliomyelitis Anterior in Adults. By Gustavus Eliot, A.M., M.D., of New Haven, Conn. (Reprint.)

Denison's Annual Climatic Map of the United States, Graphically illustrating Cloudiness, with Isotherms, Precipitation Lines, etc. By Charles Denison, A.M., M.D.

## Address.

VALEDICTORY ADDRESS.<sup>1</sup>

BY FORDYCE BARKER, M.D., LL.D. (EMIN.), THE RETIRING PRESIDENT.

FELLOWS OF THE ACADEMY.—In now closing my official relations with the Academy, it is both a pleasure and a duty to briefly recall the more prominent features in its history during the period of this connection. I will also venture to offer a few suggestions derived from my long experience in this position, as to some points relating to its future growth, its increasing usefulness, and its influence on the profession. As I know you will be impatient for the intellectual feast which is to follow in the address of my successor to this chair, I shall be as brief as is consistent with a clear statement of the points to which I think it desirable to ask your attention.

It has been my good fortune to hold this position when the profession was becoming more alive to the importance of this institution, and more and more ready to contribute material aid for its growth and support; at the same time there was a new development of mental activity in the profession, not only in this city, but all over the world, as demonstrated by great and important discoveries in science, and a wonderful increase in, and valuable additions to, medical literature.

As I have alluded to these facts more in detail in former addresses before the Academy, I will not detain you now by further allusion to them. I will only briefly refer to a few of the most notable events connected with the Academy during my administration.

First to be mentioned is this new and commodious hall, which could not then have been built except for the munificent donation of one noble benefactor, Dr. Abram DuBois, and the contribution to the full extent of their hard-earned means by many others. We are rapidly outgrowing our new hall, and must soon have another, as our library is now nearly filled. As I learn from Mr. Browne, our excellent assistant librarian, the Academy had, when this hall was built in 1879, about 9,000 volumes; it now has about 25,000 volumes and 15,000 pamphlets. Its circulating department has about 6,000 volumes, which our Fellows can take out of the library for consultation at home. In our journal room, open as is the library for all who may wish to read in our rooms, there are 225 medical journals in all languages in which there is to be found a medical literature.

The Academy is greatly indebted to Messrs. William Wood & Co., and D. Appleton & Co., for large donations of their new publications, and I believe to some foreign and other American medical publishers. We gratefully acknowledge the generosity of these gifts, and we feel assured that they were made from entirely generous motives. But we may be permitted to express the conviction that both publishers and authors will find it a wise business policy to place a copy of every new medical work in our library, as it has been estimated by a competent authority that one copy of every new

good book in this library will secure the sale of at least ten more. The library is visited, not only by the profession of this city, but by medical men from all parts of the country, who come to this great metropolis. They have seen in some medical journal a notice of a book, but have not remembered who were the publishers; in coming to our library they examine it to see if it is what they want.

The next notable event in the history of our Academy, since I have held this position, is its absorption of another very important organization, the Journal Association, which, to quote from a former address, "not only added largely to our library, but also to our moral and intellectual power."

The truth of history demands that the fact should be mentioned, that nearly two years ago the Academy passed through the segment of a cyclone, but like a good steamship, driven over a sandbank near a leeshore, with its engines temporarily disabled, it escaped being hogged, its seams were not opened, its barnacles have been scraped off, its bottom has been cleaned, and it has since gone on its voyage with favoring winds and fine weather. All who are familiar with its past history and who are unbiased by personal feeling or prejudice, must agree that the Academy has more nearly approached its avowed aims and its high purposes during the past year than in any former one since it was founded. It has had a larger increase of prominent men, and of young men of promise, than in any previous year since that in which it was organized, with the exception of the year when the Journal Association came into it. More than four times as many papers have been offered to me than there have been sessions to listen to them. As these sessions have been promised to previous applicants months before, very many of these papers have been withdrawn. I have afterward seen them not only in the medical journals of this city, but also in the journals of Philadelphia and Boston. It is bare justice for me to add that I have generally found them to be of such merit that I greatly regretted that the Academy could not have the credit of their first publication.

The papers which have been read at our meetings have been characterized by careful preparation, thorough research, original and often valuable hints as to pathological explanations and therapeutic indications.

Our discussions have been of such excellence that I am quite certain that every one carries away from our meetings either new suggestions or new information, which amply compensate for the evening passed in this hall.

In a scientific body like this, all discussions should express the results of mature inquiry, and a clear and forcible statement of the reasons which have led to positive practice. In some papers the novelty of opinions advocated and original methods of practice proposed, whether medical or surgical, may be so exclusively a matter of individual experience, that all discussion must be necessarily limited at first to inquiries and *a priori* objections, founded on anatomical, physiological, or pathological grounds. Papers of this class should be the subject of a most thorough and searching examination; for they

<sup>1</sup> Delivered before the New York Academy of Medicine, February 5, 1885.

may be either mischievous, and their effect for evil must be effectually exposed, or they may possess positive value which should lead to prompt acceptance and adoption.

To secure such discussion as will represent the most advanced knowledge of the Academy on any special topic, I have at our recent meetings adopted a plan first introduced by Dr. V. P. Gilney. Writers of papers have been requested to send, to a few of those whom they knew to have given special attention to their subjects, the points which it would suggest for discussion, printed on a small slip of paper, and especially asking those who held different or opposing views to take part in the discussion. They thus have time to arrange and formulate their knowledge and opinions, and the time of those present at the meeting is not wearily wasted in listening to crude, profitless, and digressive talk.

The reports of the Treasurers of the Academy and of the Board of Trustees have already been before the Academy. While its financial condition is now better than ever before, there still remains much to do. A few weeks since a Committee of Ways and Means was appointed, of which Dr. Gouveneur M. Smith is the chairman, to solicit contributions to pay off our only debt, a mortgage of five thousand dollars. They have worked with great zeal and enthusiasm, and the Fellows of the Academy have responded with self-sacrificing generosity; the necessary sum has not yet been wholly secured, but the prospect of soon accomplishing this is most encouraging. We particularly need money for preserving our library by bookbinding. It will be remembered that last year a generous sum was given for this purpose by a lady, who has in many instances shown that she is as warm a friend to the Academy, as she is conspicuous for her readiness to aid every good work by munificent support. Many of our Fellows have also most liberally added to the beauty of the library in this way, and have rendered great service in the preservation of our books in good condition, which otherwise would speedily deteriorate.

I have long contemplated offering some suggestions on the present occasion as to the wisdom of a change in our by-laws relative to the duties and functions of the sections. Only one of the sections, that of Obstetrics and Diseases of Women, has kept up an active organization, done excellent work, and made regular reports to the Academy, since my official connection with it. Two or three only of the other sections have reported their organization by the election of a chairman and secretary; and this has been all. Two have appointed a Fellow to read an original paper before the Academy, one of which, a most valuable paper, was read before us. The other I have never been able to get, and, as four years have now passed since that time, I do not think it very probable that it will ever come before the Academy.

The founders of the Academy did not contemplate making these sections independent societies for special work, but as contributing aids to the high aims of the central power. I had proposed to suggest such a modification of Article XVII., Section 2, as would assign to the sections functions similar to those of the Academy of Medicine of

Paris. But we have not the time now to consider the details of such a change, and I leave the matter for future consideration by the Academy and my honored successor.

Neither did the founders of the Academy intend to absorb or concentrate in itself all the scientific work of the profession in this city. The whole spirit of its high aims and purposes indicates that, on the contrary, they desired to stimulate and encourage such work in every feasible direction. I hope the time is not far distant when the Academy will be so well endowed that it may offer to all such societies, as the New York County Medical Society, the Pathological, the Obstetric, and the Surgical Societies, and the youngest of all, which has begun its career with excellent scientific work, the New York County Medical Association, a home for its meetings free from all expense.

Our standing committees have always faithfully discharged their important duties, with one exception, and that is the Committee on Medical Education, which has had little to do, and it has done just this and nothing more.

I may now be permitted to ask if the time has not come when it should be one of the most important and useful of all of our standing committees in carrying out one of the objects of the Academy as declared in our Constitution—"the elevation of the standard of medical education." How can this be best effected? is the question.

It seems to me that a way is now open for this committee to do effective work in this direction.

For years some of the medical profession in all parts of the country have been agitating the question of separating the licensing power to practice medicine from the teaching power.

It is a subject of great importance to the profession, to our medical schools, and equally so to the community. It must be met and settled in a way that will be most effective for good, but this cannot be done at once. There are two ways by which this can be accomplished, but each would require time.

One way involves the division of the profession into contending parties, each most zealous to carry its point; heated controversies, which always provoke personal feeling and personal antagonism; an appeal for action of societies; and a struggle for majority votes, not only in medical societies, but in seeming legislative action,—all of which would undoubtedly affect injuriously our medical colleges and lower the profession in the estimation of the public. Any good secured would be at a great and unnecessary cost. The public cannot understand medical controversies except from what appears on the surface. A "doctors' quarrel" seems to the non-medical community like a fight between drunken men in the dark. The late Mr. Charles Dickens once related to me a story which he had heard of how Sidney Smith convulsed with laughter a dinner company at Holland House, by his description of a duel between two doctors. The mode of warfare was croton oil on the tips of their fingers, trying to rub each other's lips.

Now, this question is one which belongs to the domain of reason, and, let us hope, for the honor of the profession, that hereafter it will be confined

to the region of argument, and that in due time it will be settled to the satisfaction of all who are actuated by pure motives and a desire to secure the best results. At the last meeting of the Academy, some resolutions were offered; but by the courteous consent of my friends, the mover and seconder of the resolutions, they were laid on the table for future consideration. I therefore feel that I have now the floor, and venture to throw out a few suggestions as to the other method of meeting this question.

In order that the standpoint from which I look at this subject may be perfectly understood, I will briefly state a few propositions which seem to me common ground upon which we all stand and from which we must start.

Where charters for medical colleges can be easily obtained from State Legislatures, it is a duty which the profession owes to the public as well as to itself, to protect the community from ignorant, unprincipled practitioners of medicine, who not only swindle their victims, but jeopardize health and often sacrifice human life. This is a matter of great difficulty where each State is an independent sovereignty as to all such laws, where there is no central power to control action, and where personal freedom of opinion and conduct is zealously guarded as to everything which does not interfere with the rights of others, as regards health and property. The interests of the medical profession are so closely allied with the medical colleges that what affects detrimentally the one must reciprocally injure the other. The profession has a perfect right to supervise the methods and exercise a controlling influence over those who by law are permitted the privilege of giving a diploma, which is effectually a license to practise medicine.

All wise legislation must be based on a thorough knowledge of all the conditions which demand special law; it cannot be evolved from the inner consciousness of any one who has only the spirit, the zeal, and the genius of reform, but must be derived from the accumulated wisdom and experience of the past.

More examinations by a special board, who have had no previous training in this direction, no personal acquaintance with the mental characteristics, the habits of study, or the personal conduct of the candidate, would be as unsafe a test for admission to the profession as any objection that can be urged against the present system. Injustice would be done to some, while flippant readiness in reply, which can be easily attained by a quick, bright mind by a few weeks of cramming, without either solid acquirement or sound judgment, would always secure success.

The experience of all countries has demonstrated the necessity of examination by the teaching faculties and the wisdom of their assent to a license to practise. But in all other countries except this there is an additional protection to the profession and the public by the concurrence of another power.

In the Edinburgh University, and in some other medical institutions of Great Britain, this is vested in a special board of examiners. In France this is under the direct control of the government. The minister of public instruction has not only the

power of granting or withholding the diploma, but in addition, even in this so-called Republican government, he has the power of retiring any professor whose teaching is not abreast of the times. In Germany also, while the methods vary in different universities and in different constituent parts of the empire, it is yet under government control, which I believe is always exercised wisely.

Now I offer the suggestion that a committee of judicious, wise, and unprejudiced medical men, which would represent the best interests of the profession, the medical colleges, and the public, could frame a law, with the aid of competent legal advisers, which would combine the two methods, in accordance with the spirit of our Republican institutions and the sentiments of our epoch, and thus save the profession from unfortunate and heated controversies, and from crude, hasty, and ever-changing legislation.

Would not the demands of the most progressive members of the profession be satisfied if the Regents of the University were empowered by law to appoint the Committee on Education of the Academy of Medicine a supervisory Board of Examiners for the medical colleges of this city, whose duty should be to make an annual report, not only as to the examination for diplomas, but other details, as to the instruction and education of the student? This committee should be enlarged to the number of the principal departments of instruction, and should serve without pay—for there can be no doubt that the best men in the profession, who have the time, would esteem it a high honor to serve on such a committee.

For the medical colleges in other parts of the State, there would be no difficulty in devising a method by which the Regents would appoint men for the board of supervisory examiners, who would be most satisfactory to all. None except those who are well acquainted with the facts can appreciate the immense advance which the medical colleges of this city have made within the past quarter of a century in teaching and the increased facilities for acquiring a thorough education in all departments.

I have also great pleasure in referring to two other schools, the "Polyclinic" and the "Post-Graduate Medical School and Hospital," which have been doing a great work for the more thorough medical education of those who have diplomas, and thus necessarily for the "elevation of the profession" within the past three years. I do not believe that one in fifty of the profession of this city, has the least conception of what these schools are doing. If I expressed in moderate terms my estimation of the importance and value of their work to the profession of the country, I should be regarded by many as either carried away by my enthusiasm or prompted by personal considerations—so I will only say, Go and see for yourselves. Medical men who come to this city, and who always keep up their professional interest, should not fail to visit and see what clinical teaching and clinical opportunities are found here, with all the equipments for their utilization, and they will be well repaid for the time given up for this purpose. This system of special clinical improve-

ment originated in Germany, and nine or ten years ago I seized an opportunity to visit the most prominent of the Polyclinics in that country. Undoubtedly they have greatly advanced within this time, but I assert that then none that I visited were either in clinical advantages or clinical teaching on a level with our own at the present time.

I take the liberty of suggesting that it would be a wise and politic move for the medical colleges of this city, the "New York Polyclinic" and the "New York Post-Graduate Medical School and Hospital," to take the initiative and invite the Committee on Medical Education of the Academy of Medicine to visit these institutions, study their methods and their equipments, and report the result of their observations to the Academy at its annual meeting in January, 1886.

It must be obvious to all that this great improvement in medical education, far beyond the elementary teaching of former times, implies a corresponding elevation, not merely in the level of the average of the profession, but a still greater growth in the higher standards of medical science and literature. Thus the inquiry is naturally suggested, What is the future of this Academy, what is to be expected from it, and how is it to be placed on the high plane where it should stand in reference to the profession, not only of this city and of this country, but of the world? A wise forecast will early plan to secure a result which it desires to attain.

While our educational institutions are steadily improving their facilities for training the young men who are about to begin their career, and our Polyclinics and Post-Graduate Schools are more thoroughly preparing them for the higher grades of the profession, such an organization as our Academy of Medicine—in the great metropolis of the country—should be an ultimate centre, at which all those who have been long enough at work to find out their individual vocation should have every opportunity to carefully study all the literature of past ages, and make original investigations in every possible field of medical science which can add to its importance. All short of this will be just so far a failure of the true mission of the Academy.

Thus far, which is only a beginning, the Academy has done its duty, in bringing together most of the best men of the profession and making them acquainted with the special ability of each, in collecting a most creditable library for consultation, research, and circulation, and in stimulating and bringing out good literary and scientific work.

What the Academy requires in the future is:—

(1) A large fireproof building, with ample room for a library containing all the medical literature of past and coming times, and including (2) A large hall for its meetings, and others for smaller societies and committees. (3) A large room for a museum, illustrating physiological and pathological anthropology, and which should include a craniological series, a pathological series, and a series of sections and dissections, illustrating topographical human anatomy and a comparative anatomy series. (4) An anthropometric laboratory, provided with the best means of measuring human bodies, the faculties, and everything cognate to these subjects, and

which should include a set of psychometrical instruments and everything pertaining to the series. (5) A lecture hall, connecting with the laboratory and fully equipped with apparatus for lectures and demonstrations of all kinds. (6) It should also have a thoroughly educated and trained pathologist, who should, by means of an adequate salary paid by the Academy, be able to superintend all the scientific work and report on the specimens furnished to him; also a first-class mechanic, skilled in brass and glass work; and a good practical phonographer.

This is a broad scheme, which will require a very large endowment, but it is my firm conviction that it only outlines the future of the Academy, even if it demands a million of dollars. The liberality of New York is as boundless as its wealth, when convinced of the worthiness of its object. But large wealth is subjected to perpetual annoyance from solicitations and to criticism from those who have some pet end to promote, which they deem the most important above all others. This kind of discipline trains wealth to the exercise of discrimination and judgment, and besides it has its own convictions as to how its surplus can best be employed. The position of the possessors or representatives of great wealth in this country is peculiar and anomalous, and the thinking men of this class, and there are many, perfectly comprehend this.

There is no reason to suppose that there will be any exception in this country to the general experience of the world in the past, which is, that those who have but little or no property will greatly outnumber those of large wealth. Here lies the peculiarity and anomaly of wealth with us. Heretofore, property has protected itself through its representatives, by monopolizing or controlling the law-making and the law-administering power. With us the condition of affairs, if not actually reversed, has certainly been brought within the possibility, if not the calamity, of absolute reversal; inasmuch as through universal suffrage, untrammelled by conditions of property, and absolutely (in theory at least) free elections, the control of all law-making bodies and the appointment of all law administrations, has come to be possible with those "who have not" rather than "to those who have."

Property or its representatives, and more especially the representatives of very large wealth, are therefore exposed to dangers in the future with us through arbitrary or destructive legislation, which have not existed, or do not now exist, anywhere else. The possessors of great wealth, in virtue of their superior education and knowledge of the use of methods, may be able to guard themselves in the future as they have in the past, but this will turn on the fact whether the great majority of such have the clear perception of the future and the sagacity to avail themselves of the two strictly legitimate methods for protection open for adoption.

The first is to bring to the masses, in whom all political power rests, a full realization of the fact that nothing so undermines the property of a state, or so quickly impoverishes the people, through the arrest of industrial growth, as the impairment, or the menace of impairment, of the rights of property.

The second is, the demonstration by the posses-

sors of wealth, by liberal contributions to every object that can benefit humanity, relieve suffering, prolong and preserve human life, improve education, aid scientific investigation, and promote a higher development of art, that it is a greater boon to the masses than it is possible to secure by any other means, as the past history of the world illustrates.

We have abundant proof that this view has been adopted by many in this city. The foundations of the Astor Library and the Cooper Institute are a corroboration of this statement as regards the past. The splendid gift to the College of Physicians and Surgeons by Mr. W. H. Vanderbilt, the munificent endowment of the New York Cancer Hospital by Mr. John Jacob Astor, and the generous liberal contribution of Mr. Andrew Carnegie for a pathological laboratory in the Bellevue Hospital Medical College, are recent evidences of the correctness of my assertion. Such noble examples are sure to be emulated by many others in the future.

The wonderful growth and development of this country is unparalleled by anything in the history of the past, and it is certain to go on in even more rapid strides for years to come. Its educational and scientific institutions will be placed on a corresponding plane, as compared with other parts of the world, with its industrial, its financial, and its political relations.

There is another point worthy of remark. Men of wealth, in common with other men of intelligence, like those devoted to literature or science, have a desire to be remembered after death. They have a dread of having their names and the record of their lives pass into utter forgetfulness or oblivion. To avoid this, the resting-places of the dead are everywhere crowded with cenotaphs and memorials. This is strikingly manifested in some parts of the country by the most expensive monuments and mausoleums of modern times. They crowd each other in some of our cemeteries to such a degree that they lose all their individuality in their multiplicity, and the names which they are intended to keep alive are forgotten in the observations as to the comparative merits of the architect or stone-cutter who has erected them. The only question asked is, "How much did it cost?" and the only suggestion is that of vulgar wealth. "Yet all here," to quote from quaint old Sir Thomas Browne, "are but Babel vanities. Time sadly overcometh all things, while her sister Oblivion reclineth somniferous, making puzzles of Titanic erections and turning old glories into dreams." The only lasting monument a man can build is the reputation he makes during life and the memory of the benefit which he has, in some form or other, conferred on those who live after him.

"For the good dead through the ages  
Linger in hist'oric pages  
Ever gleam and glow immortal,  
Unconsumed by moth and rust."

From all these considerations, I feel justified in expressing the belief that the ideal of the future of the Academy which I have given will at no remote period prove to be history. I hope to live to see it well begun, and I have the strong conviction that some now present will see it in full accomplishment. Some man of wealth, fully comprehending the im-

portance of this Academy, not merely to the profession, but still more to the public, will esteem it a privilege to have his name prefixed to our new hall by furnishing the requisite sum to build it and perfectly equip and support it; others will contribute the necessary amount to give their names to each of the special museums that I have mentioned, and others will place their names on an alcove in the library.

I here crave indulgence for one remark, the only one personal to myself: I trust this evening will end, on my part, all official connection with any medical societies. The remainder of my life, except the time necessary for bread-winning, will be devoted to putting on record the results of more than forty years of study, observation, and experience, with the hope that this may be of some value to the younger men of the profession, and to doing all in my power to urge forward that future of our Academy which I have anticipated.

I have but a few words to add before introducing my successor. Some years ago, when elected to a similar honor in another society, I remarked: "Scientific societies seem to be governed in their selection of office-bearers by one of two principles. One is to confer honor on those who by their contributions to literature and science have won a right to it. The other is to select such as will most efficiently perform the duties which pertain to be office."

In the election of my successor the Academy has most happily combined both of these principles. His literary and scientific work have won for him an enviable fame and high distinction, equally in this country and in Europe. His ability as a presiding and executive officer, has already been successfully tested by his former service as President of the New York County Medical Society and of the Medical Society of the State of New York. Thus he begins his career with a prestige which is a promise of great success.

I now have the pleasure of presenting to him the "loving-cup," on which his name has already been engraved, and which is to be transmitted to his successors in turn. It is ornamented with the symbol of friendship and love, and on it is the sentiment engraved "May peace and love be multiplied unto us."

Some years ago the phrase was very current in the political world, "Let us have peace." It is as wise a sentiment for the medical as the political world. I sincerely hope that my successor will never have to qualify this with the paradoxical appendix, "Let us have peace, even if we have to fight for it."

Of 1,724 students in medicine at Edinburgh during last year, 605, or more than 35 per cent., came from England, and 23 per cent. from the British colonies or from foreign countries. That is, over 1,000 men are studying at Edinburgh, who, under equal, or nearly equal, inducements in the way of medical advantages, would have naturally gone to London. That the attraction at Edinburgh was not an easy degree is shown by the fact that only 181 received the degree M.B., which, taking the average as 100, is less than 50 per cent.

## Original Articles.

## THE USE AND ABUSE OF BATTEY'S AND TAIT'S OPERATIONS.

BY WILLIAM H. BAKER, M.D.

WITH the great relief of suffering which has come since and through the inauguration of the operations for the removal of the ovaries and Fallopian tubes, there has been almost of necessity an unwarrantable advocacy of these surgical procedures in many cases where the above operations were in no way indicated. Nor is this surprising when we remember the enthusiasm and zeal which is requisite to establish any new departure in surgery, and especially when that device is ranked among the capital operations; for if the question of life and death is involved the profession are slow to adopt a new operation, even though in the hands of the deviser it give great promise.

This conservatism has its many advantages, as its tendency is to establish any given operation on a more sure foundation, so that its proper limits become well understood before over-zealous advocates, applying it to cases so unsuitable that the result must be only failure and disappointment, bring upon it first discredit, and then neglect and abandonment. The courage and conscientious work of Dr. Robert Battey in performing the first operations for the removal of the supposed normal ovaries to bring about the premature establishment of the menopause can never be forgotten, nor would we overlook the brilliant operations of Mr. Lawson Tait, in which by the added removal of the Fallopian tubes the scope of the operation was extended to a much larger class of sufferers, or the importance of his additional steps in securing results which were sought in the first-mentioned operation, but which the second seems to more perfectly attain.

The operation, then, of the removal of the uterine appendages for various conditions may be said to have safely passed its first danger, and to have become an established and well-recognized surgical procedure, but with this security in its general adoption arises another great risk common to nearly all operations at this stage, that of its frequent application to cases where no such serious method of treatment is necessary, and which can be perfectly cured by less severe means, without sacrificing parts which may prove to be of the greatest consequence to the patient's future happiness.

That many of the fears of patients submitting to this operation, such as change in form, manners, or voice, or loss of sexual desires, have proved ungrounded is quite true, but when we remember that by its successful performance we forever cut her off from child-bearing, I am sure the wiser and more cautious gynecologist will reserve this method of treatment for extreme cases, which fail to yield to the careful application of less severe but judiciously selected modes of treatment.

In order to illustrate the special points of this paper I will report four cases, the first two of which indicate an unquestionable class for the proper performance of these operations, while if the

same surgical means had been carried out in the last two cases there certainly would have been gross abuse of the procedure.

**CASE 1.** *Removal of the Ovaries for Cystic Disease.* Miss W. was brought to me March 28, 1883, by Dr. Thompson, of Fitchburg. She was thirty-eight years of age, and had complained of the trouble for which she sought advice for fourteen years. For the first few years of her illness she was generally weak and unable to walk, and from that time there had gradually come on headache and pain in both groins, a dull ache all over the abdomen, and occasionally sharp pain through the hips, which became so severe that for a year previous to seeing her she had been obliged to give up trying to walk. She had never been very strong, and the foregoing all attempts to walk out was a serious deprivation, as her general health suffered much in consequence. Riding caused more pain than walking. Menstruation began at twelve years of age, and had continued regularly afterward, occurring each twenty-six days, and lasting from three to five days. The amount of flow in her early life had been from ten to fourteen saturated napkins, but since her illness the amount had steadily diminished, until the whole flow would not soak four napkins. She had always suffered dysmenorrhœa, but after she became more or less an invalid this symptom was much more prominent, the pain beginning from a few days to a week before the flow, and lasting throughout the period. She was usually confined to her bed four days. She had some leucorrhœal discharge, characterized as thin and whitish. She also reported frequent micturition and a feeling of pressure over the bladder. The condition of the bowels varied, being at times constipated and at other times too loose. She was obliged to lie down a great deal of the time. Physical examination made bimannually showed the left ovary to be enlarged to the size of a small hen's egg; the right ovary could not be distinctly felt. She was advised to have a leech applied to the cervix uteri a few days before each menstrual period, and an application of Churchill's iodine to the left cul-de-sac of the vagina once or twice a week in the inter-menstrual period. Her physician was to carry out the treatment, and to bring her to me again in six months.

October 12, 1883. She was admitted to the Free Hospital for Women, and on the twenty-third of that month she was examined under ether, and both ovaries were found to be enlarged, the left being the larger and more prominent. By the vagina, the size, compared with six months previously, did not seem to be much changed. There had possibly been a slight amelioration in her suffering from the treatment prescribed. She was advised to continue the treatment for six months more before deciding to have Battey's operation performed.

May 19, 1884. The patient was readmitted to the hospital, and reported no improvement, and, on examining her under ether, there was an apparent increase in the size of both ovaries over that which was found at the last examination. May 22d laparotomy was performed. Both ovaries were found to be enlarged to the size of a large peach, and were cystic. They were removed entire, and a

very small dermoid cyst on the left ovary, about the size of a large hickory nut, was ruptured in its removal. The operation was done under carbolic spray, and the strictest antiseptic precautions were observed. Greater care than usual was taken in sponging out the abdominal cavity, on account of the discharge of the contents of the dermoid cyst into it. Temperature touched  $102^{\circ}$  F. the evening of the second day, but gradually dropped to  $99.5^{\circ}$  F. on the morning of the fourth day, and kept between  $99^{\circ}$  and  $100^{\circ}$  F. for the next three weeks, during which time an abscess formed in the abdominal wall at the site of the incision, and, discharging, caused a separation of the wound at centre of the line of incision about an inch in length, which had nearly healed when she went home, June 28th.

In a letter from Dr. Thompson, dated January 5, 1885, he reports that the unhealed portion of the wound closed slowly, and that even then there was a small fistulous track extending some two and one-half inches downward, backward, and to the left, which occasionally discharged a thin, seropurulent fluid.<sup>1</sup> She had menstruated once since the operation, the last of November, 1884. This period lasted three days, although the whole amount of blood lost would not more than saturate one napkin. With the exception of increased nervousness and some pain in the back, the menstruation was comfortable.

I should judge from her physician's account that her condition, although very much improved over what it was before the operation, was in a state that required much to be done in the way of building up her general physical and nervous strength, and in the healing of the fistulous track referred to.

CASE II. *Removal of the Uterine Appendages for Fallopian Dropsy.* Mrs. M., a native of France, and resident of New Haven, Conn., was admitted to the Free Hospital for Women October 8, 1884. She was forty-three years of age, had been married nine years, but had had no children and no miscarriages. Her family history was not very good, her mother and aunt died of phthisis, and three sisters from nervous disease. Menstruation began at thirteen, and she was regular afterward, but she always had great pain, and was confined to her bed at such times.

When sixteen she had a severe hæmorrhage; on waking in the morning she found her bed soaked through. This was at a menstrual period, and at that time there was no dysmenorrhœa. When thirty-five she had another hæmorrhage at her menstrual period, and felt much relieved after it. For several years she had menstruated each twenty-five days, each period lasting four days, and its amount being large and accompanied by the passage of clots. There had been persistent leucorrhœal discharge for fifteen years. She thought she had peritonitis two years before her admission to the hospital. During nearly all her married life coitus had been painful, and for the day or two following this act she suffered from sinking feelings, "fainting spells." Her principal complaint between the menstrual periods was severe pain in the abdomen and legs, and weakness,

these difficulties being much aggravated when she was on her feet, or if even while sitting or lying she made much use of her arms; she was obliged to give up all such attempts, and to live a life of nearly complete invalidism.

A physical examination, made under ether, revealed the uterus enlarged by an interstitial fibroid in its posterior wall to about the size of the gravid uterus at two and one-half months, and apparently both ovaries increased to the size of duck's eggs. These were in close apposition to the uterus, and were movable with it.

October 29th. The patient being etherized, with the assistance of the hospital staff, I performed Tait's operation, every antiseptic precaution being taken. The abdominal incision was three and one-half inches long. The ovaries were found enlarged, but not at all to the extent that had been apparent in the physical examination. What had then appeared to be the enlarged ovaries were found to be the Fallopian tubes enormously distended with a clear fluid. In removing these the left and larger was ruptured. The ovaries themselves were underneath and behind the distended tubes, and had not been felt in the previous examination. In closing the abdominal wound Hunter's method was followed of first stitching together, with catgut over stitch, the edges of the peritoneum, and then closing the abdominal wound with interrupted silver sutures.

November 5, 1884. The stitches were removed and union was found to be good. The temperature once reached  $101.5^{\circ}$  F., on the third day, but for most of the time during two weeks it ranged between  $99^{\circ}$  and  $100^{\circ}$  F., and the pulse ordinarily at 90. After two weeks both temperature and pulse were normal. The most suffering which she had was from wind.

December 13, 1884. She was discharged cured.

In a letter from her dated January 15, 1885, she says that no menstruation has occurred since the operation, that the severe pain which she formerly felt in the abdomen and legs has entirely disappeared, and that she can walk with comfort. Her report was most satisfactory, and with the exception of some symptoms of nervous debility, such as "hot flushes," I should think her health fully restored.

In the foregoing cases it would have been foolish to delay the operation longer. The fact having been established that organic change of the ovaries or tubes had taken place, which incapacitated them from fulfilling their proper functions, or made them the cause of continued suffering, the sooner the remedy was applied the better for the patient, for she might then be saved years of exhausting pain. Nor was there anything to hope in the retention of organs so thoroughly disorganized, for the possibility of their being able to perform their functions had long since ceased. A longer delay did not seem advisable on the ground that a probable enlargement of the tumors would render the operation more easy, though in the first case such a change was to be expected; for with the readiness and greatly increased safety with which laparotomy can now be performed, such delay would only prolong the suffering of the patient without giving her any adequate return.

One of the good results growing out of the estab-

<sup>1</sup> In a more recent letter from Dr. Thompson he reports the fistulous track closed.

lishment of this operation, aside from the benefit derived from it by the class of cases for which this procedure was especially designed, has been its effect on the treatment of ovarian cystoma in general, influencing, as it has, the much earlier removal of such tumors, and it seems only a reasonable prediction to make that the work of the ovariologist in the not distant future will be confined to the removal of tumors of small size; that the operator will be the most successful, other things being equal, who can early make his diagnosis sure.

By the citation of the foregoing cases I would not be understood to limit the field of these operations only to these classes, for I am well aware that it has quite as appropriate a place in any cases where the mental or physical state of the patient is seriously jeopardized by the process of menstruation, and where the only hope for mental or physical health lies in its cessation.

It is rather my design that the instances given should represent the class in which structural changes leave no doubt as to the advocacy of the removal of the uterine appendages, and also those others that serve as a text to caution the profession at large against the too hasty acceptance of this extreme measure in cases where it *may* be that *there exists* some abnormal change either in the size or the position of the ovaries which with appropriate treatment might be readily relieved, and that in these laparotomy should only be advised after such well-directed care has failed to cure.

**CASE III. Ovarian Dysmenorrhœa dependent upon the Opium Habit.** Miss K., a school-teacher, twenty-eight years of age, a native of an adjoining State, entered the Free Hospital for Women March 8, 1881, for the purpose of having Battey's operation performed. She had always been well until eight years before, when she had pneumonia followed by phlebitis, and had suffered more or less ever since. Menstruation began at fourteen, and continued regularly afterward, lasted four days, and in amount was equal to five saturated napkins. It was unaccompanied by pain until after her attack of pneumonia, but since that time she has suffered great dysmenorrhœa, the pain beginning several days before the flow, and continuing not only throughout it but for several days afterward. She also complained of pain in both ovarian regions, particularly the left, and so much sensitiveness there that any pressure could not be tolerated. There was some leucorrhœal discharge, characterized as thick and yellowish. Her nervous strength was in a deplorable condition, and she had long before been obliged to give up her duties as a teacher. After her attack of pneumonia, from which she dated most of her troubles, her physician had given her morphia for her suffering; had even gone so far as to teach her to use it subcutaneously, and had provided her with a syringe and an abundance of the necessary alkaloid. On account of the amount of pain complained of she had felt obliged to continue its use until she was alarmed at the amount consumed and at her dependence upon it. She therefore determined, two years before my seeing her, to enter a hospital at Concord, N. H., for the purpose of discontinuing the morphia. She succeeded in reducing the amount from twelve grains a

day to half a grain. She was then told by the physician in charge that she could never hope to give up entirely the drug while she suffered so much at her menstrual periods. She next sought relief in a hospital in New York, where in discontinuing the drug she became very ill, and the amount was greatly increased. She was then examined by a well-known gynecologist, who diagnosed displacement of the left ovary, and advised Battey's operation as the only means which would enable her to give up the morphia. On account of her great weakness the performance of the operation was postponed. When she entered the Free Hospital she was taking six grains of morphia daily subcutaneously. A physical examination made under ether showed the uterus and ovaries to be in a position of slight retrocession; but as there was no evidence of inflammatory action, either present or past, about the pelvis, this position of the organs was considered rather one of congenital origin. There was a slight endocervicitis present. Inasmuch as there was no structural change found in the ovaries or tubes, she was advised to discontinue the morphia at all hazards. After the two unsuccessful attempts that she had already made, with the great suffering which necessarily accompanied such efforts, she was rather reluctant to undertake another trial in the same direction, and much preferred to submit to the results of Battey's operation, which had already been described to her. She, however, soon gave her consent to the plan proposed.

With no inconsiderable experience in breaking up the opium habit, I can truly say that I never saw a patient suffer more than this woman did in the four weeks after the cessation of the morphia. Neither have I ever, with a single exception, seen one so alarmingly reduced. In three months she was sent into the country with a reliable nurse, who remained with her for three months more. In six months the local symptoms had begun to grow less, and in a year they had entirely disappeared. She was able to engage in active employment in six months, and within a year was fulfilling the duties of a position which required an extreme amount of mental and bodily strain. She has continued this employment up to the present time, and I have been assured within a few days of her continued health and strength. When last examined the uterus and ovaries were still in the position already described, but they had long before ceased to occasion any suffering.

**CASE IV. Left Retro-Lateral Version of the Uterus, with Prolapse and Enlargement of the Left Ovary.** Miss E., twenty-six years of age, first consulted me —, 1880. She had never been very strong, and her heredity was far from the best. She had suffered almost since her first menstruation from a dragging feeling in the pelvis and from dysmenorrhœa. The latter gradually disappeared, but returned in 1876. The former symptom remained. All through her early life she thought she must walk, and therefore persisted in doing so, though she felt much the worse for it afterward. In 1874 she first called a physician, and was treated for two years, for what she does not know. In 1876 she went to one of the most eminent gynecologists in this country, and remained under his care much of the time for

two years. In 1878 she left him, being told that "nothing could be done for her." She found that the more treatment she had the worse her general condition became. She had an attack of cellulitis in 1877, from which she was four or five months in recovering. She gained somewhat in general health after leaving off treatment, but the local discomfort remained much the same. Menstruation appeared at eleven, and continued regularly until about 1874, when it began to come on four or five days too early, and has continued to do so since, except twice, when she refrained from riding and walking, and was so enabled to go the full time. Through early life menstruation lasted a week; but for four years previous to consulting me it was usually four days, which she spent in bed, though she did not go downstairs for six days. This patient was in an utterly hopeless state regarding herself, and I wrote to her previous physician, who then strongly advised Battey's operation. On carefully going over the case, however, it seemed to me that possibly the nervous strength, which had never been great, had been too severely taxed by previous treatment, and that the malposition of the uterus and ovary was probably due to a relaxation of the uterine and ovarian ligaments, due, in its turn, to this very lack of nervous tone. My treatment was directed to saving her all possible nervous fatigue, and to building up her general health by carefully regulating her diet, exercise, and, as far as possible, the expenditure of nervous force. The only local treatment given was the application of a leech to the cervix uteri just before each menstrual period, to insure thorough relief to the congestion of the enlarged ovary. This course was followed out for a year, at the end of which time the uterus had completely gained its normal position, as had also the ovary, which was then of natural size. The patient had become hopeful of recovery, and could bear greatly increased nervous strain without fatigue. In 1882 she had a severe trial in the death of one of her family, and she lost something of the ground gained.

The suffering was then confined largely to the menstrual period, which process exhausted her, not from actual pain, but from the faintness and weakness which it induced. With a view of securing a more thorough examination of the ovaries and tubes, I gave her ether, and found those organs, as well as the uterus, in every way normal.

In 1883 and 1884 I saw the patient at infrequent intervals, and the local condition continuing good. I was more and more convinced of the truth of my first supposition, that is, that the malposition of the uterus and ovary was primarily due to the relaxation of ligaments dependent on a want of nervous tone, and that active local treatment only increased the difficulty by so much the more as it taxed the nervous strength. It has also been sufficiently shown that in just so far as her nervous strength improved in the same ratio the weakness and exhaustion at the menstrual periods lessened, and that her whole difficulty was one of nervous origin.

In cases III. and IV. the operation for the removal of the ovaries and tubes would have been as unjustifiable as it was warranable in cases I. and II. The third case shows that although the patient

suffered from great dysmenorrhœa, and from ovarian pain and tenderness in the inter-menstrual period, yet the degree or importance of this pain could not be determined so long as she was using morphia; and the ovaries and tubes giving no evidence of disease in themselves they would, if removed, have been needlessly sacrificed, and the patient would not only have been subjected to the dangers of the operation, but she would have had the same struggle to go through with afterward in the discontinuance of the opium, and this, if successfully done, would have given unjust credit to the operation.

The fourth case well illustrates how easily the best of us may be mistaken in judging of cause and effect in uterine and ovarian disease. Almost any one finding a retroverted uterus and a prolapsed and enlarged ovary would see therein cause sufficient not only to occasion great disturbance, but to perpetuate it, and would feel unwilling to go on without rectifying the malposition, particularly if we had every reason to believe that from the absence of adhesions this could be readily accomplished. Had this not been most faithfully tried by one in whom I had the most implicit professional confidence, I should probably have fallen into the same error; but realizing that as a cause of the nervous debility the local treatment had been faithfully tried and failed, and seeing in her whole history and in that of her family sufficient reason to consider the uterine and ovarian symptoms an effect rather than a cause, I was led to treat it as such with sufficiently good result to make that plain, and to show that the permanent cure could only come through the establishment of the nervous strength; that the sacrifice of the ovaries would not only be useless, but would greatly increase the difficulty through the large nervous tax that the operation and the subsequent convalescence must demand. In conclusion I would suggest the following:—

(1) That these operations be restricted to cases in which structural changes in the ovaries or tubes have been clearly made out in advance, and where well-directed treatment of less formidable character, though perseveringly tried for several months, has wholly failed to give relief.

(2) That, in addition to the foregoing, the removal of the uterine appendages may be necessary in some cases where the process of menstruation immediately jeopardizes the life or the mind of the patient, even though no structural change in these organs can be previously diagnosed.

(3) That when once the diagnosis of cyst of the ovary has been established, delay in its removal only increases the danger to the patient without giving any adequate return from the increased facility in performing the operation gained by the greater size of the cyst.

(4) An exploratory incision may sometimes be warrantable if, from various reasons, there is an inability to perfect the diagnosis without.

# RECENT PROGRESS IN FORENSIC MEDICINE.

BY F. W. DRAPER, M.D.

## CAUSES OF ERROR IN THE INVESTIGATION OF CASES OF RAPE.

In a paper read before the Medico-Legal Society of Paris, Professor Brouardel discusses quite fully the difficult points in the diagnosis of rape, especially as they apply to little girls.<sup>1</sup> The two prime sources of error, he says, to which the physician is subject are, first, the anxious behavior of the mother, who is convinced that her child has been assaulted, and second, the falsehoods of the child herself who has fabricated the story, the main points of which have been suggested to her. In such cases a medical man ought to use his eyes and not his ears, and he ought to be very careful to state only what he has himself seen. The state of the hymen will naturally engage his most serious attention. In well-nourished children the hymen is deeply placed, owing to the deposit of fat in the labia majora; in such cases much perseverance and gentleness are required to gain a view of the hymen at all; and it is in just such instances that medical men make the mistake not infrequently of declaring that the membrane has disappeared. On the other hand, in thin, ill-nourished children, the labia majora hardly exist, and the hymen is found easily at a depth of scarcely more than a centimeter from the surface. In form it varies considerably: it may be of the typical labial shape, with two or more folds in the segments, so that the orifice is quite dilatable. These folds or reduplications should not be mistaken for old rents. Again, the hymen may be crescentic, with the orifice situated anteriorly and the free border of the membrane presenting notches which are to be distinguished from the results of violence. In still a third form, the hymen appears as a membrane across the ostium vaginae with two symmetrical orifices, one on each side of a median bridle stretched from the anterior to the posterior wall of the vagina. Frequently the middle of this bridle has disappeared, and one or two projections or "*linguettes*" remain in its place.

In inspecting the hymen in children it is to be remembered that if the thighs are widely parted the membrane is put on the stretch. It is sometimes necessary to make the child cough or force down, in order to obtain a satisfactory view of the parts. To make sure that the hymen is intact, the finger or a blunt hook should be passed behind it to smooth out the edges; it is only in this way that the difference between the natural folds and cicatrices can be demonstrated.

Vulvitis may be spontaneous, traumatic, or gonorrhoeal, and there are no absolutely certain means of diagnosing one from the other. Urethritis, especially if of long duration, is a valuable indication of contagion, but is not conclusive proof. Gonorrhoeal urethritis, as a rule, is more persistent than traumatic urethritis. Spontaneous or idiopathic vulvitis is very common in children of lymphatic temperament, particularly during teething and at puberty. It may be acute or chronic,

and it is contagious. Swelling of the inguinal glands is more common in the gonorrhoeal variety of the disease, but it is not confined to that variety. When consulted in medico-legal cases of vulvitis, medical men are generally too hasty in giving a decided opinion, from fear of being thought ignorant or inexperienced; a decided conclusion should never be based on a single inspection. In most cases repeated visits are necessary in order that the course of the inflammation may be observed; for example, severe bruising of the parts may not appear for several days after the violence which caused it, and the first examination may have been premature.

Ulcerations of the vulva are described by Brouardel as of the following varieties: (1) indurated primary sores; (2) soft sores; (3) mucous patches; (4) herpetic ulcers; (5) superficial ulcerations from intense, spontaneous, traumatic, or gonorrhoeal vulvitis. The author cautions against the mistakes of hasty diagnosis in studying these lesions.

## RUPTURE OF THE BLADDER.

The following is a summary of a portion of an article on lacerations of the abdominal viscera, by Dr. B. Beck, surgeon-general of the German army, and is useful medico-legally on account of its clear statement of the lesions which external violence of various kinds and under various conditions produces upon the urinary bladder.<sup>2</sup> Rupture of this organ, says Beck, may result from a fall on the abdomen, from a blow by some heavy body coming down upon the abdomen, from a fall in which the feet or lower part of the body first strike the ground, by the body of the patient coming suddenly against a resisting object, or from the steady pressure of some heavy mass on the front of the abdomen. The position of the body at the moment of injury contributes to determine the seat, form, and extent of the rupture. The bladder is always torn at one of its two weaker points—its anterior and its posterior wall—according to the direction of the external violence acting on the contained urine. Knowing this direction, the surgeon may diagnose with fair accuracy the seat of the rupture. If the violence is brought to bear upon the front of the abdomen, forcing the fluid contents of the bladder downward and backward, the rent will be found in the posterior wall and within the peritonæum. On the other hand, if the patient falls from a height and strikes on the feet or buttocks, with the body bent forward, the urine will be forced forward by the pressure of the abdominal viscera from above and behind, and a rent will result in the lower part of the anterior wall of the bladder and outside the peritonæum. (Conversely, the position of the rupture, as found postmortem, will enable the examiner to state the direction in which the violence was brought to bear upon the bladder, and, approximately, the character of the force applied.)

Dr. Beck states that his experience has convinced him that death in cases of ruptured bladder is due, not to peritonitis, but solely to poisoning of the blood and consequent paralysis of the heart,

<sup>1</sup> Annales d'Hygiène publique et de Médecine Légale, x. Nos. 7 and 8.

<sup>2</sup> Deutsche Zeitschr. f. Chirurgie, xix., 485. London Med. Record, June 16, 1884, 236.

through absorption of decomposed urine. This poisoning takes place most rapidly when the lesion is intra-peritoneal.

#### NON-EXPERT TESTIMONY IN INSANITY CASES.

In his work on "The law of expert and opinion evidence,"<sup>3</sup> Mr. Lawson says that "as a general rule persons who are not medical men cannot give their opinions as to the existence, nature, or extent of disease in any one. Quite early, however, an exception to this rule was recognized which permitted the subscribing witnesses to a will to be called upon for their opinion as to the sanity or insanity of the testator. This species of evidence was extended so as to include other cases in which the sanity of the party interested was in dispute. It was introduced without much argument in the English courts, and has been received without debate in the courts of all the States, except those of Massachusetts, Maine, New Hampshire, and Texas."

Within a short time the Supreme Court of the United States has had occasion to render its judgment on the question whether the testimony of witnesses who were not medical men was admissible in a matter of opinion concerning sanity, and the decision of this court is of such obvious importance that it is worth quoting at large. The case at issue was one in which the Connecticut Mutual Life Insurance Company was defending a suit on the ground that the policy-holder had killed himself when sane—a condition whereby the company was released from liability. The court gave the following opinion:—

"Counsel for the plaintiff in error contends that witnesses who are not experts in medical science may not, under any circumstances, express their judgment as to the sane or insane state of a person's mind. This position, it must be conceded, finds support in some adjudicated cases, as well as in some elementary treatises on evidence. But, in our opinion, it cannot be sustained consistently with the weight of authority, nor without closing an important avenue of truth in many, if not in all, cases, civil and criminal, which involve the question of insanity. Whether an individual is insane is not always best solved by abstruse metaphysical speculations expressed in the technical language of medical science. The commonsense and, we may add, the natural instincts of mankind reject the supposition that only experts can approximate certainty upon such a subject.

"There are matters of which all men have more or less knowledge, according to their mental capacity and habits of observation—matters about which they may, and do, form opinions sufficiently satisfactory to constitute the basis of action. While the mere opinion of a non-professional witness, predicated upon facts detailed by others, is incompetent as evidence upon an issue of insanity, his judgment, based upon personal knowledge of the circumstances involved in such an inquiry, certainly is of value; because the natural and ordinary operations of the human intellect, and the appearance and conduct of insane persons, as contrasted

with the appearance and conduct of persons of sound mind, are more or less understood and recognized by every one of ordinary intelligence who comes in contact with his species. The extent to which such opinions should influence or control the judgment of the court or jury must depend upon the intelligence of the witness, as manifested by his examination, and upon his opportunities to ascertain all the circumstances that should properly affect any conclusion reached. It will also depend in part upon the degree of the mental unsoundness of the person whose condition is the subject of inquiry, for his derangement may be so total and palpable that but slight observation is necessary to enable persons of ordinary understanding to form a reasonably accurate judgment as to his sanity or insanity; in other cases the symptoms may be of such an occult character as to require the closest scrutiny and the highest skill to detect the existence of insanity."<sup>4</sup>

(To be concluded.)

### Reports of Societies.

#### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

SEVENTY-NINTH ANNUAL MEETING, held in Geological Hall, Albany, February 3, 1, and 5, 1885.

##### FIRST DAY.—MORNING SESSION.

The President, Dr. B. F. SHERMAN, of Ogdensburg, was in the chair. Dr. Henry I. Bowditch, of Boston, was present, and on motion of Dr. S. B. Ward, of Albany, was received as an honorary member, taking his seat by the side of the President amid much applause.

##### THE PRESIDENT'S OPENING ADDRESS

was read by Dr. SHERMAN, and the following are a few extracts from it: "We live in an age of wonderful improvements, and our profession in all its branches has kept fully abreast with the age. One of its latest gifts to suffering humanity is the new anæsthetic, cocaine, which promises, in its relief of pain and suffering, to be second only to ether and chloroform, and to simplify many important, as well as minor, surgical operations. . . . To make this (one of the oldest and largest State medical societies) what it should be, demands an earnest effort on the part of us all, and perhaps some change in programme. We should have a better room in which to hold our meetings—one with better acoustic properties, as well as better ventilation. . . . Too many members and delegates come here to serve two masters—to represent their county societies in this meeting and at the same time to represent their local Masonic lodge in the Masonic convention, or to see and study the white elephants of the city. We should have a less number of papers and devote more time to the discussion of the few. . . . We should once more memorialize Congress to furnish a fireproof building for the preservation of the National Medical Library and Museum. . . . I would respectfully advise the

<sup>3</sup> The Law of Expert and Opinion Evidence, reduced to Rules, By John D. Lawson. 1883.

<sup>4</sup> N. Y. Med. Jour., November 29, 1881, p. 621.

amendment of Article XI., Section 2, of the By-laws in a way to require but one address, instead of two as at present, from the President, and that to be made at the opening of the first day's session." In the course of the address Dr. Sherman spoke with much feeling of the deaths of Drs. S. D. Gross and Willard Parker.

#### COMMITTEES APPOINTED.

The President announced a number of committees, Dr. J. V. Kendall being chairman of the committee on business, Dr. Eugene Brach chairman of that on credentials, and Dr. W. W. Potter of that on inaugural addresses.

#### PAPERS READ.

The following papers were read and discussed: "Pelvic abscess," by Dr. W. W. Potter, of Buffalo; "Jequirity as a remedy for granulated lid," by Dr. David Webster, of New York; "Legislation," by Dr. Daniel Lewis, of New York; "On the removal of the crystalline lens with its capsule," by Dr. D. B. St. John Roosa, of New York. The following papers were read by title: "The uses and limitations of hydrochlorate of cocaine," by Dr. C. R. Agnew, of New York, and memorial addresses on Dr. John Richard Cotes, by Dr. W. Warren Pitten, of Buffalo; Dr. Joel Foster, by Dr. F. V. White, of New York; Dr. John G. Adams, by Dr. G. M. Smith, of New York, and Dr. James R. Wood, by Dr. Frederick R. Dennis, of New York.

#### STATE BOARD OF MEDICAL EXAMINERS.

Dr. H. G. Piffard, of New York, read the report of the special committee on "The medical examiners bill," and presented a draft of a bill constituting a State board of medical examiners. This bill provides for the formation of two boards of examiners, to hold office for one year, and to be known as the Northern and Southern Boards of Examiners. After some discussion, the bill was made the special order of business at the evening session.

#### AFTERNOON SESSION.

The nominating committee was appointed by the President, with Dr. S. Oakley Vanderpoel, of New York, as chairman. The following papers were then read: "Anatomical geometry and toponomy," by Dr. N. Josiah Roberts, of New York; "Some observations on hydrochlorate of cocaine," by Dr. T. R. Pooley, of New York; "Peroxide of hydrogen," by Dr. T. S. Wallian, of Rhydale; "Abstract report of cancer of the liver, characterized by series of low temperatures," by Dr. W. S. Ely, of Rochester; "Tubal pregnancy," by Dr. T. H. Squires, of Elmira; "Does quinine abort pneumonia?" by Dr. L. Emmet Holt, of New York.

#### EVENING SESSION. MEDICAL EXAMINERS.

The President announced as the special order the consideration of an act "To establish a northern and southern board of examiners of the State of New York, to regulate the licensing of practitioners of physic and surgery." A heated debate, which

was continued until eleven o'clock, followed, and was participated in by Drs. Hopkins, Roosa, Piffard, Ely, Seymour, Vanderpoel, Vandever, Ward, Bendell, Jacobi, Johnson, Lewis, Knapp, Curtis, Kendall, Priddy, Loomis, Sturgis, Potter, and Squires. Finally, Dr. Jacobi proposed as a substitute for this measure Assembly bill No. 45, which was introduced January 27th, and, on motion of Dr. Vanderpoel, the latter was ordered to be printed and made a special order for the afternoon session of the following day.

#### SECOND DAY. — MORNING SESSION. TREASURER'S REPORT.

The treasurer, Dr. C. H. Porter, of Albany, read his annual report, which showed that the receipts during the year amounted to \$3,743; disbursements, \$3,363; balance, \$380. It was also stated that \$685 of the Merritt H. Cash prize for meritorious essays was on deposit in the Albany Savings Bank. After reports from a number of committees had been made, the following

#### PAPERS

were read: "Senile hypertrophy of the prostate," by Dr. Alfred C. Post, of New York; "An electric light for ophthalmic and aural surgery," by Dr. L. Howe, of Buffalo; "The opium habit," by Dr. F. M. Hamlin, of Auburn; "Culture experiments with bacteria," by Dr. Wm. Hales, Jr., of Albany; "Hare-lip," by Dr. W. N. Phelps, of Chateaugay. On motion, the consideration of "The medical examiners bill" was ordered for the hour of 4.30 p.m.

#### AFTERNOON SESSION.

Papers were read as follows: "Some practical points in the treatment of granular lids," by Dr. W. F. Mittendorf, of New York; "Urethral stricture, with exhibition of improved instruments for stone," by Dr. F. N. Otis, of New York; "Maternal nursing," by Dr. J. E. Winters, of New York; "A new method of electric illumination of the throat," by Dr. W. C. Jarvis, of New York; "Some observations on the operation of abdominal section as performed by Mr. Lawson Tait, with a report of five cases in my own practice," by Dr. Albert Vandever, of Albany.

#### PAPERS READ BY TITLE.

The following were read by title: "Trichina and trichiniasis," by Dr. H. Jewett, of Canandaigua; "The elements of perturbation in uterine therapeutics," by Dr. F. H. Foster, of New York; "The treatment of pelvic abscess," by Dr. P. F. Munde, of New York; "Abscess of the liver," by Dr. W. E. Bullard, of New York; "Memorial of the late Dr. Jacob S. Mosher," by Dr. Willis G. Tucker, of Albany.

#### MEDICAL EXAMINERS.

Dr. JACOBI withdrew his motion to adopt Assembly bill No. 45, and Dr. Piffard, from the special committee, then made a report recommending that the bill previously reported be referred to the standing committee on legislation with instruction to modify it by certain specified amendments which had been discussed the previous evening, and

push its passage by the Legislature; which report was unanimously adopted. The bill, as amended, provides for a single board of examiners, composed of nine members, who are to be elected for one year (but subject to reelection) by the Regents of the University of the State of New York. Six of the board are to be members of the regular State Medical Society, two of the Homeopathic State Society, and one of the Eclectic State Society; and of the six first named three are to be representatives of the incorporated medical colleges of the State.

## EVENING SESSION.

## THE ANNUAL ADDRESS BY THE PRESIDENT

was delivered in the assembly chamber at the Capitol, and was on the subject of "Medical evidence." On adjourning the Society proceeded to the Delavan House, where the

## ANNUAL BANQUET

was held. There were upward of two hundred members and invited guests, and Dr. S. B. Ward, of Albany, acted as toastmaster. Among the toasts responded to were the following: "The Medical Society of the State of New York," Dr. B. F. Sherman; "The State of New York," Hon. St. Clair McKelway; "The Law-makers," Hon. George Z. Erwin, speaker of the assembly; "Medical codes," Dr. Henry I. Bowditch, of Boston; and "The ex-Presidents of the State Society," by Dr. S. Oakley Vanderpoel.

## THIRD DAY. — MORNING SESSION.

## CHOLERA.

AN address on the prevention of cholera was given by DR. S. OAKLEY VANDERPOEL, the former health officer of the port of New York. The following is a brief synopsis of his remarks: There is cholera existing in the city of Bombay in a greater or less degree during the entire year. Through the intervention of steamers we are communicating with that city. Vessels leaving that port are thoroughly inspected at an island at the mouth of the Red Sea. England does not coöperate with other nations in establishing the proper quarantine of vessels hailing from cholera-infected ports. England offers the only obstructing factor. The disease usually breaks out among steerage passengers. Cholera can only reach this country by means of Europe. A thorough medical investigation should be made of every person going aboard vessels, and clothing examined, to see that no soiled linen is among the baggage of any passenger. Moreover, if the physician aboard the vessel bound for America makes a thorough investigation every day, and, in case the cholera should appear if the clothing is properly disposed of and the case of cholera given the proper isolated care, the individual case will, without doubt, be stamped out. But if a case of cholera arises on a steamer, the passengers should be disembarked on one of the quarantine stations and the case given proper care. Ten days after the disappearance of the last case of cholera the passengers may be embarked and allowed to proceed to their destination. In conclusion Dr. Vanderpoel remarked that he sincerely believed that, if the proper quarantine measures are taken, there would

be no cholera in this country during the coming summer.

The following resolution was then adopted, and a copy of it ordered to be sent to President Arthur:

*Resolved.* That it is the sense of the New York State Medical Society that the United States Government should, in view of the probable importation of cholera poison during the present year, promptly take steps to enforce proper sanitary measures where the disease exists.

## OFFICERS ELECTED.

The nominating committee reported the following officers, who were duly elected: President, Albert Vandever, Albany; Vice-President, Alfred C. Post, New York; Secretary, William Manlius Smith, Syracuse; Treasurer, C. H. Porter, Albany. Censors for the various districts were also elected. The following are the chairmen of the

## STANDING COMMITTEES CHOSEN.

*Arrangements and Business.* S. B. Ward, Albany.

*By-Laws.* W. C. Wey, Elmira.

*Hygiene.* E. V. Stoddard, Rochester.

*Legislature.* Daniel Lewis, New York.

*Ethics.* A. Jacobi, New York.

*Prize Essay.* W. W. Potter, Buffalo.

*Publications.* William Manlius Smith, Syracuse.

A number of permanent members and the following

## HONORARY MEMBERS

were also elected: Dr. J. L. Cahill, of Virginia; J. F. Whittaker, of Ohio; F. G. Wormley, of Philadelphia, and F. S. Clouston, of Edinburgh, Scotland.

## THE DELEGATES TO THE MASSACHUSETTS MEDICAL SOCIETY

are Drs. M. L. Bates, B. F. Sherman, Frank P. Foster, Peter Faling, and John Gerin.

Dr. Frank S. Low, of Iulaski, read a paper describing "An instrument for irrigating the abdominal cavity in cases of ovariectomy," and a few farewell remarks were made by Dr. Bowditch, of Boston, and the President. Adjourned.

## BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

JANUARY 26, 1885. The President, Dr. F. W. Draper, in the chair.

## MARKED TRICUSPID STENOSIS WITHOUT SYMPTOMS.

DR. W. W. GANNETT exhibited a heart showing a marked degree of stenosis of the tricuspid orifice, it admitting only one finger to the second joint.

The valve cusps were thickened and adherent along their edges of closure. The aortic and mitral valves showed evidences of earlier endocarditis, resulting in stenosis and insufficiency of both these orifices. All four cavities were enlarged and the walls thickened.

The individual was eighteen years old, had always been an industrious worker, and so far as

known had never presented any symptoms of cardiac disease.

Death had occurred from erysipelas of the head and face following upon a wound of the scalp.

#### UNILOCULAR OVARIAN CYST.

DR. JOHN HOMANS presented a specimen of unilocular ovarian cyst. The patient was thirty-two years old, married, and the mother of several children. The tumor which weighed twelve pounds had been recognized for a year. There were no adhesions, but a former tapping had left a portion of thickened wall as its mark. The pedicle was cedematous, and there was some ascitic fluid. (Edema of the pedicle is caused either by twisting, or by strangulation from other causes. In this case there was no twist, and edema was due to pressure.

While it is well known that cysts of the broad ligament are generally unilocular, yet an ovarian cyst, which this is, is commonly multilocular.

DR. A. T. CABOT said that rare cases commonly come in couples. He had removed a kidney-shaped unilocular ovarian cyst within two weeks. The contents resembled pea-soup, and held ovarian corpuscles.

There had been no rise of temperature and the patient was sitting up on the day of the meeting.

DR. W. H. BAKER read a paper on

#### THE USE AND ABUSE OF BATTY'S AND TAIT'S OPERATIONS.<sup>1</sup>

DR. BOARDMAN said: Several years ago Professor Thomas made the observation that, in the immediate future, the greatest advances in gynecology would be made in the direction of ovarian, rather than of uterine, pathology. Events have shown his wisdom, and, as an outcome of this, we are indebted this evening to the reader for the very valuable paper, founded upon his personal experience and illustrating his recognized acuteness in diagnosis and wisdom in treatment. He was quite ready to assent to the general conclusions deduced by the reader as to the conditions which must be established in order to justify the operation for the removal of the ovaries. He believed it should first be determined that one or both of them is in a condition of disease. "Normal ovariectomy," or the removal of the ovary not affected with organic disease, not impaired in its functional activity, he was not prepared to accept as a legitimate operation; except as a means, in certain cases, to arrest the growth of fibroid tumors, or where the uterus is absent, or there is atresia in the utero-vaginal tract which cannot be relieved by the more common surgical procedures. He would not assent to the operation even in cases of deformed pelves where Cesarean section and the like would be demanded should pregnancy ensue and continue uninterrupted, for in such instances he should consider that it belongs to the individual to protect herself from the danger to which she would be legitimately exposed. The last two cases recited by the reader illustrated exceedingly well the caution required of us in these days when there is tendency to resort too precipitately to comparatively new operations by no means demonstrated to be legitimate.

Perhaps most of us can recall similar cases: that is, patients who have been confirmed invalids for years, probably with the hysterical element largely predominant, who have been under the care of many physicians, have been declared incurable, and yet have finally been restored to health. He referred to such a case, in his own practice, who had been an invalid for fifteen or more years and had consulted many physicians. A distinguished gynecologist in New York had suggested removing the ovaries as affording a probable source of relief, although she had already passed the climacteric a few years. The speaker found upon examination no local disease, but an atrophied uterus, and the ovaries evidently were functionally dead and giving no evidence of any diseased condition whatever. Under judicious treatment she recovered within a year and has continued well since, except for occasional and rare paroxysms of mild hysteria. The speaker had carefully studied Batty's cases, more especially his first series of ten cases. To be sure, the reports give meagre details, but he was not convinced by them that the results warrant Batty's deduction that his operation is a legitimate one.

Future experience may, however, serve to confirm the theory, which, we must allow, is not unreasonable.

DR. BOARDMAN added that we should not forget cases which, probably, most of us have met with or heard about, where protracted invalidism has been arrested by something in the nature of a shock. A surgical operation, with all its attending preparations and paraphernalia, not infrequently imparts a severe shock, and it is easy to conceive that the fact applies especially to the nervous patients under consideration. Reasoning from this, he believed it not unreasonable to assume that, in some of these cases at least, the shock of the operation, intensified perhaps by the fact that it is regarded as a serious mutilation, may be the sole cause of the successful results which have been observed.

DR. J. P. REYNOLDS said that he was glad that the points in the paper had been emphasized.

DR. JOHN HOMANS said that we should rather speak of the ovary and its appendages: the tubes, the uterus, and the vagina: than of the uterus and its appendages. He thought that the influence of shock in helping these cases had been exaggerated. Many of the cures are not authentic, and many of the others are not permanent. A bed-ridden case of his own had fulfilled his own prophecy, given a few years earlier, by running out of the house when it was destroyed by fire, but she soon had a relapse. Are Dr. Baker's cases properly said to be Batty's or Tait's operations? Although Dr. Baker is undoubtedly informed; he, Dr. Homans, would have called them ovariectomies, being done for the relief of physical disease. He had himself done Tait's operation four times. The first case was restored to health, the uterus having been undeveloped; the second was unsuccessful, in that there was no improvement; the third case, recommended for operation by Dr. Cowles, survived the operation ten hours. The autopsy did not show any cause for the symptoms. The fourth case he reported more at length. It was done to prevent menstruation,

but also to cause the disappearance of a fibroid. The patient is forty-four. For two years her menstruation has been more and more painful, making her violent, and being only partly helped by enormous doses of morphia. While in this condition she has attempted the life of her husband. She came to Dr. Homans asking to be saved the need of going through another menstruation. Dr. Cowles, of Somerville, advised operating, provided her relatives confirmed her statements, which they did; and eight days ago the speaker had done Tait's operation. Her entire character seems to have changed.

DR. BOARDMAN said that he would consider this first operation as an ovariectomy for the removal of diseased ovaries. As he understood the matter, Dr. Battey named his operation "normal ovariectomy," or the removal of functionally active ovaries, while Mr. Tait removed diseased ovaries and with them the tubes — the essence of "Tait's operation" being the excision of the tubes — upon the theory that menstruation occurs within them.

DR. J. W. ELLIOT thought that the names applied to these operations were confusing and incorrect. The ovaries had been removed for prolapsus and in hernial sacs many times before the days of Battey. The first removal of the ovaries to cure disease by stopping menstruation was done by Hegar on July 27, 1872. About a month later, August 17th, Battey did his first operation, not knowing that Hegar had already done it. In the cases that soon followed Hegar found tubo-ovarian cysts and salpingitis and accordingly removed the tubes with the ovaries before Tait did. Neither Battey nor Tait has any claim to the name of the operation so far as priority goes. The operation as it is now done for every conceivable disease of the ovaries and tubes can hardly be called Battey's or Tait's operation.

The indications for the removal of the uterine appendages must, as yet, be considered unsettled, but they will, to a certain extent, depend upon the mortality. For if the operation is done where life is immediately or remotely threatened, as in cases of uterine hæmorrhage from fibroids, pyo-salpinx, malformations of uterus and vagina, small ovarian tumors, etc., a much higher mortality can be allowed than in cases of mere *invalidism*. Tait has justified the operation in this last class of cases by his very low mortality. Those who follow Tait then in these cases must show a low mortality. We are still very ignorant about the pathology and symptoms of these diseases. Even now that we know that salpingitis is a very common cause of chronic pelvic peritonitis, it is not certain that every case should be treated by this operation. Some of the cases so treated have continued to have the same inflammation and pain as before the operation. Some patients with salpingitis have no symptoms, while others are invalids. Some cases of salpingitis will probably get well without treatment, as do cases of metritis and urethritis. The operation has often been done for hydro-salpinx. This disease is simply a retention cyst and we do not know what symptoms it causes. Simpson reports eight cases as cured by tapping.

Not infrequently the ovaries removed by this operation have been found to contain follicular cysts.

No one knows if these cysts cause any symptoms whatever. When we turn to the symptoms we are no better off. How many women complain of "pain in the ovaries" when they are perfectly normal! And yet no one will doubt that most distressing local and reflex symptoms are sometimes caused by these diseases. In this unsatisfactory state of our knowledge on this subject we must do the best we can until the indications can be more clearly defined.

Hegar read a paper at the International Medical Congress, in Copenhagen, last August, on "Castration as a cure for nervous and physical diseases." It was clearly the sense of the meeting that the normal ovaries should under no circumstances be removed in such cases. That the symptoms were worse at menstruation was not considered a sufficient indication. There must be a distinct pathological change in the sexual organs. Spencer Wells remarked that he should as soon castrate a crazy man, as to remove healthy ovaries for nervous disorders.

DR. JOHN HOMANS said that he did not know why removal of the testicles might not be warranted in certain cases of insanity, for instance the murderer who has cut up the genitals of his victims. There appears to be something erotic about his insanity.

DR. C. F. FOLSON said that, in his opinion, we are not yet in a position to say in precisely what cases removal of the ovaries is likely to prove of sufficient benefit to justify the operation. It has been done a considerable number of times, but probably with less benefit, on the whole, than is claimed for it. He had seen several cases where Tait's operation had been suggested, but only one where he could advise it. That was a case of profound hysteria, perhaps more properly called hysterical insanity and was one of those, he presumed, already referred to by Dr. Homans. Every other method of treatment which promised anything had failed, and for a dozen years the patient had been wretched herself and the source of the greatest discomfort to those with whom she was thrown in contact. She has remained for nineteen months since the operation quite well, a comfort to her friends and a useful member of society. In this case the physical health was good and there was no disease of the ovaries or tubes. In some cases the operation had done harm.

DR. S. G. WEBER had had one of Dr. Homans's patients at the Nervine Asylum where she was treated for neurasthenia, headache, backache, and dysmenorrhœa. She partly recovered, but the symptoms returned after an illness, and worse than before, with symptoms of hysterocpilepsy. He is glad that the operation was done.

—A trained nurse can often be of great assistance to the physician. On one occasion recently, it having been vainly tried to obtain a specimen of the urine from a comatose male patient, the young training-school nurse, on the morning after her arrival, presented triumphantly to the physician the desired specimen, having evidently seized in the nick of time upon the natural channels for yielding the desired secretion, in fact, having taken methods into her own hands. A well-equipped nurse is always ready to lay hold of the horn of a dilemma.

## Recent Literature.

*Topographical Anatomy of the Brain.* By J. C. Dalton, M.D., Professor Emeritus of Physiology at the College of Physicians and Surgeons, New York. Philadelphia: Lea, Brothers & Co. 1885. Vols. I. and II.

The work before us marks an epoch in American medical literature. Its author is eminently fitted for the undertaking. He has great knowledge, much manual dexterity, and above all clear ideas and the power of expressing them concisely. All prophesy its success. Briefly stated, the plan of the work is to show the structure of the brain, as far, that is, as it can be seen by the unaided eye, by means of sections in the three chief planes, to reproduce these by photographs and to multiply them by the heliotype process. Besides the sections there are some views of the surface of the brain. These illustrations, are admirable. Some indeed are better than others, but the worst would be good in any other company. Indeed there are but two or three that do not quite satisfy us, while we can hardly say enough in praise of most of them. Each plate, moreover, is accompanied by an outline drawing on, or below, which are the necessary explanations.

It is no easy matter under any circumstances to make fine sections of the brain. Hence the author's ingenious method may prove interesting, and a part of it shall be given nearly in his own words: The fresh brain supported by the calvaria is immersed, with the base upward, in a fluid of a little less than its own specific gravity. The saline solution above mentioned (sodium chloride solution sp. gr. 1.026), mingled with a small quantity of glycerine, is the most serviceable for this purpose. The ventricular cavities are then injected with a warm solution of gelatine by means of a fine cannula introduced into the infundibulum, which should be preserved entire for that purpose. The injection should be continued until the ventricles are moderately filled and the gelatine begins to exude between the crura cerebri and the hippocampal convolution; after which the brain is placed in a refrigerator and the gelatine allowed to solidify. This secures the normal condition of the internal parts.

The next operation consists in imbedding the brain in a mass of gelatine, of about its own consistency, in a metallic framework so constructed as to allow of successive sections in the horizontal or vertical plane. The arrangements for cutting the sections were not quite the same for the different series, but we have no space for the details. In cutting, the knife and the section were flooded with equal parts of glycerine and water. The sections were allowed to remain for twelve hours in a refrigerator immersed in the saline solution before being photographed.

Dr. Dalton gives a general description of the convolutions before plunging *in medias res*. It is already familiar to those acquainted with his writings. We will discuss it no further than to express a regret that so little is made of the occipito-parietal fissure on the convexity of the brain. True, it is

not a prominent feature, but it is always visible and is useful as at least hinting at the anterior boundary of the occipital lobe. No one can read this description without being struck by the facility with which so complicated a matter is handled. Whether one fully accepts Dr. Dalton's views, or not, one at least is perfectly clear as to what those are.

The above account of methods and description of the convolutions are in the introduction; we now come to Series A, which fills the rest of the first volume. There are ten plates showing the surface of the brain and several longitudinal vertical sections. The second volume is entirely devoted to Series B, which is a regular succession of fourteen horizontal sections in regular order from above downward with an extra-serial plate in addition. We gather that the third volume is to treat of transverse vertical sections. It is evident that Series B gives a much more thorough demonstration than Series A, for in the former we follow with great interest step by step the gradual changes in the arrangement of the brain, studying the upper surface of each plate. But in Series A four of the ten plates represent the surface of the brain (one with the cerebellum removed), which leaves but six for the interior. In these the method is sometimes adopted of representing both the surfaces exposed by a single cut, which, except in the case of the median section, seems to us less satisfactory than regular progression. It is, however, hardly fair to dwell on this criticism before the whole work has appeared. There are some simple diagrammatic wood-cuts in the text which are very useful in presenting certain points clearly. We have more than examined, we have studied this book, and have done so with profit as well as with interest. It is not meant for beginners, for whom much of it would be too difficult, but to one who has some knowledge of the brain and some experience, which is readily acquired, in interpreting sections, the work is of great value. One's ideas of the brain increase in breadth and clearness. Dr. Dalton's purpose being to write a topographical anatomy of the brain, he does not go into discussions on minute questions, though he may give his own views on disputed points: as on the origin of the external root of the olfactory nerve, which with Huguemin he traces to the gyrus hippocampi instead of to the insula according to Henle.

The binding is good and the type and paper very handsome. We understand that but two hundred copies are offered to the public. We should think there could be no doubt that unless a future edition is issued the book will soon become very scarce. It should be in the library of every one engaged in studying or in teaching the anatomy, and we may add the pathology, of the brain.

— Dr. Debove was awarded the Lacaze prize of 10,000 francs for his work on Tuberculosis. It was published as a series of lectures in the *Progrès Médical*.

— Dr. A. to Dr. B., discussing current magazine literature: "Now, I take *Life* every week." Dr. B., grimly: "I suspected as much."

# Medical and Surgical Journal.

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## RECENT RESEARCHES ON THE PATHOGENY OF SEPTICÆMIA AND PYÆMIA.

At the Medical College of Vienna, séance January 5th, Professor Weichselbaum stated present conclusions, as founded on recent scientific data, respecting the pathogeny of septicæmia and pyæmia. There is not yet, he said, entire agreement as to the definitive distinction between these two affections. In general, we understand by septicæmia a pathological condition characterized by putrid decomposition of the blood, and by pyæmia a malady caused by entrance of pus into the blood. The clinical distinction between them is based on the presence of metastases in pyæmia and their absence in septicæmia. Meanwhile, as metastases sometimes occur in septicæmia, a third mixed form has been established, called septico-pyæmia.

Koch has produced in animals three kinds of septicæmia, differing from each other not only by their pathoanatomical forms but also by their microbes. The first, called vicious œdema, is identical with Pasteur's septicæmia; it may be engendered by introducing vegetable mould into the intestinal cavity of hares. The vegetable mould contains, in fact, the bacilli characteristic of this kind of septicæmia. These have a great similarity to the bacilli of malignant pustule, but they are more straight and rounded; they are never found in the blood; it has not been yet possible to make pure cultures of them.

The second species, analogous to the septicæmia of Davaine, may be produced in hares by the injection of putrid blood. The bacilli of this form of septicæmia have an oval form with rounded ends; the extremities take a deeper staining than the centre; they may be inoculated in birds and mice.

The third form, the septicæmia of mice, was produced by Koch by injecting putrid blood into the pleural cavity. The bacilli of this form are extremely thin; they are found in enormous quantities in the blood inside of the white corpuscles. The products of cultures have this form of volutes (certain gasteropod mollusks).

Pyæmia has also been obtained artificially by Koch by the injection of putrid matters; it is char-

acterized by numerous cocci partly isolated, partly united, into zoöglœæ.

In man the question requires to be studied anew. According to the actual state of things, we may say that there are two sorts of septicæmia: the one is a pathological condition produced by absorption of a putrid chemical poison, of the nature of ptomaines; the other is of bacterial origin. Just here we have to distinguish two subdivisions: the one pertaining to processes resulting from the pullulation of the bacteria of putrefaction, or of dead tissues (these bacteria cannot penetrate the living tissues, but they engender chemical poisons which may penetrate the organism); the second concerns processes due directly to microorganisms which invade the tissues and penetrate the blood. While the first subdivision comprehends all the different bacteria of putrefaction, the second is constituted solely by specific microbes. In pyæmia, Rosenbach, and after him Weichselbaum, have found and cultivated two sorts of cocci, the pyogenic streptococcus and the staphylococcus aureus. The cultures of the first of these microbes develop very slowly at the ordinary temperature of the room upon meat peptone, while at a temperature of 37 to 38 C. these cocci multiply with great rapidity; they never liquefy gelatine; injected into animals they rapidly provoke extensive suppuration.

The second species of coccus takes on the appearance of berries; they develop very rapidly in meat peptone at the ordinary temperature of the room and liquefy gelatine, depositing themselves in the form of a brown sediment. These cocci have a great vitality. The staphylococcus aureus is not only found in pyæmia: it is also met with in a great number of phlegmons in furunculi, in acute osteomyelitis, in a certain number of acute abscesses. This fact is at first sight surprising, but it is easily explicable if it is remembered that in all these processes we have to do with a quantitative rather than a qualitative difference.

In phlegmons and certain acute abscesses are found, besides the two species of cocci mentioned, a third microorganism called staphylococcus albus, which is distinguished from staphylococcus aureus only by its color. All these phlegmons are not clinically identical. It seems that the phlegmons attributed to the streptococcus pyogenicus have the property of rapid extension, but they have little proneness to suppuration; while the phlegmons attributed to the staphylococcus aureus are limited in their extent, but have a great proclivity to suppuration.

Erysipelas is an inflammation of the skin which has a tendency to spread superficially, but which in general terminates neither in suppuration nor in necrosis. Fehleisen has found a specific coccus in erysipelas which has strong claims to be regarded as specific, and which is characterized by the follow-

ing properties: it is always found in the connective tissue and in the interstices of the superficial tissues, but never in the blood; it is always situated within the limits of the erysipelatous regions. Cultures of this bacterium develop rapidly in meat peptone; this coccus has deeply notched borders. With this microbe Fehleisen has produced erysipelas in animals by inoculation.

#### COLLECTIVE INVESTIGATION OF DISEASE BY THE MEDICAL SOCIETY OF THE STATE OF PENNSYLVANIA.

WE have received from a committee of the Pennsylvania State Medical Society a circular enclosing blanks for the collection from practising physicians of data regarding certain diseases, upon which a report is to be made to the Society at its annual meeting in May next. The committee, whose chairman is Dr. James Tyson, has adopted, for the sake of uniformity in the comparing of results, the same forms that were prepared by the similar committee of the British Medical Association. The subjects selected for investigation are three in number:—

I. ACUTE PNEUMONIA: with regard to (1) its epidemic prevalence, (2) its communicability, (3) its association with other prevalent diseases and with defective sanitary conditions, (4) its symptoms, duration, and result, (5) its treatment.

II. CHOKER: (1) its relation to rheumatism and other diseases, (2) the frequency with which certain accompaniments occur, (3) the common ailments to which those who suffer from it are liable, (4) the predisposing conditions and exciting causes, (5) its treatment.

III. ACUTE RHEUMATISM: with regard to (1) its antecedents, (2) the frequency with which certain symptoms occur, (3) the common ailments to which those who suffer from it are liable, (4) the climatic conditions with which it is associated, (5) its treatment.

In following the method of the English committee, the Pennsylvania committee has gone so far as to imitate the color of the different cards devoted to each disease. The cards are so prepared as to minimize the work of the reporters by allowing the answers to be given, as far as possible, through erasures of printed words rather than by writing in blank spaces; and a sample of a "filled-up card" is enclosed to show the method of procedure. By this means any practitioner who has made reasonably full notes of his case can with very little effort supply the information sought. We suspect that the chief difficulty will be to find physicians who in private practice have kept sufficiently full records of their cases to answer all the inquiries. But one good result will have been accomplished by this movement if physicians shall be led to more careful habits of observation and of record of the phenom-

ena which they daily meet. In the advantages to be gained by a collation and comparison of large numbers of such records there is much to be hoped. Our other State societies may well put the sickle to this same field.

#### A PROPOSED MEDICAL DIRECTORY OF THE UNITED STATES.

ANY one who has had occasion to consult the Medical Directory of Great Britain can hardly have escaped the wish that a similar directory of the United States were possible. Such a directory would certainly be a great convenience, but it needs to be issued under the supervision and by the authority of some responsible body. Probably the time will come when such a work will be undertaken by the American Medical Association.

We can scarcely believe that a directory issued in accordance with the following circular would meet with the confidence of physicians:—

"DEAR SIR,—We are preparing a Medical and Surgical Directory of the United States, a prospectus of which we enclose, and shall be much obliged if you will fill up the enclosed postal card with the information desired, and return same to us. As you will see, it is the intention to give the college and class of graduation of practising physicians, and in all cases where this does not appear after the name the presumption will be that such physician is *not* a graduate of any medical school. We therefore trust you will favor us with a reply at once, as in the event of not hearing from you your name will appear in the work on the same footing as those who PRACTISE WITHOUT DIPLOMAS."

#### MEDICAL NOTES.

—The *Annals of Surgery*, a monthly review of surgical science and practice, edited by L. S. Pilcher, M.D., of Brooklyn, New York, and C. B. Keetley, F.R.C.S., of London, England, has made its appearance. It is the only journal in the English language devoted exclusively to surgery; is published simultaneously in the United States and Great Britain, and aims to become an invaluable part of the library of every working surgeon. The first and second numbers give promise of success.

—One point incidentally raised in the controversy now pending in England over the question of overpressure in the public schools relates to the frequency of headaches in children. Dr. Crichton Browne went into some schools, and asked those children who suffered from headache to hold up their hands; and he adduces the large proportion who did so as some evidence of the existence of overpressure in those schools, quoting Sir Richard Owen to the effect that if more than five per cent.

of children suffer from headaches, there must be something wrong. The method of obtaining this information is certainly open to criticism, and perhaps Sir Richard Owen's "normal proportion" of headaches (to use a Hibernicism) is not quite reliable. A writer in the *Medical Times* (November 29) asked the question of a number of hospital patients (excluding all who were at the time suffering from diseases involving headache as a symptom, as well as all in whom headache was admitted as having followed intoxication or other definite occasional cause). Out of the total of 162 patients 42.6 per cent. suffered more or less from recurrent headaches. Of the total number questioned 12.9 per cent. had suffered from headaches as long as they could remember, but information as to the age at which the headaches began was only obtained in less than half the cases. Taking the lowest enumeration, that of Living, as representative, it would seem that a third of the people who suffer from headaches begin to do so before they reach the age of ten. Applying this to the percentage obtained by this investigator, he concludes that, taking boys and girls together, about fourteen per cent. of all school children might be expected to suffer from headaches.

—Mr. Henry Lomb, of Rochester, N. Y., has offered through the American Public Health Association the sum of \$2,800, to be awarded as first and second prizes for papers on the following subjects: 1. "Healthy Homes and Foods for the Working Classes"—first prize, \$500; second prize, \$200. 2. "The Sanitary Conditions and Necessities of School-Houses and School-Life"—first prize, \$500; second prize, \$200. 3. "Disinfection and Individual Prophylaxis against Infectious Diseases"—first prize, \$500; second prize, \$200. 4. "The Preventable Causes of Disease, Injury, and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding them"—first prize, \$500; second prize, \$200. All essays written for the above prizes must be in the hands of the Secretary, Dr. Irving A. Watson, Concord, N. H., on or before October 15, 1885. The judges will announce the awards in the second week of December, 1885, at the annual meeting of the American Public Health Association. Competition is open to authors of any nationality, but all the papers must be in the English language. The American Public Health Association earnestly appeals to those able to compete to take part in this work, which it is believed will do much to augment the health, comfort, and happiness of the people.

—In Vermont a Frenchman, aged about forty years, while suffering from delirium tremens, a few weeks ago jumped unperceived from a train running at the rate of thirty miles per hour. It was night, and the thermometer was 30° F. below zero. He lay for seven hours, when he was discovered by

the trainmen, without underclothing or hat, and his dress consisting merely of a light suit, with cotton socks and a cheap pair of shoes. Both hands and feet were badly frozen, and he was considerably bruised by his fall. The hands were amputated at once, and a week later both feet were taken off at the ankle. Strange to say the man has rallied from the enormous shock, and bids fair to make a complete recovery.

—Louise Michel, the well-known Parisian socialist, is reported to be suffering from great nervous restlessness, hallucinations, and constant terror of being attacked by troops. She is therefore to be transferred from prison to a *maison de santé* for appropriate treatment.

#### NEW YORK.

—Dr. E. S. Gaillard, for many years editor of the *Richmond and Louisville Medical Journal*, and afterward of *Gaillard's Medical Journal*, died at his residence at Ocean Beach, New Jersey, on February 1st. He joined the Confederate Army in 1861, and lost his arm at the battle of Seven Plains. In 1863, he was made Inspector-General of Confederate Hospitals, and at the end of the war took up his residence in Richmond. He removed to Louisville in 1868, and in 1874 established the *American Medical Weekly*. Three years later he came to New York.

—Dr. John N. Packard read the annual address before the Academy of Surgery at its regular meeting on the 5th instant, taking a historical retrospect of the really great advances in surgery. These he enumerated as follows: (1) The introduction of amputations; (2) The ligature to check hemorrhage after wounds or amputations; (3) Excisions of joints; (4) Subcutaneous surgery; (5) Ovariectomy; (6) Anæsthesia; (7) Operative measures for relief of intra-thoracic affections; (8) Lithotripsy and litholapaxy; (9) Antiseptic surgery, which is still *sub judice*; (10) The various operations in special departments as iridectomy, laryngeal surgery, etc. He concluded with a tribute to the late president of the Academy, Professor S. D. Gross.

—The annual meeting of the Hospital Saturday and Sunday Association was held at St. Luke's Hospital January 19th, when it was announced that the collection this year had so far amounted to \$30,988.90, and that enough more had been promised to insure a total of at least \$36,000. Last year the sum raised was \$13,062.71. The treasurer said that the trade auxiliary associations have done better this year than ever before, in spite of business depression; the falling off being principally in the churches—presumably because Hospital Sunday was rainy. The president, Mr. Miller, informed the Association of a project for a fair, under the management of benevolent women, to raise money for free hospital beds for sick saleswomen.

## Correspondence.

## LETTER FROM OUR LONDON CORRESPONDENT.

LONDON, January 22, 1885.

SINCE my last letter, the columns of the *Times* have contained a lengthy and very wordy correspondence on the too vexed question of the rightness of vivisection. I would not venture to attempt to apprise the value of the very opposite views which have been vehemently, and with no rigid regard to facts, expressed by the *Times* correspondents. Your readers will find fair samples of the discussion in the *Times* for January 16th.

It is of more importance, though not a material argument on behalf of the antivivisectionists, that Dr. Hughes Bennett's patient ultimately succumbed, though, without doubt, his symptoms and prospects of life were very significantly improved by Mr. Godlee's operation, at which a solid tumor of the brain was removed from below the surface of the convolutions through an aperture formed by taking out three crowns of trephine. But it will be more useful to leave your readers to digest the full details of this very interesting case when it shall be come to be published *in extenso*.

On Saturday last, in King's College Hospital, Sir Joseph Lister trephined over, incised, explored, and evacuated several drachms of fluid from the right frontal lobe of one of Professor Ferrier's patients. The man, a gardener, aged forty-two, was admitted to the hospital a month previously, when the principal morbid symptoms were total absence of hair on his head and face, left hemiplegia, double optic neuritis more marked on the right side, a suspicion of right proptosis, almost complete coma, with occasional intermissions during which the patient was partially sensible and at times able to answer a few simple questions, though he passed all his excreta unconsciously. Very firm pressure on the scalp over the right frontal lobe always elicited very marked expression of pain, and, when most sensible, he always complained of his head, and frequently put his right hand to his head when not able to speak.

His history showed that he had formerly grown an abundance of hair on his head and face; that his illness manifested itself between two and three years ago by an entire loss of his hair, followed by some slight failure of vision. He next noticed some loss of power in his left arm and leg. Last August he could no longer walk without the aid of a stick and suffered severely from headache. In November he finally took to his bed.

Iodide of potash had been freely tried with negative result, and there was no corroboration of the suspected syphilitic clue to the case.

During the few weeks that Professor Ferrier observed the man in King's College Hospital, it was noted that there was occasional partial dilatation with complete inaction of the right pupil, also that the movements of the right eye were sluggish and disproportionate to those of the left. The swelling of the right optic disk was greater than

that of the left, inasmuch as direct ophthalmoscopy showed three dioptres of hypermetropia for the former and only two for the latter. The man's condition grew worse and a fatal issue was the only prognosis without operative measures, such as were practised on Saturday last.

Then, after removing a crown of trephine at a point indicated by Dr. Ferrier, the dura mater was incised, and immediately the non-pulsating brain-substance rose through the trephine opening to the level of the external surface of the cranium, which was unusually thick and compact at this situation. Before the dura mater was opened, and again when the brain-substance was exposed, Sir Joseph Lister remarked upon the sensation of fluid which it returned to his digital examination. I learn from Professor Yeo, who was the conjoint operator in Ferrier's experiments on monkeys' brains, that it is usual for the living brain to return such a sensation under digital examination.

Before proceeding to enlarge the cranial opening, the operator incised the presenting brain-substance, and introduced the terminal phalanx of one finger, with which he said he felt a firm resisting body nearly one inch downward and backward from the centre of the trephine opening. Professor Ferrier denied himself the satisfaction of a digital exploration when Sir Joseph remarked that, while only his own fingers approached the wound, he only was responsible for its subsequent behavior, whereas the responsibility would be different were other fingers to explore in the wound. While repeating his digital exploration, but without introducing his finger further than before, the operator felt the before-mentioned resistant body yield and immediately there was a gush of very pale fluid, and subsequently the finger failed to detect the resisting body. On removing the finger immediately after the fluid escaped, the brain surface was observed to be pulsating properly and to have receded to a normal depth within the cranium. After adjusting the lips of the dura mater and scalp wounds in position a complete gauze dressing was applied which enveloped both eyes and the greater part of the head. The same afternoon the man asked for food; on Monday he was more sensible than he had been since his admission; indeed, he was cantankerous, discriminating about his food, and asked for a bed-pan for the first time since his admission to hospital, while there was distinct evidence of deterring sensibility and motor power in the left leg and arm. The wound has been dressed daily; a hernia cerebri which was manifest at the second dressing has yielded to gentle pressure.

To-day there are symptoms indicative of a further development of the original brain disease, which it is feared must be regarded as beyond the operator's reach. Nevertheless the experience afforded by such cases, even though a fatal issue ensue, will demonstrate the utility of trephining upon well-grounded indications in the hope that the cause of compression as well as the actual compression may be found at, and removed from, the accessible non-vital situation diagnosed from the symptoms read by the light of recent research into the localization of brain functions.

## LETTER FROM LIBERIA.

MONROVIA, LIBERIA.

MR. EDITOR, — Please pardon my seeming presumption in requesting a space in your scientific and highly reputed journal. But being possessed with that same charitable spirit that characterizes all worthy physicians, namely, to endeavor to find out what are the best remedies to relieve suffering humanity and disease, I feel impelled to lay before my professional brethren, for their consideration and professional criticism, some few facts in relation to certain medical herbs and plants. For a long time I have been impressed with the fact that nature must have provided drugs fully suitable for every disease peculiar to every climate. Hence, she has provided drugs in this our tropical climate singularly beneficial for the many diseases of our West Coast. With such convictions firmly established, I have made certain examinations and inquiries into the real worth and nature of certain medical herbs and plants as here used by the native practitioners, and in so doing I have been wonderfully and agreeably surprised at the ready relief which some of these plants have procured in their natural form. This led me to endeavor to reduce some of them to extracts and tinctures, which afford me a far better opportunity of getting at the real physiological effect and active force of the drugs, their maximum and minimum doses, etc. I have thus far discovered as powerful a drastic cathartic and anthelmintic as were ever brought into use; in addition to this I have obtained milder laxatives, astringents, and anodynes. It is quite surprising how many eminent physicians we have had here, not any one of whom would give a small portion of their time to the investigation of these useful plants. This climate must produce a change in the system and constitution of individuals coming from more temperate climates to this miasmatic region of Western Africa. In the dreaded African fever, which I have found to be nothing more nor less than the malarial or miasmatic fever, which is prevalent in all new and marshy countries, the medicinal plants which I have used in numerous cases which I have had in hand have never failed in subduing the fever in far less time than double doses of imported diaphoretics or diuretics or any class of drugs I have ever used. It is certain that very many useful drugs that are imported here in a very short time become inert and worthless, whereas drugs that are indigenous remain in the pure state for months and years; thus the *bolah*, a drastic cathartic, the *pachi*, a vermifuge, *cassin*, and several others with which I am acquainted, are known to retain their official properties for years. I have used barks of this country which, for their tonic and stomachic effect, far exceed gentian, quassia, and other barks. These latter drugs, tonics, etc., have been known here to deteriorate even when sent in form of powders in glass jars, thus showing their unreliability for general use in this country. It is even surprising how soon extracts and powders deteriorate in this climate, thus showing again how soon they must become inert. These facts can be substantiated by the surgeons of Freetown and other British hospital posts on the West Coast. I should, indeed, be happy if our professional brethren on the coast would give

the subject of our drugs and medicinal plants more attention and a fair trial in their practice. I would be pleased to receive any assistance which can be forwarded in the way of periodicals through you on the subject of tropical drugs or medicinal plants of the West Coast of Africa, as I would like to compare the different results of others, which I think would be of importance and benefit to our profession.

With best wishes for the Boston journal's success and prosperity, I have the honor to subscribe myself, yours respectfully,

J. HENRY ROBERTS, B.S., M.D.

## Miscellany.

## LETTER FROM DR. O. W. HOLMES TO DR. FORDYCE BARKER.

THE following letter from our honored *confère* and fellow-townsmen, Dr. O. W. Holmes, to Dr. Fordyce Barker was read at the late meeting of the New York Academy of Medicine, at which Dr. Barker resigned the office of President after holding it for five years. His valedictory address appears on another page.

Dr. James R. Chadwick read the letter and presented a photographic portrait of the writer.

BOSTON, February 4, 1885.

MY DEAR DR. BARKER, — You must allow me to join my best wishes to those of the friends who will surround you as you take leave of the office which you have filled so ably and happily. I trust that you have not forgotten the day when you were with us at the opening of our Boston Medical Library. I know full well that we remember your presence, and how much it added to the pleasure of the occasion. Our Library Association, I hardly need tell you, has proved eminently successful. I want to say because you smiled upon its birth, but I dare not; for you have smiled upon a great many births, not every one of which, perhaps, has had the good fortune of the infant institution which you joined us in welcoming.

You may have learned some of our secrets during that visit, who knows? There are sparks of intelligence still left among us. At any rate, ever since you left Boston we have kept an eye upon you. As soon as it was learned that you had been spending some little time here, you were made President of the New York Academy of Medicine. As soon as you got back, for *some* reason, the Academy took a new start and has been flourishing ever since. All my informants agree about the fact, and they add that it is due to your own faithful administration and energetic efforts.

We of Boston congratulate our brethren of New York that they have had the great advantage of your services during these last eventful years. The gratitude of the medical profession will keep alive the memory of its past benefactors. We must trust the future for its *vis-à-fronte*, but in the broadest and loftiest period of progress the leaders will look back to the days of up-hill work when you, our honored friend, lent all your vigor to that *vis-à-tergo*

which they will feel pressing them forward to larger and higher achievements.

Pardon me for addressing this open letter to you. You can retire "to blush unseen" while some friend is reading it, if it is thought worthy of that honor.

Always faithfully yours,

OLIVER WENDELL HOLMES.

To DR. FORDYCE BARKER, President of the New York Academy of Medicine.

#### GENERAL GORDON FROM A MEDICAL POINT OF VIEW.

GENERAL GORDON'S life is as great a mystery as his character. His physical endurance in the desert would be difficult to understand in a strong man; but in a man with angina pectoris, and with a horror of meals, it is simply a kind of miracle. As far back as November 15, 1878, and in that very Khartoum on which the eyes of all Christian nations are turned, he writes: "There are not nine Europeans in the Soudan, and they vegetate and do not live. Can you conceive what it is never to have any desire to eat? That is my case. I hate the operation. . . . My angina pectoris has not troubled me lately. According to medical books it is not known what occasions this. It is heart disease, and makes you think you are on the brink of death. A rush of blood takes place to the heart, and you think all is over. I may say I have died suddenly over a hundred times." We can only find encouragement in such facts to go on hoping that against all human and medical probabilities Gordon will again emerge from the Soudan, and long continue to show the world what can be done by men with grave disease, but with faith in their own mission and in God's providence. — *London Lancet*, June 21, 1884.

#### THE "UNCONTROLLABLE" VOMITING OF PREGNANCY.

A PAPER on the above subject by Dr. Graily Hewitt, read before the Obstetrical Society of London, is summarized in the *Medical Times* (November 22). Its conclusions are based upon two series of cases in which the condition of the body and cervix were recorded, and are as follows: —

(1) That the cases in which the disease is due to some other organ than the uterus are so few in number (only one in the series of 32) that they may be almost excluded from consideration. (2) That in the large majority of cases the disease presents itself during the first half of pregnancy. (3) That the evidence points to interference with the normal expansion and growth of the gravid uterus as the condition of the production of this dangerous affection, and that this is most frequently brought about by or in connection with retention of the bulk of the uterus in the bony pelvis, in 88 per cent. the uterus being anteфлекed or anteverted, and in 12 per cent. in a state of retroversion, the other conditions met with being hardness, resistance, or unusual rigidity of the os and tissues of the cervix. (4) There appear to be two factors to be considered capable of interfering with the expansion of the uterus (a) incarceration with flexion or version;

(b) undue hardness, and rigidity of os and cervix. These may be conjoined in a given case. It appears to be borne out by the facts recorded that the incarceration is the more important of the two factors, as a rule at least. The facts appear to point to the occurrence of embarrassment in the expansion of the uterus very early in the pregnancy, such as might be expected to be occasioned by a previously flexed state of the uterus or by a congested indurated state of the cervix, or by the two conditions combined. As the pregnancy advances, the congestion and swelling are intensified, and the resistance to expansion thus increased. It appears probable that the particular cause of the sickness observed is the compression of the nerves situated in the tissues which are especially exposed to compression, namely, those around the cervix uteri, and especially those near the internal os. Copeman's success in the treatment of severe sickness by dilating the internal os is evidence in this direction. The importance of the flexion element has been denied, one principal objection being that sickness is not always present when the uterus is flexed. But the case is the same in the non-gravid uterus; severe sickness is not seldom due to flexion of the non-gravid uterus, while flexions are observed without sickness. Corroboration of the author's views are contained in Gehring's recent paper. As a rule, severe sickness is limited to the first half of pregnancy, in a very few cases it persists longer; in these rare cases, the cause may be rigidity of the tissues round the internal os, persisting to a late period. As regards treatment, the first indication is to secure the normal upward movement of the fundus uteri, to relieve the incarceration of the uterus, when present, if that be possible, and to prevent its occurrence by a properly arranged method of treatment. Absolute rest in the supine position if anteversion be present or on the face or side if retroversion be present, and the use of the knee-elbow position will be required. These measures suffice in many cases. If the uterus be fixed, gentle continuous pressure must be applied internally by the fingers, or by an air-ball, and the position maintained by a suitable pessary. These measures failing, Copeman's procedure of dilating the cervix should be employed. Artificial abortion, will, it is believed, be rendered unnecessary if the less severe measures are applied early.

#### CARLSBAD IN FORMER TIMES.

THE springs of Carlsbad which for more than five centuries have been sought by the valetudinarians of Europe were formerly given a much more prominent part in the treatment of resident invalids than they now are. A recent article in *The Nineteenth Century* quotes an author, Dr. Summer, writing in 1571, up to which time the waters had been used almost wholly externally. The patient was made to spend from ten to eleven hours per day in the bath, in three or more sessions. The object was to excite a cutaneous eruption whereby "the evil humors may flow out." It is suggested that for people who never wash in health a thorough bath may have a pretty strong systemic influence. Certainly it will not be denied that eleven hours

of bath a day would have a considerable effect of one sort or other on any one short of a merman. The North American Indians, it is said, who seldom wash when well, betake themselves when ill to the hot springs of Colorado and New Mexico and lie in them for hours together.

After two centuries or more of bathing, the waters began to be drunk; and then, too, the amounts used were not niggardly. Fifteen to eighteen glasses per day was a starter, and the number was quickly carried up to thirty or forty.

A medical visitor in 1756 records that he himself drank from fifty to sixty glasses in the course of two hours. Peter the Great, perhaps from his being a czar, was ordered to begin with only three glasses. But he understood the direction to mean pitchers, and manfully emptied two, but was obliged to acknowledge himself vanquished before the third. A chalk tally still preserved on a board in his room, only partially legible, shows one day's achievement to have been twenty-three glasses.

## REPORTED MORTALITY FOR THE WEEK ENDING JANUARY 31, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	677	294	21.75	18.00	7.05	1.95	6.15
Philadelphia . . . . .	927,995	457	144	14.74	10.56	7.26	2.42	.66
Brooklyn . . . . .	644,526	268	94	16.40	23.60	6.64	1.50	.12
Chicago . . . . .	622,140	257	139	19.11	18.62	11.76	4.41	1.96
Boston . . . . .	423,590	206	74	17.00	22.00	11.50	1.50	.50
Baltimore . . . . .	408,520	176	54	12.54	16.75	4.56	.57	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	138	49	8.76	14.60	2.92	2.92	—
New Orleans . . . . .	234,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	96	36	3.12	3.12	1.04	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	29	13	10.35	10.35	3.45	—	—
Nashville . . . . .	54,400	25	11	20.00	28.00	4.00	—	—
Charleston . . . . .	52,286	38	11	5.26	13.15	—	—	—
Lowell . . . . .	71,447	17	—	11.66	11.66	—	—	—
Worcester . . . . .	69,442	24	15	29.12	29.12	29.12	—	—
Fall River . . . . .	62,674	20	11	25.00	15.00	—	—	—
Cambridge . . . . .	60,393	31	9	19.38	9.69	9.69	9.69	—
Lawrence . . . . .	45,516	13	8	—	—	—	—	—
Lynn . . . . .	44,835	12	2	—	25.00	—	—	—
Springfield . . . . .	38,090	8	2	37.50	—	—	12.50	—
Somerville . . . . .	31,350	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	11	6	27.27	18.18	—	—	—
New Bedford . . . . .	30,144	12	5	8.33	25.00	—	—	8.33
Salem . . . . .	29,563	13	2	—	—	—	—	—
Chelsea . . . . .	24,347	11	3	—	18.18	—	—	—
Taunton . . . . .	22,633	5	1	40.00	20.00	5.00	—	—
Gloucester . . . . .	21,400	7	4	14.28	—	14.28	—	—
Haverhill . . . . .	20,905	7	3	28.56	28.56	28.56	—	—
Newton . . . . .	19,421	9	1	11.11	—	—	—	—
Brockton . . . . .	18,323	9	4	—	33.33	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	5	1	—	—	—	—	—
Fitchburg . . . . .	13,433	4	—	—	—	—	—	—
Waltham . . . . .	13,368	3	0	—	—	—	—	—
Northampton . . . . .	13,165	2	0	—	—	—	—	—
89 Massachusetts towns . . . . .	—	87	9	2.88	14.28	1.19	1.19	—

Deaths reported 2,597: under five years of age, 886; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 437, lung diseases 131, consumption 102, diphtheria and croup 179, scarlet fever 63, measles 60, typhoid fever 48, diarrheal diseases 24, erysipelas 18, whooping-cough 16, cerebro-spinal meningitis 14, malarial fever 9, puerperal fever 1. From *typhoid fever*, Philadelphia 15, New York 7, Baltimore and Cincinnati 6 each, Chicago 5, Brooklyn 4, Boston, District of Columbia, New Haven, Nashville, and Lynn one each. From *diarrheal diseases*, New York 15, Cincinnati 1, Baltimore and Nashville two each, Brooklyn, District of Columbia, and New Haven one each. From *erysipelas*, New York 9, Philadelphia, Chicago, and Boston two each, Baltimore, Lowell, and Taunton one each. From *whooping-cough*, New York 6, Brooklyn, Boston, and District of Columbia two each, Philadelphia, Chicago, Baltimore, and Springfield one each. From *cerebro-spinal meningitis*, New York 5, Holyoke three, Chicago two, Lowell, Fall River, Springfield, and Newton one each. From *malarial fever*, Baltimore three, New York, Philadelphia, and Brooklyn two each. From *puerperal fever*, Chicago 2, Boston and Nashville one each.

In 110 cities and towns of Massachusetts with an estimated population of 1,436,412 (estimated population of the State 1,455,744), the total death-rate for the week was 15.09 against 18.54 and 18.37 for the preceding two weeks.

1847), the total death-rate for the week was 15.09 against 18.54 and 18.37 for the preceding two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,146, for the week ending January 17th, the death-rate was 24.2. Deaths reported 4,127: infants under one year of age 828; acute diseases of the respiratory organs (London) 552, whooping-cough 108, measles 70, scarlet fever 59, diphtheria and croup 34, fever 28, diarrheal diseases 21, small-pox (London 47, Liverpool 2, Birmingham one) 50. The death-rates ranged from 16.0 in Hull to 32.8 in Cardiff; Birmingham 25.8; Blackburn 29.7; Bradford 20.9; Leeds 22.1; Leicester 21.5; Liverpool 21.5; London 23.7; Manchester 29.7; Norwich 29.7; Nottingham 20.2; Sheffield 20.8; Sunderland 23.3. In Edinburgh 22.5; Glasgow 34.5; Dublin 31.9.

For the week ending January 10th, in the Swiss cities, there were 54 deaths from consumption, lung diseases 37, diarrheal diseases 16, diphtheria and croup 7, puerperal fever 7, measles 6, small-pox 4, typhoid fever 3, scarlet fever 1, erysipelas 1. The death-rates were: at Geneva 14.2; Zurich 3.9; Basle 12.4; Berne 31.1.

For the week ending January 17th, lung diseases 30, consumption 27, diphtheria and croup 13, measles 5, whooping-cough 1, typhoid fever 3, scarlet fever 2. The death-rates were: at Geneva 23.3; Zurich 15.5; Basle 21.9; Berne 28.1.

The meteorological record for the week ending January 31st, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Date.		Barom-eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
			Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration in Mins.	Amount in Inches.
January, 1885,		Daily Mean.	Daily Mean.																	
Sunday, 25		29.611	36.9	43.1	27.6	79	80	65	74.7	S W	S W	S W	8	9	12	O	O	O	—	—
Monday, 26		29.555	24.9	36.4	15.0	67	62	78	69.0	W S	W S	W S	9	20	14	O	C	O	—	—
Tuesday, 27		30.141	10.0	16.1	8.0	48	40	57	55.3	W S	W S	W S	18	18	10	C	C	O	—	—
Wednesday, 28		29.656	6.0	21.0	-0.5	66	72	57	67.7	N S	N S	N S	15	25	21	N	C	N	—	—
Thursday, 29		30.266	7.7	15.3	-1.7	61	57	37	51.7	W S	W S	W S	12	19	11	C	C	C	—	—
Friday, 30		30.196	18.6	25.9	4.9	78	63	73	71.0	W S	W S	W S	11	5	4	C	O	C	—	—
Saturday, 31		30.175	24.6	32.0	16.0	85	45	69	66.3	N W	W S	S W	10	7	2	C	C	O	—	—
Mean, the Week.			28.2	10.0															15.30	0.31

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JANUARY 31, 1885, TO FEBRUARY 6, 1885.

WATERS, WM. E., major and surgeon. Granted leave of absence for one month. S. O. 24, Department of the East, January 31, 1885.

TAYLOR, B. D., captain and assistant surgeon. Granted leave of absence for one month, to take effect between March 15 and April 1, 1885. Permission to leave department limits. S. O. 10, Department of Texas, January 26, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, JANUARY 1 TO 31, 1884.

STONER, G. W., surgeon. When relieved to proceed to Washington, D. C., for duty as chief of Purveying Division, January 12, 1885.

BENSON, J. A., passed assistant surgeon. When relieved to proceed to Chicago, Ill., for duty. January 12, 1885.

CARMICHAEL, D. A., passed assistant surgeon. When relieved to proceed to Cairo, Ill., for duty. January 3, 1885.

AMES, R. P. M., passed assistant surgeon. When relieved to proceed to New York, N. Y., for duty. January 14, 1885.

FRUHAUF, F. M., passed assistant surgeon. To proceed to Norfolk, Va., and assume charge. January 12, 1885.

BROOKS, S. D., assistant surgeon. To proceed to Evansville, Ind., and assume charge. January 14, 1885.

CARRINGTON, P. M., assistant surgeon. To report to surgeon in charge, St. Louis, Mo., for temporary duty. January 17, 1885.

#### PROMOTION.

STONER, G. W., surgeon. Promoted and appointed surgeon by the Secretary of the Treasury, from January 16, 1885. January 14, 1885.

#### APPOINTMENT.

CARRINGTON, PAUL M., M.D., of Georgia, having passed the examination required by the regulations, was appointed an assistant surgeon by the Secretary of the Treasury, January 16, 1885.

#### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY, SPECIAL UNION MEETING. By courtesy of the Boston Society of Arts and Gen. M. A. Walker the Section for *Clinical Medicine, Pathology, and Hygiene*, in conjunction with the Boston Society of Architects, will meet at the Massachusetts Institute of Technology on Monday, February 16th, at 7.15 o'clock. Mr. J. Pickering Putnam will read a paper upon "The Principles of Sanitary Plumbing," illustrated by improved sanitary appliances devised by the lecturer and others. Apparatus will be exhibited showing the action of sewer-trap siphonage. Dr. Walcott, of the Massachusetts State Board of Health, Prof. T. M. Clarke, of the Institute of Technology, Mr. E. S. Philbrick, Mr. E. W. Bowditch, Dr. G. B. Shattuck, Dr. C. F. Fossum, members of the Boston Board of Health, A. F. French, and others are expected to take part in the discussion.

A. N. BLODGETT, M.D., Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY. *Obstetric and Gynecological Section*.—There will be a meeting of this section at 19 Boylston Place on Wednesday, February 18, 1885, at 7.45 P. M. The following papers will be presented: Dr. John Homans, "Nine Cases of Removal of Uterine Tumors by Laparotomy." Dr. John L. Sullivan, of Malden, "Several Cases of Imperfect Abortion." It is needless to say that this meeting cannot be other than one of the most interesting of the season.

JAMES R. CHADWICK, M.D., Chairman.  
ROBERT B. DIXON, M.D., Secretary.

CORRECTION.—Journal of 5th inst., page 127, first column, last line but one, for "subnitrate of bismuth is worse," read subnitrate of bismuth is inert.

#### BOOKS AND PAMPHLETS RECEIVED.

The Sanitary Engineer. A Journal of Civil and Sanitary Engineering, and Public and Private Hygiene. Vol. X, June to November, 1884.

The Hygiene of the Nervous System and Mind, etc. By C. H. Hughes, St. Louis, M.D. (Reprint from the *Alienist and Neurologist*, January, 1885.)

Weiterer Untersuchungen über die Natur und Wirkung der Oleate. Von John V. Schenker, A.M., M.D., in Philadelphia Weiterer untersuchen Physiologische Wirkung der Oleate. II. III. Separat Abdruck aus "Monatsschrift für Praktische Dermatologie," iii. Band, 1884.

The Revival of Ovariectomy and its Influence on Modern Surgery. An Address delivered at Birmingham November 5, 1884, by Sir Spencer Wells, Bart. Second Edition, with Additional Notes. London: J. & A. Churchill, 1885.

Cases of Disease of the Frontal Sinus. (Reprint from the *Transactions of the American Ophthalmological Society*.) 1884.

Thirty-seventh Annual Report of the Massachusetts School for the Feeble-Minded at South Boston. For the Year ending September 30, 1884. Boston: State Printers, 1885.

Transactions of the Obstetrical Society of London. Vol. XXV. For the Year 1883. With a List of Officers, Fellows, etc. London, 1884.

Cerebral Localization in Relation to Insanity, with Cases. By J. M. Carnochan, M.D. (Reprint from the *Medical-Legal Journal*.) New York: J. H. Vail & Co., 1884.

Annual Report of the Supervising Surgeon-General of the Marine-Hospital Service of the United States for the Fiscal Year 1884. Washington, D. C., 1884.

Quarterly Report of Medical Officers of the United States Army, with their Stations and Duties, as reported to the Surgeon-General, January 1, 1885. Washington.

A Useful Catheter for the Operation for Vesico-Vaginal Fistula. (Reprint from *Detroit Lancet*, December, 1883.) The Management of Pott's Disease of the Spine in Children. (Reprint from *Medical Age*, November 26, 1883.) By Hal. C. Wyman, M.D., Detroit, Michigan.

A Manual of Human Physiology, including Histology and Microscopical Anatomy, with special reference to the Requirements of Practical Medicine. By Dr. L. Landoulsi. Translated, with additions, by William Stirling, M.D., Sc. D. With 176 Illustrations. Vol. I. Philadelphia: P. Blakiston, Son & Co.

A Guide to the Study of Ear Diseases. By P. M. Tride, M.D., F.R.C.P., Edinburgh, etc. H. Vail & Co., 1884.

Conspectus of the Medical Colleges of America, Sessions of 1884-85. Illinois State Board of Health, 1884.

## Original Articles.

THE RECENT INVESTIGATIONS CONCERNING THE ÆTIOLGY OF CHOLERA.<sup>1</sup>

BY R. H. FITZ, M.D.,

Professor of Pathology in Harvard University.

In 1880, Professor Eichhorst, then of Göttingen, in a compact but comprehensive article on the subject of cholera, thus expresses himself: "Our assured knowledge of the essence of cholera is eminently little. After a long period of belief in a chemical substance or cholera-poison, the prevailing views of the present tend towards the idea that cholera is due to the action of lower vegetable organisms. It must be borne in mind, however, that these views are based rather upon the analogy of this disease to other infectious diseases than upon the absolute isolation of the fission-fungi and the discovery of their morphological characteristics."

It is unnecessary to state that the search for micro-organisms in connection with cholera is no task of the past two years, but has occupied the attention of investigators during the various epidemics which have devastated Europe. According to Hirsch, attention was first called by Böhm, in 1838, to the presence of cryptogams resembling ferment-fungi in the dejections and in the intestine. Not only in Germany but also in England, France, and Italy have repeated observations been made and by various persons. In 1873, Lewis and Cunningham, in India, searched for characteristic organisms in cholera and cultivated those found. The bacteria and vibrios contained in the stools presented no characteristics by which they might be distinguished from those to be seen in the feces of persons not suffering from cholera or from those occurring in putrid fluids.

The wonderful advances made in bacteriology during the past ten years, both in France and Germany, gave renewed hopes to the medical world that at last might be discovered the long-sought-for essence of cholera. When it was known that Robert Koch, whose name is so closely connected with nearly all the progress made of late years in our knowledge of the pathogenic importance of bacteria, was to lead the German commission for the investigation of cholera, it seemed as if the discovery were already made. Although the results of his work are presumably familiar to all of you, a discussion of the causes of the origin and of the promoters of the spread of cholera must necessarily be preceded by some statement of the factors to which he has lately called attention. This is all the more desirable in consequence of the repeated efforts which have since been made to control or confirm his observations.

A conference of German physicians assembled in Berlin, July 26, 1884, to listen to the statements of Dr. Koch with reference to the results of his investigations. He then presented a comprehensive and detailed account of the nature and bearing of his work. A full report of the proceedings was published in the *Berliner Klinischer Wochenschrift*, and elsewhere, and soon made its way over the world in full or in abstract.

<sup>1</sup> Read before the Boston Society for Medical Improvement, February 9, 1885.

Nearly one hundred cases came under observation, including the results of sixty autopsies made in India and Egypt and of two at Toulon. The dejections of thirty-two patients in India and of two at Toulon were examined, and frequent investigations of vomit were made.

As might perhaps have been expected but little additional knowledge was obtained with regard to the pathological anatomy of cholera. The later European epidemics of the disease have enabled the most eminent pathologists of Germany and France to discover all that could be seen with the appliances in use at the time. The condition of the intestines, as described by Koch, corresponds very closely to that given by Eichhorst.

The alterations are limited to the small intestines and are most marked in the immediate vicinity of the ileo-cæcal valve. Eichhorst states that they may be continued into the upper part of the colon. The appearance of the mucous membrane varies in individual cases. In some there is apparently but little alteration, with perhaps slight redness, swelling, and dulness of the surface, and a prominence of the solitary follicles and Peyer's patches. In others the redness is greater, either diffused, in blotches, or limited to the edge of the follicles and patches. The microscope showed that this red margin corresponded to an invasion of bacteria, the now famous comma-bacilli. They were found in the canals of the cryptic glands, between flakes of detached epithelium and basement membrane, and at times deeper within the tissue.

In a third series of cases the lower part of the ileum is of a dark, reddish-brown color, and the mucous membrane studded with superficial hemorrhages. Necroses of the surface and diphtheritic patches of mucous membrane were seen in many instances. The comma-bacilli were also found in this series, and, in addition, various other bacteria, long thick rods and very slender rods, were present in the cryptic glands and their vicinity. The relations were such as are found in necrotic and diphtheritic alterations of the intestinal tract and in typhoid ulcers, where the tissue is first destroyed by pathogenic bacteria and then invaded by other non-pathogenic forms. The comma-bacilli always preceded the others and penetrated more deeply.

The statements of Koch with regard to the relation of the intestinal contents to the alterations of the wall are important. In those cases where the mucous membrane appeared least abnormal the contents were watery and slimy, or gruel-like, and contained the comma-bacillus, the more abundantly the less contaminated the contents. In the cases of hemorrhagic, necrotic, and diphtheritic enteritis, the contents bore no resemblance to rice-water, but were an offensive, bloody, ichorous fluid. Bacteria of the most varied sort were found in this fluid.

Although the comma-bacilli were constantly found in the intestinal contents, whether at post-mortem examinations or in those discharged during life, they were not discovered in the organs or in the blood.

It is evident from Eichhorst's description of the pathological anatomy of cholera that the examination of the rest of the alimentary canal, the brain, thoracic and abdominal organs, produces

chiefly negative results. The spleen, in particular, rarely shows any changes; likewise the liver. A cloudy swelling of all organs is mentioned. The kidneys are described as either pale, hyperemic, or fatty, and the convoluted tubules contain desquamated epithelium in part fatty, granular material, hyaline casts, and blood corpuscles.

The French commission (Strauss, Roux, Nocard, and Thuillier) described in considerable detail the condition of the kidney in cholera. Special attention was called to the occasional occurrence of disseminated patches of what appeared to be a necrosis from coagulation. The renal changes were regarded as degenerative rather than inflammatory, and as analogous to those occurring in other infectious diseases. This view and the reported appearances correspond with the condition of the urine after an attack of cholera, it being albuminous and containing blood and casts. The changes are temporary, however, a chronic nephritis being a rare result of cholera.

The French observers, furthermore, noted an acid reaction of the blood-serum. The knowledge of this post-mortem acidity of the blood led Cantani to test this fluid during life. He found that its alkalinity rapidly diminished during the stage of asphyxia, the reaction becoming neutral and eventually acid. He attaches especial importance to this observation, considering that a certain degree of alkalinity is necessary for the preservation of life, and that, in the treatment of cholera, acid hypodermic injections may prove of value in preventing a considerable diminution of this quality.

The presence of the comma-bacillus in the intestinal contents at the post-mortem examination of two acute and uncomplicated cases of cholera, there being neither hemorrhagic nor putrefactive changes, led Koch to investigate this organism.

His researches occupied a period of months, indeed may be said to continue at present, and were directed toward the discovery of its peculiarities and its possible relation to cholera. Its shape suggested the term "comma" bacillus, although its manner of growth, when cultivated, indicates that it is rather of the nature of a spirillum, like the spiral fibre of relapsing fever, than of a bacillary character.

It is claimed by Koch that this organism presents definite characteristics by which it may be distinguished from all other microorganisms. These include the peculiarities of shape and size, in addition to its behavior when cultivated under certain conditions. Without entering into all the details of its cultivation in various media, I will merely call attention to the method employed by Koch in demonstrating the presence of the bacillus in cases of cholera and in determining its identity. It is obvious that no criticism of Koch's work is likely to be of absolute value which does not reproduce these results constantly observed by him.

Demonstration. — A bit of mucus from the defecation or from the intestinal contents is spread smoothly on a cover-glass and dried. The glass, after being passed thrice through a flame of gas or alcohol, is covered with a watery solution of fuchsin or methylene-blue. After a few seconds it is washed, and may be examined at once with a one-

twelfth oil-immersion lens and an Abbé's illuminator.

Identification. — The microscopic examination alone suffices for diagnosis in only relatively few cases, for it does not often occur that a sufficient number of comma-bacilli are found to establish the diagnosis. For absolute proof it is usually necessary to cultivate the comma-bacillus. A very small bit of mucus is placed in ten cc. of warmed nutrient-gelatin. This material is composed of meat-water, pepton, and ten per cent. of gelatine, and has a feebly alkaline reaction. It is offered for sale in Berlin. The mixture is stirred with a sterilized glass rod, and poured upon a plate of glass which is placed horizontally upon ice. The gelatine soon sets, and a bell-glass is placed over the specimen, which is kept moist till the colonies develop. Two ordinary plates may be used instead of the bell-glass and glass plate. The colonies may be examined with a power of a hundred diameters.

The growth of the bacillus may take place within twenty-four hours, and the colonies assume a defined, characteristic shape, unlike that of any other variety of bacterium known to Koch. The very young colonies look like exceedingly pale, small drops, with an irregularly defined, scalloped, partly rough and jagged outline. They soon become granular and less homogeneous than other bacterial colonies. The granular appearance increases with the size of the colony, and the latter eventually appears as a collection of strongly refracting granules. The gelatine then becomes liquefied in the immediate vicinity of the colony, which sinks into the resulting funnel-shaped depression, and appears as a small white point at the bottom. This sinking of the colony is quite peculiar, occurring as described in very few varieties of bacteria, and is never so pronounced as in the case of the comma-bacillus. It is seen most distinctly in pure cultivations obtained from the gelatine plate. The gelatine in the test-tube is pricked with a previously heated platinum wire which has been stirred about in a suitable colony. The tube is then closed with a plug of sterilized wadding. As the growth progresses the funnel-shaped depression appears corresponding with the print of the wire. At the upper part is a deep hollow which, in the semi-fluid gelatine, resembles an air-bubble. In the cultivations of other bacteria there is no such a depression with the bladder-like space at the top.

The comma-bacilli thrive best at temperatures between 86° F. and 101° F., but grow at those above 60° F. A cultivation was frozen for an hour at a temperature of 14° F., and subsequently sown. No modification in the development and growth of the crop could be detected. Babes reports that water containing the bacilli, when boiled, becomes sterilized; that is, a temperature of 180° F. destroys the bacilli. The same effect may be produced by lower temperatures, although at 122° F. a feeble growth was evident. Under favorable conditions their increase is enormous within the first twenty-four hours, but after two or three days they begin to die. Koch states that when the transudation from the blood takes place into the intestine, the

comma-bacilli disappear and are replaced by other bacteria, especially those of putrefaction. He considers it highly probable that the former bacilli, if placed in putrid fluids, die rather than become properly developed, and calls attention to the significance of this view in connection with the subject of disinfection. The growth is most luxuriant in fluids free from acidity, which possess a certain concentration of nutriment. Some acids, as that in boiled potato, do not stop their growth, which readily takes place on the latter, and in broth, milk, and various articles of food. When dried they die, if in thin layers, in the course of three hours. They were never kept alive after drying for twenty-four hours, even when in thick layers. Every effort was made to ascertain the existence of a permanent state for these organisms; but, so futile were the attempts, that Koch declares it is useless to hope for the discovery of a permanent state of the comma-bacillus.

The first confirmation of Koch's observations with regard to the cultivation and development of the comma-bacillus was made by Nicati and Rietsch during the epidemic in Marseilles. I have been able to see merely a reference to their communication, written by Friedländer. A series of investigations concerning the comma-bacillus were made by Van Ermengem, and were reported by him to the Belgian Microscopical Society. His material was obtained at Marseilles from eight post-mortem examinations and from thirty-four patients. His confirmation of Koch's discoveries with reference to the appearances of the comma-bacilli and their behavior when cultivated is complete. Very recently Babes has published the account of an extensive series of experiments concerning the properties of the comma-bacillus, especially with reference to the effect of its surroundings when cultivated. In general, his work is confirmatory of that of Koch.

Before considering the relation of these organisms to cholera it may be well to refer to the criticisms called forth by Koch's communications.

In a report to the Director-general of the Army Medical Department, Lewis, who went to Marseilles during the epidemic there prevailing, examined numerous specimens of cholera-dejections, and found that comma-bacilli were more or less conspicuously present in all instances. He states, however, that "comma-like-bacilli identical in size, form, and in their reaction with aniline dyes, with those found in choleraic dejecta, are ordinarily present in the mouth of perfectly healthy persons."

In reply to this criticism, Koch states that he has long been familiar with the bacilli to be found in the saliva. There are certain differences in their appearance from those of the comma-bacilli, but the biological characteristics are more important for differentiation than the form. When cultivated, both varieties of bacteria are easily distinguished.

At the annual meeting of the Association of German Naturalists and Physicians, a communication was made by Finkler and Prior to the effect that they had found in cholera nostras a microorganism whose shape was identical with that of the comma-bacillus in Asiatic cholera. Its biological qualities, when cultivated, were regarded as absolutely the

same as those of the comma-bacillus as stated by Koch. They claimed to have discovered evidence of a spore-formation in the comma-bacilli of cholera nostras, which had not been established in like manner for the bacilli of Asiatic cholera. Klamann stated at the same meeting that he had also found in cholera nostras formations exactly corresponding with those shown. The statements of Finkler and Prior were criticized on the spot by Hueppe, formerly a worker in Koch's laboratory. He called attention to the differences in the appearance of the comma-bacilli of Koch and of those shown by Finkler and Prior. He also suggested that the cultivations of these observers were probably impure, as their statements concerning the development of the bacilli did not harmonize with those of Koch, whose investigations had continued over a longer period of time.

Ceci and Klebs, who investigated the pathology of cholera from material obtained at Genoa, declared that the comma-bacilli and spirilla of Asiatic cholera proved identical with the forms obtained by Finkler and Prior in cultivations from the feces of cholera nostras. Klebs also stated that the same forms of spirilla were found in a case of pneumonia with diarrhoea.

Finally Klein and Gibbes, in their preliminary report of the English Cholera-Commission, deny that the comma-bacilli found in cholera, when cultivated, behave in any way differently from the putrefactive organisms.

Koch stated, in answer to the communication of Finkler and Prior, that their methods gave no security against the predominant growth of other forms of bacteria and the admission of impurities. One of their cultivations, said to be tolerably pure and obtained from a putrid stool, showed, when cultivated in gelatine, four different kinds of bacilli. Although one of these, when dried and stained, presented a certain resemblance to comma-bacilli, yet, in general, the individuals were thicker and longer. The growth in gelatine and on potatoes of the crooked bacilli of Finkler and Prior and that of the comma-bacilli of cholera showed marked differences. He had examined three cases of cholera nostras, two of which were fatal, but with negative results. He doubted whether the bacilli described by these observers came from the intestine, thinking they may have entered the putrid stool and the cultivation after the former had left the body.

While ascertaining the properties of the comma-bacilli, Koch learned that these organisms were constantly present in the intestinal contents from cases of cholera. He found them most numerous in the lower part of the small intestine where the most marked alterations of the wall were found. They gradually diminished in number above this region. In the most recent cases they appeared as nearly a pure cultivation, and were less numerous in the later stages of the disease, where the secondary changes in the intestine were more marked. The most careful investigation of all other organs than the intestine and of the blood failed to show anything which could be regarded as infectious material. A large series of controlling examinations were made both of corpses and of dejections

from the sick and well. Various substances rich in bacteria were also examined but with negative results.

Similar observations were made in Berlin after his return from India and with a like result. As late as the middle of November, in his reply to his critics, he states that hundreds of investigations have recently been made in the Imperial Health Office, but the presence of the true comma-bacillus has never been discovered. In his communication to the cholera-conference he affirms his positive belief that the comma-bacillus is a constant accompaniment of the cholera-process and is never found elsewhere. This opinion is even more absolutely presented in the article above referred to—the latest published by him; the comma-bacilli being regarded as specific bacteria, found only in Asiatic cholera.

During his researches in India numerous specimens of sewage and of water from tanks and rivers, also of water exposed to all sorts of impurities, were examined, without the detection of the comma-bacillus in any of the specimens.

In the report of progress last sent from India he calls attention to the discovery of the comma-bacillus in a water-tank, in the immediate vicinity of which a localized epidemic of cholera occurred. The garments of the first case of cholera, besmeared with dejections, were washed in this tank. A number of samples of water taken at different times and from different parts of the tank were cultivated in gelatine, and comma-bacilli were found in tolerable abundance in several of the earlier specimens. Toward the end of the epidemic only one of the specimens contained the bacilli and these were present only in small quantity.

(To be concluded.)

#### **GROUNDS FOR OBJECTING TO THE ROUTINE USE OF THE VAGINAL DOUCHE IN NOR- MAL CHILDBED.<sup>1</sup>**

BY Z. B. ADAMS, M.D., OF FRAMINGHAM, MASS.

I HAVE chosen, and thus formulated, my subject for two reasons: First, because I wished to excite discussion of an important question which could be fully introduced in a short paper; and second, to bring forward matter especially interesting and, as I believe, valuable to country doctors.

I am in the constant habit of employing monthly nurses drawn from the city, and it is probable the same practice is followed by others. Country nurses are not to be relied upon, and only very rarely are they entirely devoted to, or thoroughly trained in, the occupation of nursing, so that they are of little real use in the lying-in room.

Lately I have been annoyed to find that these city nurses required watching to prevent the indiscriminate and unauthorized use of the vaginal douche during the parturient week. They come equipped with the clinical thermometer, the catheter, the gored binder, the breast-pipe, and, lastly, the syringe and its accessories, all of which they proceed to use as if a matter of course. How soon

we shall have added the endoscope, the sphygmograph, the stethoscope, and a case of surgical instruments, I do not know. To none of the material of their present armamentarium do I see any valid objection; indeed, I highly approve of all these things, not excepting the syringe, provided they are intelligently used. But when I see these nurses preparing to use the syringe for the purpose of douching the vagina of a perfectly healthy parturient woman without saying by your leave, it seems to me proper to enter my protest, and so I do. The nurse who has taken the temperature and recorded it, noted the pulse and perhaps the respiration, adjusted the binder, attended to the function of the bladder, washed and dressed the baby, etc. etc., all without special direction or attention on my part, now looks up in surprise as if I were unwarrantably interrupting the performance of the usual offices of childbed when I ask what she is about to do with that syringe. And when I absolutely forbid its use for the purpose indicated I am treated as though I had expressed grave doubts about the Copernican theory of our solar system. Now it is clear that especially in the lying-in room nothing should under any circumstances be permitted which may disturb the confidence of the patient, the family, or of the nurse, in the competency and skill of the physician. And yet I have had to bear to be informed by the nurse in the presence of the patient that in the lying-in hospital where she had her training the vaginal douche is invariably used in every case, and that Dr. A. and Dr. B.,—respected members of the obstetrical society,—for whom she had frequently nursed, always expect her to use it as a matter of course, and without being directed to do so. She has heard of doctors who do not approve of it, but cannot remember their names.

Seriously, then, I find a threefold objection to the use of the vaginal douche in normal childbed. First, it is useless; second, it is hurtful; third, it is dangerous.

(1) Uselessness. In this part of my subject I find myself forestalled by two writers in a recent number of the *New York Medical Journal*, and I shall not hesitate to quote from these papers. The first is theoretical, and is entitled "Normal parturition always physiological," by Dr. Ernest Palmer, of Brooklyn, N. Y. The advanced school of obstetricians hold that gestation and parturition are "more or less pathological conditions." This Dr. Palmer denies. He takes from Leishman's Midwifery a description of the vagina and cervix during labor, and describes the nature and use of the profuse mucous flow at that time. He says: "Upon the quantity of these secretions the ease of the labor undoubtedly depends in no small degree." Now we are directed by the antiseptic school of midwifery to wash away these secretions upon the presumption that they furnish a nidus for, or may prove a source of, septic infection. "In other words," says Dr. Palmer, "removing an important physiological factor from a normal delivery to prevent a possible pathological complication." After the labor the antiseptic midwife or physician continues to act upon a similar fallacy. "Prophylactic vaginal douching and medication with iodoform is at once resorted to," to prevent absorption of some

<sup>1</sup> Read before the Suffolk District Medical Society, Section of Obstetrics and Gynecology, December 17, 1884.

supposed poison or infectious matter through the lacerated mucous membrane of the vagina or cervix, or by the presumed denuded tissues of the uterine cavity itself. Absorption of what poison or infectious matter? To wit, the lochia, consisting of a thin bloody fluid weeping from the site of the detached placenta, combined with products of a retrograde metamorphosis of tissue entirely physiological in character. He shows, moreover, that "the supposed denuded muscular tissue of the uterus is a condition which has no existence." Dr. Palmer says: "Uncomplicated labor is a purely physiological act, for which ample preparation has been made in the system to provide for the increased demand made on it, and to guard against all the ordinary incidents pertaining to that function." He enters a firm protest against the antiseptic douche as being established on misconceived theories of pathology and in direct violation of the physiological laws of reproduction, being both unnatural and irrational. Now, if Dr. Palmer's view is the correct one, the practice of douching the vagina in childbed is no more defensible than would be the practice of giving antiseptic clysters to prevent infection from fecal matter; and it is well known that septicemia from wounds or fissures of the anus is one of the very rarest of accidents.

Moreover, there is high authority for the opinion that the lochia depend upon a condition in every respect analogous to what occurs in menstruation, namely, "an exfoliative shedding of the mucous membrane of the uterus." Leishman says that at no time is the normal discharge of the lochia "in any way analogous to the suppuration which accompanies the reparative process of a healing stump." Dr. Tyler Smith, as quoted by Dr. Palmer, says that the analogy is perfect between the menstrual fluid and the lochia. I think no one of my hearers would think it wise to introduce the practice of douching the vagina during menstruation in every female. Yet according to Dr. Palmer this about what we do when we are washing out the vagina in a healthy parturient woman.

Per contra, in an address lately delivered by Dr. T. Gaillard Thomas before the New York State Medical Association, he says: "Although the obstetricians of to-day are not prepared to make aseptic midwifery the rule, it is highly probable that in the near future this position will be accepted." He compares it to the antiseptic surgery of amputations and of laparotomy. Such views from one who stands as Dr. Thomas does, in my opinion, *facile princeps* among American gynecologists, cannot fail to make a humble pupil pause and look warily over the ground before proceeding farther. I would ask his pardon for daring to present an adverse view of this question. It should be remembered, however, in excuse of my temerity that Dr. Thomas speaks from the standpoint of the gynecologist and not from that of an obstetrician. We believe that all diseases are only so many modifications of the healthy condition. But is it true that the parturient state is such a variation from health as we ordinarily mean in speaking of disease? Now this question is altogether too profound and too intricate to be slightly treated in a twenty-minute paper. Indeed, it is doubtful if any line can

be drawn showing when in the course of imperceptible gradation health ends and disease begins. But there is an abstract position which we may be permitted to occupy upon this matter. Is it likely that of all organic functions that upon which the continuance of species depends, and which is common to all animal life, should be the one which acts only under conditions tending to decay and death: that is to say, under conditions of disease? Is it not, on the other hand, probable, *a priori*, that this function, in every one of its separate parts, is especially guarded against those accidents which produce disease? That nature should seek to continue, and yet use means that by reason of defect may hinder or disturb the continuance of a race or species, is simply incredible. Nor can it be argued that, in the case of mankind, civilization, or abuse of function, or an effort of nature to prevent overproduction, or other supposable cause, is operating to confuse or pervert the order of things. I think, then, we assume that there can be no real analogy between normal parturition and what takes place after amputations or laparotomies. And if there be no analogy between these conditions, what grounds have we to act upon similar theories or to employ similar methods in their treatment? So much for theories.

But all such arguments are idle if it can be shown that in clinical practice the use of the vaginal douche will cut short or prevent the spread of puerperal fever, peritonitis, or septicemia in hospitals. And here I find one of the strongest arguments to prove the uselessness of the practice under consideration. It is, I believe, a fact that the employment of the vaginal douche does not prevent the occurrence of the diseases in question in those institutions where it is in constant use. But does it prevent the spread of infectious diseases? To prove this we should have cases treated side by side at the same time and place by the two methods. Satisfactory evidence of this kind is not at hand. But I will ask you, gentlemen, to say if any of you would have the slightest confidence in the vaginal douche, however thoroughly used, to stamp out puerperal fever, should it occur in a hospital under your control. And if this method is useless in lying-in wards, of what possible good can it be in private practice, where the mortality from child-bed diseases is four or five times less, according to the statistics of Winckel?

And in this connection I will quote from Dr. Charles Jewett, of Brooklyn, N. Y., Professor of Obstetrics and Diseases of Children in the Long Island College Hospital, whose paper is also in the *New York Medical Journal* for November, 1884. He says that his recent experience has led him to abandon prophylactic injections as a routine practice in the puerperal period. In 1883 two parallel series of hospital cases were treated side by side by his direction, one with and the other without the douche. There were twenty-nine cases in all, sixteen douched, thirteen non-douched. One to 1000 bichloride solution was the principal disinfectant employed, three to five per cent. carbolic being used in a small proportion of the cases. These injections were administered by competent trained nurses, and were repeated at least twice a day during the post-

partum week. The mortality was less in the non-douched than in the douched. This is not much, but as far as it goes it proves nothing in favor of the douche. For a time also all wounds or injuries occurring during labor were carefully treated with antiseptics, but even this method was at last abandoned, Dr. Jewett's confidence in the value of the practice being shaken by his experience. He says it became clear to him that this treatment was of no effect in preventing puerperal fever. So much for the clinic.

Pathology gives no support to the use of the vaginal douche. On reading the records of autopsies in cases of puerperal peritonitis I discover the fact that in the greater number of cases the uterine cavity and the vagina are found to be in a healthy condition. Can it, then, be maintained that any importance attaches to antiseptic douching of these parts? In a case of acute peritonitis in a young child, lately reported in the *Medical and Surgical Journal*, the closed cavity of the peritoneum contained an odorless fluid which was filled with micrococci, according to the evidence of Dr. H. O. Marcy, who examined it carefully under the microscope. Is it not, indeed, admitted by the best authorities that the microorganisms which are recognized as the ferments which give origin to purulent infection, puerperal fever, and septicaemia, in many cases find their entrance into the body of the parturient woman by other avenues than the generative tract? I will only refer to the valuable papers of Dr. Kinkead, of Dublin, in the July and August numbers of the *Obstetrical Journal* of 1884 in support of this opinion. And if it be so, I ask again of what use is the vaginal douche?

There is yet another proof of uselessness in the "method," to which I shall refer when speaking of hurtfulness.

(2) Hurtfulness. Meigs says in his "Midwifery": "There is in natural labor no element of disease," and, therefore, the old writers have said nothing truer nor wiser than that "*a meddling midwifery is bad*." The method of douching the vagina substitutes an artificial for a natural problem. It is meddling, and therefore it may be hurtful, midwifery.

If septicaemia be at times autogenetic, which I by no means deny, I should like to ask any practical observer if the frequent washing with water (carbolized or not), of rents, or tears, or abrasions, of mucous membrane does not delay and interfere with the process of union of such parts. That is certainly my own experience. If this is so, this douching is hurtful by prolonging the period of exposure to autogenetic infection. Again, it is hurtful by causing *pain and annoyance*, more or less in every woman, but in nervous and irritable subjects enough to forbid its frequent use. This, again, is "*meddlesome midwifery*."

But the hurtfulness upon which I would chiefly insist is of a much graver character, and inheres in the method itself.

It cannot escape notice that great importance attaches to giving the management of the douche into the hands only of trained, competent, and careful nurses. Now Dr. Thomas, in the address already referred to, speaking of antiseptic midwifery, says:

"That it can do no harm is quite evident." It is to be regretted that the doctors themselves should not know all that the nurses seem to know of the occasional experience in giving these douches. Are many physicians aware that at times the water injected does not flow out in a steady stream, but is suddenly and violently ejected in jets? That pain and spasm of the uterus occur? More than that, sometimes only a part of the water escapes at the moment, but, after perhaps an hour or two, there is a sudden and violent gush. Who can doubt that in these cases the water has entered the uterine cavity, of course carrying with it effete and decomposing matter found in the vagina, and which has been already expelled from the uterus? I ask what is to prevent the entrance of water when the os uteri is patulous?

And what harm can be done by an unskilful or careless nurse using the douche incautiously? The tube may enter the uterus, air may be injected, or too much force may be used. Of the first two I shall say little, as I believe them to be avoidable accidents; but the last is, I think,—to use Carlyle's phrase,—humanly impossible to avoid, except on conditions which render the douche futile as a means of detaching or removing clots and debris from the relaxed and rugous vagina. The doing this work with any thoroughness requires that some force be given to the current of water. And here I see another proof of the uselessness of the method, since a mere trickle or feeble stream can accomplish nothing, unless almost indefinitely kept up. And what is it we require of a skilled nurse? Let me suppose a case. A faithful woman has given the douche, say two to four times daily for a week; she has been somewhat severely tried by want of sleep and care of an exacting patient and infant night and day; at last, on the seventh day, when attempting to use the syringe, she finds that there is some obstacle in the way, the tube catches in a fold of mucous membrane, perhaps is entangled in a clot or shred of decidua, and she gives the bulb an impatient squeeze. When under such conditions as I have here described any grave accident occurs it seems to me cowardly and idle to lay the blame upon the nurse. It should be put where it properly belongs, namely, upon the practice itself.

It is unnecessary to point out the harm that may result from thus injecting the uterus from the vagina. It is an unhappy accident. And this brings me to the

(3) Danger. I will cite an actual case, giving no names. A young woman in full and vigorous health, a fond and devoted wife, a mother for the first time, a proud and happy husband and father,—this was the family. On the morning of the seventh day after delivery everything was going on perfectly well. The doctor considered the case finished. The wife had parted from her husband after breakfast, and he had gone in town to business, at her request, to stay until night. At 10 A. M. she sent him a telegram telling him not to come back at noon, she felt so perfectly well. This was the situation. Shortly after this telegram the nurse, who had, by direction of the physician, given the vaginal douche twice at least daily since confinement, prepared her syringe as usual. While the injection was

flowing into the vagina the patient suddenly uttered a shriek, "Oh! what pain! What have you done to me? I shall die! I shall die!" turned pale as death, gasped as if suffocated, her lips became livid, and she writhed in agony. This is the picture as given to me soon after by one of the family. The doctor and the husband were sent for, but she sank into unconsciousness, became convulsed, and was dead before evening.

I have it from our lamented pathologist, Dr. Calvin Ellis, who was present at the autopsy, that air was found in the veins and heart.

There is no member of that family, and none of those who saw the case, who, as I believe, entertains a doubt that the use of the douche was the cause of death; the *antiseptic douche*, of which Dr. Thomas says, "That it can do no harm is quite evident." The nurse, I understand, admits that she used more force than she intended to use. The doctor, a woman, blames the nurse. This is ungenerous and irrational. The danger inheres in the practice itself.

Since I began the preparation of this paper I have heard of a case in the practice of a neighboring physician, similar in many of its features to that just related, where, however, the final result was not reached until the fortieth day, the patient dying of septicæmia. The doctor, who did not see her at the time, says he does not know that the douche was the cause of death. Cases are known of collapse and shock following the use of the douche.

It is doubtless true that death is exceedingly rare from this practice. But we do not hesitate to reject chloroform as an anæsthetic on no better grounds than this. So much for the danger.

I would thus sum up my objections to the antiseptic douche in midwifery. It is artificial; it is meddlesome; it is of doubtful utility, and it may be hurtful and even fatal.

## A CASE OF CANCER OF THE HEAD OF THE PANCREAS.<sup>1</sup>

BY T. M. ROTCH, M.D.

The following case presents certain prominent points of interest, in that the physical signs from the beginning to the termination of the disease were entirely negative, although the rational signs were so distinctive that it was not difficult to locate almost the exact spot where physical evidence ought and every day was expected to be found; of interest, also, in regard to the diagnosis, from the somewhat striking resemblance to those prolonged cases of gall-stone reported by Murchison, the chief symptoms, from the beginning of the case, evidently being caused mechanically, and the uncertainty as to whether the compression of the bile-ducts was from within or without, existing throughout the whole course of the disease. The result of investigation at the postmortem proved that it would have been impossible to detect anything abnormal on physical examination during life. The condition of the kidney was also of marked interest.

Mr. L., bank president, fifty-seven years of age, married, and with a family history free from hereditary

taint, consulted me in the summer of 1884 regarding attacks of abdominal pain, irregular in character and in time, and coming without reference to eating or drinking. The patient gave a history of confirmed dyspepsia extending over a period of many years, but otherwise he had never been sick, and had considered himself unusually well and strong; his life was one of extreme method and regularity, attending to his business in the morning with great nicety of detail, regularly taking his walk in the afternoon, having his meals punctually and without hurry, never eating or drinking to excess, and never using tobacco. When seen in August, 1884, the complaint was chiefly of his dyspeptic symptoms having grown worse, the abdominal pain at times being so severe, especially at night, as to keep him from sleeping; but it appeared to be much relieved by eructations and rectal discharges of gas, and could not be especially located, as it changed to all parts of the abdomen, though at times he described a new pain separate from that which he had always had, and apparently situated in the right hypochondrium and extending through to the back. He had not lost in weight; the bowels had always been inclined to constipation but were now fairly regular, and the appetite was good. Examination revealed nothing abnormal; the abdominal walls were not only distended with gas but contained considerable fat; the dullness of the liver and spleen was normal. The skin had for many years been of a grayish color, but this was considered by his family to be its normal condition, and varied in its intensity according to the presence or absence of his so-called "bilious attacks."

The patient when next seen, on September 21st, was in about the same condition, and did not consider himself a sick man; but as his business was monotonous and he seemed somewhat depressed, he was advised to take a trip to the White Mountains, which he did, and he did not again come under observation until his return to Boston, October 13th. He then reported that he had not been so well and had been troubled by continual distension from gas amounting to pain; also that the bowels had been much constipated, that he was easily fatigued, did not sleep well, and suffered somewhat more from the pain in the hypochondrium and back, temporary relief, however, being obtained by riding on horse-back and by eructations of gas; he had lost six or eight pounds in the last three weeks. A milk diet with lime-water, and, later, milk digested with ext. pancreatis, failed to give any relief to his digestive troubles, and on the 16th he had a severe attack of abdominal "distress," as he termed it. On October 17th he had a large natural defecation; on the 23d he went to the bank in the morning, but returned much exhausted. An examination of the urine on this day showed it to be normal; the pulse was 90 and the temperature 97.4; from this time the bowels moved every day, usually with the aid of enemata; the pain increased so that the continual use of morphia was required, and the patient did not again leave his room. On October 21th the patient was seen by Dr. Minot in consultation, when a physical examination of the abdomen was made with a negative result, there not even being any tenderness. It was now found that he could take

<sup>1</sup> Read before the Boston Society for Medical Improvement, February 9, 1885.

meat, simple puddings, and baked apples with less distress than was occasioned by liquid diet; he was at this time evidently losing in weight and strength, the latter, however, apparently arising from the exhaustion caused by the pain and the former by the small amount of food taken.

The abdominal walls were fat and there was no tenderness, resistance, or dullness anywhere.

October 27th. The urine was noticed to be dark colored, lessened in amount, and on examination to have a specific gravity 1020, and to contain bile. The pain was much more severe and there was slight nausea, and scarcely any appetite.

October 29th. Jaundice of the skin and conjunctive appeared.

November 1st. The urine was examined by Dr. Hills, with the following result: Color high with greenish tinge. Reaction acid. Specific gravity 1012. Amount of sediment slight. Urea diminished. Uric acid diminished. Earthy phosphates diminished. Alkaline phosphates normal. Albumen faint trace. Sugar absent. Bile pigments present. Fine renal epithelium cells. An occasional hyaline and granular cast. Casts all of small size and having one, two, or three renal epithelium cells adherent.

November 2d. The patient complained of deep-seated pain in the calf of his left leg, but nothing was found on examination but slight tenderness.

November 3d. The stools became clay-colored, and from this time progressively lost the coloring matter of the bile and were very large in amount, in fact unnaturally so, considering the very small amount of nourishment that was taken. No fat was ever noticed in the dejections or anything abnormal beyond the color varying from gray to white, and once the dejection was flattened and coiled like a long piece of ribbon. Every dejection was carefully examined through a sieve for abnormal constituents, especially gall-stones. The jaundice gradually became more marked and by November 7th was quite deep in color. On this day Dr. Hills again examined the urine with the following result: Color high, yellow foam. Reaction acid. Specific gravity 1018. Amount of sediment slight. Chlorides normal. Earthy phosphates normal. Alkaline phosphates normal. Urophacin increased. Indican normal. Albumen a trace. Bile pigments present. Sediment, renal epithelium, hyaline, and fine granular casts, some of which had one or two renal epithelium cells adherent. An occasional blood globule. Renal epithelium and casts somewhat more numerous than on November 1st. Amount of urine in twenty-four hours, 965 cc. Amount of urea in twenty-four hours, 23.1 grammes.

November 15th. The patient vomited once in the night and this occurred at first with intervals of several days and later became more frequent until his death. There was nothing especial found in the vomitus excepting that once or twice there were appearances suspiciously like the coffee-ground vomit (no microscopic examination was however made).

At this time the patient began to refuse to take solid food and was nourished with milk, beef-tea, and brandy.

November 21st. Pulse 90. Temperature 98. Pain has continued. There was decided loss in weight and

strength, with inability to walk without assistance, and the daily amount of urine was diminished to 649 cc. Several times there was a progressive increase or decrease in the urine at the rate of one or two hundred cc. in the twenty-four hours; thus on November 2d it was 725 cc., and it slowly rose in quantity until by November 11th it was 1,500 cc.; it then decreased and was found by November 15th to be 649 cc.

November 25th. Dr. Hodges examined the case in consultation with me, with a negative result, excepting that he thought he felt an ill-defined feeling of resistance to the right and just above the umbilicus.

The painful spot in the left calf disappeared in about a week, but on December 13th the tenderness appeared in the right calf and the whole right leg and foot became swollen and continued so until death.

About the middle of November a congested condition apparently of the capillaries of the skin forming little circles and half-circles was noticed on the back in the region of the right kidney, and this gradually extended up and down the back and around the right side to the front of the abdomen, covering the right hypochondriac region; the color was darkish red, mottled, and disappeared on pressure; it closely resembled post-mortem lividity and was still noticeable at the time of the autopsy, though much less distinct than during life.

From this time the patient rapidly became emaciated and weak; the mind remained clear and the only complaint was of pain and tenderness in the right hypochondrium. He became unconscious on the morning of December 17th and died quietly in a few hours.

*Autopsy*, by Dr. W. F. Whitney, six hours post-mortem. Slight rigor mortis. Marked yellowish-brown color of entire body. On the back were several irregular dark spots fading into the post-mortem lividity. Right leg considerably enlarged.

Head not opened. Pleural cavities—In the left a few hundred cc. of fluid. Pericardium contained about thirty cc. of deep yellow-colored fluid. Heart normal in size. Muscular substance slightly yellowish in color and somewhat opaque. Microscope showed the presence of a large number of granules in the cells, which cleared up on the addition of acetic acid; there were also pigment granules about the ends of the nuclei. The blood coagulated in loose dark clots. Lungs—The left lung was slightly adherent by thin bands at the apex. It did not collapse entirely upon removal. The lower lobe was dark red and in it were two nodules the size of a pea, which on section were soft and of a medullary aspect. From the surface a plentiful bloody and frothy fluid could be squeezed. In the right lung the appearances were similar excepting that the nodules were warty. Spleen—Large, capsule smooth, dark red in color; on section follicles indistinct. Kidney—Long and rather narrow. Cortex—Slightly opaque and whole organ of a yellowish color. Capsule not adherent. Spots of hemorrhagic extravasation beneath the mucous membrane of the pelvis, but no signs of inflammation. Microscope showed an occasional fatty tubule with general granular degeneration.

Connective tissue but little increased. Liver—Not greatly increased in size. Anterior edge of right lobe thin and projected below edge of ribs but very little. The organ was everywhere studded with reddish-white medullary-looking nodules having a slightly depressed centre. These varied in size from a pin's head to a walnut. The gall-bladder was distended by dark liquid bile and the cystic and hepatic ducts were greatly distended. The common duct was involved in a large reddish-white opaque mass, the size of a small orange, traversed by bands of connective tissue forming a growth in the head of the pancreas. The tail of the pancreas was normal. By using great force a little bile could be squeezed out of the papilla, but none had apparently escaped of itself.

The new growth had just involved the coats of the intestine at the place of opening of the common and pancreatic ducts, but had not quite broken through.

No effusion was found in the abdominal cavity or adhesions beyond those of the liver with the diaphragm.

**Diagnosis.** Cancer of the pancreas involving the common duct and causing obstruction to the flow of bile. Secondary cancer of liver and lungs. General icterus. Edema of lungs. Parenchymatous degeneration of kidneys. Parenchymatous degeneration of heart.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

FEBRUARY 9, 1885. The President, Dr. F. W. DRAPER, in the chair.

#### CANCER OF THE HEAD OF THE PANCREAS.—ELIMINATION OF BILE BY THE KIDNEY.<sup>1</sup>

Dr. T. M. ROTCH read the report of the case.

Dr. W. B. HILLS said that where bile is continuously reabsorbed it becomes separated by the urine, and that active hyperemia of the kidney may be caused by the presence of bile pigment. He referred briefly to another case of obstruction by cancer, this time in the mesenteric glands, in which he had examined the urine daily for between one and two months. It was at first unchanged, as in Dr. Rotch's case. In a few days bile pigments were detected, and after that hyaline casts. Albumen was still later in making its appearance, bile pigment continuing permanently. There were at last granular and epithelial casts. In these cases where the urine is dark, it is hard to detect small quantities of albumen by the aid of nitric acid; and other tests, as, for instance, heat, are better. Bile-stained epithelium may be seen by the microscope before bile is discovered chemically.

In the case of which he had spoken, the amount of urine had, as in Dr. Rotch's case, risen progressively and then diminished. It should be kept in mind that a man in bed will pass less urine than one who is about, and that the amount will be

changed by the food and liquid taken; still, in the case in question, the amount of urine had decreased as the bile pigments had lessened.

Dr. W. F. WHITNEY said that in regard to the frequency of occurrence of primary cancer of the pancreas, it was found by Klebs from an analysis of five hundred cases that it occurred in about two per cent. Among ninety-five hundred deaths reported by the Board of Health of the City of Boston for the last year there were three hundred from cancer. On that basis there should have been five or six cases of cancer of the pancreas, and from the number of cases which have been shown at the Harvard Medical School during the past few years, these figures would be approximately correct. So that the disease is certainly to be classed among the rarer ones.

As to the length of time it had existed, there is no possible way of determining from the autopsy. This must be inferred entirely from the clinical history and from the analogy of cases which have their seat on, or just beneath, the surface. In this case the disease had probably existed some time before the disturbance caused by its growth gave rise to urgent symptoms.

In its nature and seat it was not remarkable, involving as it did the head of the organ and pressing upon the common duct; but at the same time having its own uncompressed. Although rich in cells in parts, in others it presented the dense contracted interstitial tissue with scattered nests of cells which would characterize it as a "scirrhous," and this is the most commonly recorded form.

The study of the microscopic preparation showed very plainly the passage from the normal glandular arrangement of the epithelium to the atypical alveolar structure of the more medullary portions. In the midst of this latter were still to be seen well-preserved bits of the ducts, showing that the growth started from the parenchyma of the organ.

The secondary nodules in the liver were interesting from their origin in the periphery of the acini and their extension between the rows of liver cells.

#### EPIDEMIC CHOLERA.—ITS PATHOGENESIS AND ETIOLOGY.—HISTORY OF THE LAST EPIDEMIC.

Dr. GEORGE B. SHATTUCK opened the discussion by the following remarks on the history of the last epidemic in Europe, with certain conclusions.

MR. PRESIDENT AND GENTLEMEN,—On reflecting upon your request that I open the subject announced for discussion this evening by a review of the course of cholera epidemics and the lessons they teach, it seemed to me that the limited amount of your time which it would be proper for me to appropriate could be most profitably occupied by a short statement of the most prominent features of the last outbreak in Europe. The former epidemics are familiar to most of you, or, if not, various accounts of them are easily accessible.

The details of the last epidemic have been, as far as I know, nowhere brought together as yet. After mentioning the most striking points of this outbreak, I shall venture to draw such deductions from these and other observations as seem to me calcu-

<sup>1</sup> See page 175.

lated to suggest, or provoke, the discussion which is desired.

The first death from the recent epidemic at Toulon occurred on June 14th. The port had been in constant communication with Cochín China and Tonquin, where cholera is almost an endemic, and, in fact, an unusually severe outbreak had been prevailing at Saigon through the spring months. Three French transports had recently returned from Cochín China; they are said to have brought clean bills of health, but French transports have been known to pass through the Suez Canal with clean bills when cholera existed on board. The clothes of sailors who had died from cholera were ordered to be burned before sailing for home, but after the arrival of these transports at Toulon an auction sale of the clothes and personal effects of the other sailors who died in Tonquin, but not from cholera, was held by order of the marine authorities. This is the most probable explanation of the outbreak at Toulon. Old soiled clothing—not baled rags—is one of the most common carriers of the cholera poison. The first case occurred on board a vessel which had been in port fifteen months.

The sanitary condition of Toulon was, and always is, deplorable. There are no sewers; refuse and excrement of all kinds are thrown into the gutters, and are carried into the tideless port. Typhoid fever, which resembles cholera quite closely in its habitat and locomotion, thrives extraordinarily in Toulon. Dr. Lippertz, who accompanied Koch to Toulon, is responsible for the following suggestive statement: "Close to the harbor was a public market where fruit, vegetables, snails, and other Southern delicacies used to be sold. By the side of the market, gutter-water of questionable clearness flowed. The market people, however, considered the water good enough not only for cleaning their stalls but also for refreshing their thirsty goods." Here is another instance exemplifying a common way by which the cholera poison is disseminated.

From Toulon cholera was carried to Marseilles where the first case appeared on June 25th, and from there it spread to Arles and various smaller towns. By the middle of September seventeen departments had been invaded in succession, and 5,000 deaths, representing 10 to 12,000 cases, were reported to have occurred; the total mortality from all causes in the whole of France during the same period being about 200,000.

At the end of July cholera appeared in Italy, being introduced by Italian workmen fleeing from Marseilles. Notwithstanding stringent quarantine proclamations and annoying restrictions it entered at Leghorn by water, and crossed the Alps and spread through the northern provinces. The disease made its appearance at Rome several times, but on each occasion was held in check and did not spread. The water-supply and drainage at Rome are said to be unusually good, and the authorities were on the alert to isolate cases as they occurred.

Rumors began to prevail very early in August that cholera had reached Naples, but it was not till August 27th that two deaths were officially admitted to have occurred from the disease. The water-supply is notoriously poor and insufficient and the drainage wretched. In the quarter of the

Porto, where the cholera was most virulent, all the cisterns and wells were found upon investigation by the Syndic to be impure. The outbreak at Naples was the most severe of any during the late European epidemic. According to the medical returns the number attacked was 11,467, and the number of deaths 6,852, but there is every reason to suppose these numbers are considerably below the truth. The White Cross Society nursed 5,492 cholera patients, of whom 3,260 died. The city now proposes to spend 100,000,000 francs in sanitary improvements.

The total number of cases that were known to have occurred throughout Italy up to October 20th was 21,519, of which 11,563 terminated fatally; the population of the kingdom being between twenty-nine and thirty millions. After Naples, Spezzia and Genoa suffered the most.

Spain also issued stringent quarantine proclamations and regulations, but was invaded by cholera even earlier than Italy. Although the disease appeared at various different points, at each of which a comparatively limited number of victims died, and lingered through the summer, there was nothing like a severe epidemic in any of the large towns. I have seen no explanation to account for its different behavior in Italy and Spain.

When cholera had nearly run its course in the southern departments of France it broke out at several points in the northern departments. At Yport, a small fishing village near Havre, it was introduced by two sailors who reached the village September 28th. From M. Gibert, in the *Revue Scientifique*, as translated in *Science*, we get the following interesting and instructive details of this miniature epidemic:—

One of the sailors had an attack of cholera at Cette; and on the day after his arrival at Yport he soaked his soiled clothing, and hung it out to dry in front of his house, allowing the dirty water to run along the street.

From this nidus the disease started, and there occurred forty-two cases with eighteen deaths. Gibert's conclusions—justifiable, apparently, from the account which he gives—were as follows:—

- (1) That cholera was brought to Yport.
- (2) That it was brought by insufficiently disinfected clothing, soiled by cholera dejecta.
- (3) That, after this clothing was washed, it became the agent of severe and rapid contamination.
- (4) That the cholera was propagated, by means of contagion, from house to house, without its being possible to attribute a single case to the transportation of the specific germ by the air.
- (5) That the sanitary measures taken, although incomplete, inasmuch as it was not possible to separate the sick from the well, were sufficient to stamp out the epidemic.
- (6) That the complete destruction of the cholera dejecta, and the disinfection or destruction of all effects soiled by them, seem to be sufficient to stamp out an epidemic of the disease, when it has not attained too great proportions.
- (7) That contagion by the air (the common acceptance of the term) appears to be an error; for at Yport three nuns and three physicians, or

students in medicine, lived for a month under the most favorable conditions for taking the disease by this channel. They all escaped, with no further precautions than taking their meals at a distance from the cholera patients, and avoiding the handling of moist and soiled clothing.

(8) The question of water has no bearing in this case, for the very good reason that the Yportais never drink any.

A limited epidemic was started at Nantes October 25th.

At Paris the first case entered the hospitals November 4th. From this time till the end of November, when there were several days of sharp frost and the disease disappeared, there were 916 deaths. The total number of cases was not accurately known, but as the deaths were not much short of fifty per cent., there were probably 1,600 or 1,700 cases. The number of cases received at the hospitals was 1,002 and the number of deaths 573, a mortality of fifty-seven per cent. The disease was confined to the poorest quarters of the city. No visitors were attacked. The sanitation of the quarters visited and the condition of those attacked warranted a high death-rate.

In 1865 cholera broke out in Marseilles in June, and it reached Paris September 18th, thirty-six departments becoming infected. By the end of the year it had caused 6,441 deaths in Paris. The disease continued through the winter; in July it again became epidemic and continued active for four months, when it died out.

In 1873 cholera reached Paris from the south, September 5th, and continued active until December, when it disappeared, and did not reappear the following summer.

Before 1865 Paris and France had always been reached from England, and England from the Baltic ports of Russia and Germany.

Every time that cholera has obtained an extended foothold in Europe this country has been visited sooner or later. The United States have been invaded twice through Canada, twice through New Orleans, twice through New York; on one of the last occasions the poison being carried to points at the West in clothing which had passed quarantine. Cholera has been held in check by quarantine at New York, but the season of the year was favorable, and the poison entered at other points.

To sum up, allow me to state in brief the following conclusions:—

(1) Infected clothing, especially if damp, and contaminated water are fertile breeders and common carriers of cholera poison; witness Toulon, Naples, Yport.

(2) Vigilance, seclusion of sick, and sanitary precautions are efficient agents in excluding or destroying the poison; witness Rome and Yport.

(3) Cold is a useful adjunct to the above; witness Paris.

(4) Quarantine and cordons may delay the entrance of cholera, but will not practically exclude it, even from a country as favorably situated as the United States.

(5) The poison is absorbed through the alimentary canal, not by the lungs or skin, and contagion in

the strict sense of the word is but little more to be feared than with typhoid fever.

(6) There is nothing to show that therapeutics have made any progress in twenty-five years in opposing the disease, and the mortality as indicated by the late European epidemics remains about the same, forty to fifty per cent.

Dr. R. H. Fitz read a paper on the pathology of the disease.<sup>1</sup>

Dr. H. C. ERNST showed some comma-bacilli received from Koch two months ago. He said that the mouth bacillus of Lewis had been recognized for some time. Its microscopic appearance is so like that of the cholera bacillus that it takes a practised eye to distinguish between them, and this is the more true because it has been impossible to find different stains for the two bacilli. When cultivated in test-tubes, however, they are entirely unlike. The cholera bacilli sink into the gelatine in which they are growing, leaving a thread-like line of liquefaction from the surface to the bacilli at the bottom. The mouth bacilli on the other hand liquefy almost the entire surface of the gelatine, making a large liquefied cylinder. All this is new. The subject is so new that our knowledge of it grows materially in six months, and gentlemen are mistaken if they suppose that new means of distinction are brought forward because observers are driven into a corner. It is but the natural growth of a new subject.

Dr. W. W. GANNETT said that the impression one got from reading the recent literature in regard to the relation of the comma-bacillus to cholera was that the medical world was divided into those who believed that it was the cause of cholera, and those who denied that it stood in this relation. For his part he believed in neither of these extremes, but preferred a middle course, namely, a suspension of judgment until more light had been thrown upon the subject by further investigation. The necessary factors to establish the causative relation of a microorganism to a disease were mentioned; the constant presence of an organism presenting definite characteristics; the isolation and cultivation of such organisms outside the body; finally the production of the disease by inoculation in animals. Of course, failure to produce a like disease in animals would not of necessity throw out the possibility of the microorganism being the cause of the disease, as there may be a want of susceptibility on the part of the animals inoculated. Dr. Gannett considered the experiments thus far performed on animals by feeding with, or injection of, the comma-bacillus unsatisfactory, and thought that better results might be looked for in the experiments on man. Klein had swallowed the comma-bacilli without ill effect. Koch had criticised the value of this experiment by stating that the culture used may not have been a pure one, and that there may have been an insusceptibility on the part of Klein. Such a criticism is perfectly just for an isolated case, but Dr. Gannett doubted whether a similar want of positive result would count for so little provided Pettenkofer's offer of swallowing one of Koch's own cultures and getting twenty others to do the same were followed out. It is difficult to suppose a want

<sup>1</sup> See page 169.

of susceptibility on the part of twenty men taken at random, considering how many are attacked during an epidemic of cholera. Dr. Gannett considered experiments on men by swallowing the comma-bacilli as of value, because it is through the mouth that Koch and most others suppose that the poison of cholera gains entrance.

Dr. J. C. WHITE did not think that negative evidence of this kind is valuable. It shows that the experimenter does not know how to inoculate the particular bacilli. It does not show that it cannot be done. Favus is known to be contagious for instance. Hundreds of attempts to inoculate it failed, but after the proper method had been discovered, then there were no more failures. For two years attempts were made to inoculate leprosy without success, but it has since been done. With a bacillus so recently discovered as that of cholera he should think a failure to inoculate of no account.

Dr. FITZ said while Pettenkofer's experiment, performed with a cultivation satisfactory to Koch, would go far toward proving his point, and that Pettenkofer may have made the statement, yet that it did not appear on the official record of the meeting where it is supposed to have been made. An experiment of the kind is of little value unless well conducted. Klein's may have failed from the bacilli being digested in an acid stomach. There have been no careful experiments as yet in inoculating in this way.

Dr. GANNETT said that shortly after the meeting in Berlin the *Fortschrit der Medicin*, edited by Friedländer, had ridiculed Pettenkofer's offer as bravado. In the next number, however, Friedländer had made a formal apology, and stated that Pettenkofer had made his offer, both for himself and his companions. Dr. Gannett could but feel that the offer was not bravado. As to the advisability of the attempt, he himself would not make it, nor would he recommend it.

Dr. FITZ said that after Friedländer's explanation, which he had not seen, there could be nothing more to say about the offer. It does not appear, however, that the experiment has been made.

Dr. EUSSE said that he thought one experiment or twenty would be absurd. We do not know how many millions are exposed during an epidemic without contracting disease.

Dr. GANNETT reminded the last speaker that the method of inoculation is not supposed to be by the air, but by the mouth, which the more cleanly people defend by their cleanliness, and that it is by the mouth that Pettenkofer proposes to perform his experiment.

#### SUFFOLK DISTRICT MEDICAL SOCIETY.

##### OBSTETRIC AND GYNECOLOGICAL SECTION.

ROBERT B. DIXON, M.D., SECRETARY.

DECEMBER 17, 1884. The meeting was called to order at eight o'clock, Dr. James R. Chadwick in the chair, fifty-six members being present. Dr. Z. B. Adams, of Framingham, read by invitation a paper entitled

#### THE USE OF THE VAGINAL DOUCHE IN NORMAL CHILD-BEED.<sup>1</sup>

Dr. RICHARDSON said that he taught that the vaginal douche should be used. He has never had any difficulty in using or bad results following the douche.

Dr. MARCY stated that he concurred with the reader regarding the limitations given to the use of the douche. He considered parturition as a physiological process, and in normal labors nothing was required beyond strict cleanliness—surgically speaking, an aseptic condition. This, for many years, he had endeavored to obtain, and for better protection had used in a routine way napkins moistened with a solution of carbolic acid, and changed often. He had also used iodoform considerably. If decomposition occurs within the vagina, then a pathological state ensues and vaginal douches of antiseptic character are requisite. Although the vagina and uterus are excellent incubating chambers for rapid germ reproduction, when infection has taken place, the normal outflowing current is in itself a natural protection from implantation of bacteria, since they are always passively carried in the infected fluids in the direction of the least resistance. This is the probable reason why in normal unassisted labor the uterus and vagina remain aseptic, although marked decomposition has occurred in the secretions about the external organs where atmospheric exposure ensues.

Dr. PINCO remarked that during nearly forty years of obstetric practice he has not used the vaginal douche after normal labor; and freedom from untoward conditions had been almost exceptional in his experience. He had seen nothing of those conditions said to arise from bacilli and micrococci, and he had grave doubts of the malignant character of those germs which had been so fearfully pictured to the world. He should avoid the use of the douche unless it was called for by unhealthy conditions.

Dr. ARBOR expressed his cordial agreement with the reader regarding the use of antiseptic vaginal injections after normal labors. In his experience years ago as a dispensary physician, during two years and a half he had never seen a death from any form of inflammation following labor, even when it had taken place under the most unfavorable hygienic surroundings. The medical profession is almost compelled nowadays in obstetric matters to accept the rules laid down by gentlemen whose experience has been mainly gained in lying-in hospitals, where the patients are placed under very different conditions from those in private practice. He had himself employed vaginal injections, after normal labors, in only a few instances, and of late had not used them at all. It should be remembered that in cases of threatened danger from post-partum septic inflammation the relief obtained had been from *intrauterine*, not *vaginal*, injections. Indeed, so high an authority as Dr. Robert Barnes has said that in all puerperal women the uterus should be washed out once or twice daily for a week after confinement with a solution of carbolic acid—

<sup>1</sup> See page 172.

a recommendation which he felt safe in saying had not met with much favor with the medical profession.

DR. REYNOLDS said that he regretted the repetition of a statement which he believed to be untrue, that, of necessity and inevitably, the aggregation of women in lying-in hospitals involves a high percentage of death. Nowhere, except in these hospitals, can the thoroughly competent accoucheurs that every community so urgently needs receive adequate training, and in the absence of any such refuge crowds of suffering women are in all populous centres left practically without relief. As a matter of fact, the assertion is not true. The inmates of the Rotunda in Dublin fairly represent the classes most likely to suffer in childbirth. Dr. Macan, in an admirable report just published, shows the total mortality of that hospital for the past year to be only one half of one per cent. We have equally encouraging results from St. Petersburg and from other quarters. Of what value, in offsetting these facts, is a *résumé* of hospital experience for the last fifty years in places of every sort, good, bad, and indifferent? The public, no less than the profession, are entitled to have this proposition flatly denied as often as it is repeated. He heard with amazement the "physiological" argument, as to the impropriety of cleansing a mucous surface. Wash well the vulva, but consider the risk of purifying the vagina. Take care that no brush enter the mouth; though a man may with safety bathe his lips. The reader discourages washing out the uterus, because, in many instances, disease goes on afterward unchecked. This may well be true. Septic infection has often other points of entrance than the lining membrane of the uterus: so that the most faithful cleansing of that cavity must many times do no good. In cases of another variety every threatening symptom promptly subsides under the use of these measures. Not long ago Dr. Matthews Duncan reported an illness where, in spite of watchful and judicious care, an alarming condition was long maintained, to disappear as if by magic when he detached from the fundus with his finger a seemingly insignificant scrap of membrane, no longer than a florin. Dr. Reynolds believes in strict cleanliness after labor as emphatically as he does in preventive management of women about to be confined. It is often impossible to ensure the careful washing out of the vagina, but he rejoices whenever he has the luck to obtain for this duty a capable and intelligent nurse. He has not yet seen either injury or suffering from this practice. Nearly every woman expresses her consciousness of comfort given by it. He never allows himself to direct such washing without forbidding any force in the administration. Instances of abuse of a remedy surely do not form any argument against its proper and legitimate employment.

DR. J. S. GREENE, of Milton, said he was not a decided partisan on the subject of douches. From his standpoint of a practice in a healthy suburb, and having an inclination not to be meddlesome, he ordinarily did not use douches after normal labor. He did not hesitate, however, to use them in such cases as presented grounds for suspicions of morbid tendencies. He had not seen harm result from

douches, but had reason to believe that he had seen them serve as valuable aids in securing the safety of patients.

DR. DOE mentioned two cases occurring in his practice of women who had used douches, quickly followed, in both cases, by intense pain and all the symptoms of prostration. These cases were from the abuse of injections, the nurse having inserted the tube too far. He is now very careful in his instructions to nurses and permits the use of the Fountain syringe only, and the insertion of the tube not more than an inch.

DR. MCCOLLOM stated that he always uses vaginal douches in his obstetric cases. They serve to make the woman more comfortable, and there is not so much likelihood of deleterious matter being absorbed. He has never had any trouble from the use of vaginal douches. He thinks the centre hole at the end of the tube should be abolished.

DR. RICHARDSON said that he believes in preventing trouble by using injections, and keeping the patient clean. Good results have been obtained in hospitals from the use of douches. There is no potent reason why a douche should not be used after delivery, once or twice per day, even if only to keep the parts clean, the same as the stump of an amputated limb is washed. Those who have spoken against the use of the douche, and, to sustain their theory, have brought forward one or two cases, in which bad results have followed, should remember that an occasional bad result carries with it but little weight, the result being due perhaps to the method in which the douche had been given. The tube attached to the old Davidson syringe was not suitable to be used for vaginal or intrauterine douches. Now the company manufactures a tube without the centre opening at the end. The Fountain syringe is perhaps safer, but the Davidson as now constructed works nicely, satisfactorily washing away deleterious material. The vagina possesses the power of absorption as well as the uterus, and from washing out the former there is no doubt that more or less benefit arises therefrom, for, besides the comfort to the patient, most certainly if any decomposing germs are present the douche must wash them away and, thus far, prevent their absorption. It is his custom to use the douche as a prophylactic measure in private practice as well as in the hospital.

In the Boston Lying-in Hospital douches are given twice daily during the first ten days following confinement, after that once a day. This custom has been kept up for years and no bad results have ever followed the use of the vaginal douche. When it is considered that at the hospital vaginal injections have been given for several years, forming a total of many thousands (a ready calculator can easily see how many), it seems incredible that no accident should have followed their use, like those alluded to by the opponents of antiseptic obstetrics.

DR. KINGMAN remarked that, in the first clinic of the Prague Hospital, there had been no deaths for one year and four months among fifteen hundred cases. Copious douches are given regularly with a Fountain syringe through a glass tube having a single large opening.

DR. LOURATO said that the vagina is subject to

lacerations giving rise to an opportunity for absorption to take place, and douches should be used to wash away any deleterious substances. It has been shown at maternity hospitals that the mortality has been reduced when injections are used. It would seem that it is the duty of the physician to use them. The dangers from douches arise from their misuse.

Dr. BOWDITCH said that he came to the meeting indisposed to believe in the necessity of washing out the vagina after every ease of labor, which he considered as a physiological fact, not followed or accompanied by a pathological state, save in exceptional cases. Years ago, when a general practitioner, he had had many cases of midwifery. No douches were used, but perfect cleanliness enjoined for the labia and parts adjacent. He had never had the misfortune of losing a patient after labor. The statistics from the large hospitals of the diminution of deaths since using the douche seemed, at first, to prove its value. Yet, after all, have we remembered sufficiently that coincident in time with the use of the douche there has been everywhere, especially in large hospitals, an endeavor, at least, to get absolute cleanliness of everything with which patients come in contact. These latter items certainly may have done as much as the douche toward this favorable result. It may be asked by some if they have not had the greater influence of the two. Dr. Bowditch thought that the reader had proved, and that the cases cited by other speakers of occasions when collapse of a serious nature, and even death, had occurred after the use of the douche by a trained nurse, amply supported the writer in the position taken, namely, that the operation should not be done in every case, but only in those in which the physician in attendance should deem it necessary as a remedial measure.

Dr. REYNOLDS remarked that it seems hardly just, in view of the wonderful advance in obstetrical knowledge which the last twenty years have seen, that a member who admits his withdrawal from all participation in these studies for a very long period should venture the sweeping assertions to which we have just listened. No one has a right to speak with clearer authority than that gentleman in those departments of medicine which he has by illustrious service made so peculiarly his own. Injuries at the circle of the os uteri, especially at the junction of the anterior and posterior lips, are in labor the rule, not the exception. How few primiparae escape without tearing more or less the perineal surface. Cattle die in giving birth as well as women. In the one case, as in the other, watchful attention, kindness, the intelligent use of means, spares illness and saves life. It is not humane to let the cows take their chance unprotected. Heaven forbid that we should think it of no greater importance to prevent the breaking down of women or their death!

Dr. STEVENS, of Cambridge, reported the case of a woman to whom vaginal douches were given after confinement through a Davidson syringe and a tube with no hole in the end. The douches were used daily, and were finally followed, on the ninth day, by very severe pain and collapse. The woman rallied, and there was a rise of temperature, followed by flowing. She continued to fail and died in three

weeks of septicæmia. He is now cautious about using douches. If the lochia are offensive he gives instructions to the nurse about using them, and never permits their use without first so doing.

Dr. DRIVER said he does not believe in routine treatment. It may be wise to use the douche in hospitals, but in private practice he does not approve of its routine use. If the case is pathological he considers that the douche is indicated, and gives it himself if he does not have a trained nurse in attendance. He has seen pain and tenderness follow the use of the douche even when given by a trained nurse.

Dr. WINGATE remarked that it is his custom to use vaginal douches if the nurse is competent to carry out his instructions regarding them. He has not had any unfavorable symptoms arise from their use.

Dr. CHARLES P. PUTNAM said it had been claimed that the douche diminished the mortality in childbed, but were this not the case he should advocate the use of the douche in a crowded community, if only the mortality were not increased. In the country, especially if sparsely settled, putrefaction takes place slowly when compared with a large city where any material like blood putrefies with great rapidity, so that one can hardly say that any child-birth takes place under normal conditions. Douching in childbed might be compared with any of the so-called improvements of modern civilization. The question is not whether it is dangerous, but whether it is less dangerous than the neglect of it. So water-closets and waste-pipes are dangerous in houses, unless great care is taken that they be in good order and that one does not trap the other. But because traps have to be carefully ventilated, we do not abandon them for the still more dangerous vaults. The argument that labor is a physiological process had no weight with him, because life in many other respects is no longer physiological. Savages may require douching as little as they require sewerage. He could not agree with the essayist that the procedure was painful; he had always found that patients who had not been douched in former labors were glad to have it done. He could not agree with the opinion that the greatest safety was found in the tubes with several slanting holes.

The uterus is not likely to be found lying in the same direction as the vagina and the slanting stream would be as likely to shoot into it as the direct. He thought the best way was to have the opening of the tube at the end and very large so that the current at that point would be slower than anywhere else. In this way all swift currents were avoided, and the water flowed freely and slowly in every direction.

Dr. E. W. CUSHING observed that a difference of opinion bordering on asperity was apparent, which seemed to be owing to the different standpoints of the speakers. Those who practised in crowded localities, and especially in hospitals, were naturally more afraid of septic complications, and desirous of guarding against them, but this paper was not on the treatment of hospital cases, all of which are under peculiar conditions, but on the routine use of the douche in normal cases. It was written as an inquiry as to the duty chiefly of country

practitioners, who seldom see septic sequelæ of labor, and seldom have very well trained assistants as nurses. Are they to be considered negligent if not habitually using the douche in all normal cases? Now, admitting for a moment that what the hospital men say is true, that the puerperal uterus is to be considered as a great wound, like the stump of an amputated limb, the speaker would be bold enough to say that stumps and wounds in healthy persons in the country do not need antiseptics, still less the uterus after normal labors. The cases related here to-night, and one seen once by Dr. Cushing, showed that practically douching is dangerous with such nurses as most physicians are likely to have at command. A careful man will always avoid having serious accidents, and even deaths, attributable directly to a treatment which he has adopted on merely theoretic grounds. Against the authority of eminent persons, so dogmatically asserted to-night, may be set that of a medical man, perhaps even more eminent, who, although he lived more than twenty centuries ago, knew something of obstetrics and even of douches, and laid it down as an aphorism that the physician should try to be of benefit to his patient, but should be, at least, sure that he does no harm.

Dr. M. L. CHAMBERLAIN said that during the first ten years of his practice he did not use vaginal douches unless unfavorable symptoms developed. For the last five years he has used them regularly and believes in them, and latterly uses the Reservoir syringe only. Professor Lusk, in a recent lecture, reported a death immediately following a vaginal douche of hot water, by a bulb syringe, for hemorrhage after a normal labor. He has since abandoned this form of syringe in obstetrical practice, and uses the Fountain apparatus. Dr. Chamberlain thinks that the accidents reported from vaginal douches are due to mechanical defects, and has invented a device, which will be shown to the society at its next meeting, that does away with the possibility of air being introduced into the uterine canal, and precludes undue force to the stream. The douche fluid is released in the posterior cul-de-sac — the most frequent site of infection. These douches purify the canal, and he believes in the consequent cleanliness.

Dr. MORRIS PRINCE thought that in discussing this question we must distinguish between the use of douches as a luxury and their use as a necessity. These two objects had been confused in the discussion. Douching the vagina was undoubtedly cleanly and added to the comfort of the woman, but when used for such purposes could only be looked upon as a luxury. The more important question was whether it was necessary to prevent disease. If it did the latter, the practitioner might feel in duty bound for the safety of his patient to use douches in every case of childbirth, even though it might be conceded there was some slight danger in their use. This was an important question for such physicians who practised among the poor where no conveniences are at hand, and the physician is compelled to give the douches with his own hands. Should such physicians regard it as their *duty* to give douches in every case, as had been asserted here to-night?

Dr. PRINCE's experience at the Temporary Home, where the most unfavorable cases were received, seemed to show that douches could hardly be regarded as a necessity. All the cases that come to the Home are in labor when they are received; most of them are deserted women; many have walked some distance while in labor; some have already given birth to the child in the public streets; all are in an unfavorable mental condition. Yet during Dr. Prince's service, the patients, with one exception, had invariably done well. He had never had a death, and he was informed that there had never been a death in the Home. The cases numbered about one hundred and fifty altogether. It was the custom in the Home to use douches only when the lochia were offensive, or there was a rise of temperature other than that of milk fever. This experience, so far as it went, seemed to go to show that douches were not a necessity, however great a luxury they might be. Dr. Prince did not wish to appear to give an opinion adverse to douches if one desired to use them.

Dr. RICHARDSON replied, to a question by Dr. Garland, that he uses in giving douches a Davidson syringe and a tube without a hole in the end, or the Fountain syringe. He generally uses from a pint to a quart of a two per cent. solution of carbolic acid, at a temperature of 110° to 112° F. The tube should be inserted only a short distance into the vagina, and the fluid should pass in without force; then no trouble will be experienced. For a year and a half he had used, when on duty at the Lying-in Hospital, a solution of corrosive sublimate, 1 part to 2000, but he should hereafter use carbolic acid.

Dr. CHAPWICK said that he had for years had the greatest faith in antiseptic douches in childbed and resorted to them in all cases where the labor had been terminated instrumentally or the soft parts had been extensively lacerated; likewise upon the supervision of fever or even foul lochia. He had seen no bad results; yet he had never felt that the practice was so devoid of danger as to be as warrantable as the uterine treatment after normal labor in private practice. The enumeration of so many cases in one evening, in which serious or fatal results had resulted from the practice, offered fresh evidence that the danger was by no means insignificant. He maintained that these mishaps could not be explained away by inveighing against the form of syringe used or the carelessness of nurses. There was no reason to doubt that the douches in these cases had been administered with as much care as could be expected, for the nurses had been graduates of the training-schools and lying-in hospitals. As to Davidson's syringe, the only serious objection to its use is its liability to admit air with the water. Now there is no evidence to show that the symptoms in these cases were due to the entrance of air into the uterine sinuses; in fact, the evidence is all against such an hypothesis. As to the practices in foreign hospitals, it has been demonstrated that the various antiseptic precautions taken have reduced the mortality marvelously, but it has not been made clear that the vaginal douche is one of the essential features of their methods. In illustration of this point he read a single extract from the last report of Dr. A. V. Mearns, master of the Rotunda Hos-

pital in Dublin, whose diminished death-rate, he said, was as remarkable as any that had been made public. As this report had been quoted during the evening as illustrating the harmless and beneficial effects of the vaginal douche, the subjoined statement was peculiarly pertinent:—

“Hence, if the prophylactic precautions adopted during labor are sufficient, there can be no necessity for any prophylactic antiseptic injections, whether vaginal or uterine, in the puerperal state, and, as a fact, I never allow them to be used either in hospital or private practice. Indeed, I do not even consider it necessary to use an antiseptic solution for washing the external genitals, which is done twice daily with plain warm water, a piece of oakum taking the place of a syringe, a substitution the credit of which belongs to Dr. Atthill” (page 6).

Dr. ADAMS in summing up said the paper was perhaps indifferently composed or badly read, as some points seemed to have escaped the notice which he thought they deserved. The statistics to which he referred from Winckel he then read from the book itself, as translated by Dr. Chadwick. These statistics included considerably more than half a million cases treated in hospitals and showed that the mortality was four to five times greater than in private dwellings. That it was not adequate to cite, as some of the speakers had done, the experience of *one hospital* (the Rotunda, he believes), *during a single year*, and ask us to believe on this evidence alone that Winckel's statement was ill-founded. He hoped that no one thought that the variety of syringe used was a vital point in the question under discussion. Whether a “Davidson” or a “Fountain” syringe was used, it still remained true that it was essential to give considerable force to the stream of water if you wished to wash out the vagina. That to enter the point of the syringe not more than half an inch within the orifice, or to give to the stream only the force of a column of water a foot in height, could not be called “douching the vagina.” Such methods could not effect more than simply to wash out the orifice of the vagina. It had been denied that the process was ever painful. He could only say that he had frequently found that pain was complained of on merely placing the finger gently within the ostium vaginae preparatory to passing the catheter to relieve retention. He agreed with Dr. Reynolds that rents or tears were frequent, especially in primiparae, about the vaginal orifice. These readily healed if let alone, but if disturbed, by washing or otherwise, the process of repair might be delayed and the period of auto-infection by these wounds be thus prolonged. He then referred to a discussion on this subject in the seventh International Congress, and quoted Professor Tarnier, of Paris, who said that he himself *never used the douche so long as everything went well*. He also quoted Dr. Mundé, who, at the New York State Medical Association said, speaking of the antiseptic intra-uterine douche: “It is useless and sometimes positively injurious, first, *where the lochia are not at all offensive*.” Dr. Garrigues said that he had been disappointed in the douche in the Maternity Hospital, since, in spite of its use in the most thorough manner, there had been many cases of puerperal fever. He said that if we wished to draw a line

between the healthy condition, where the douche is not only useless but positively injurious, and the unhealthy, in which the douche may be of the greatest service, such line may very properly be placed at *fetid lochia*. So long as the lochia are not offensive the douche, in his opinion, had better be let alone.

In the *Journal of the American Medical Association*, vol. iii., No. 16, is an article by Dr. Wm. T. Lusk, of New York, on “Sudden death in labor and childbed,” in which he says: “Air may be forcibly driven into the uterus by means of the uterine or even the vaginal douche. For this reason the syphon syringe ought to be discarded from midwifery practice. It is never a safe instrument, and I have prohibited its employment in all the public institutions with which I have been connected.”

“It is not necessary that the nozzle of the syringe should be introduced directly into the uterine cavity for accidents to occur.”

“In a case reported by Wiener in Spiegelberg's clinic, where the tube of the douche apparatus was free from air, collapse resulted from the hydrostatic pressure forcing air previously introduced into the vagina up into the uterine cavity.”

## THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, February 5, 1885. A number of gentlemen from a distance, including Drs. S. Weir Mitchell and Theophilus Parvin, of Philadelphia, John S. Billings, U. S. A., of Washington, and James R. Chadwick and George B. Shattuck, of Boston, were present on this occasion, when Dr. FORDYCE BARKER delivered his

### VALEDICTORY ADDRESS,

on retiring from the presidency of the Academy. He was followed by Dr. A. JACOB, the President-elect, who made his

### INAUGURAL ADDRESS.

In it he paid a tribute to his gifted predecessor, and expressed the hesitancy which he felt in venturing to occupy the position which he had relinquished. He trusted, however, that he would receive the cordial support of all in his efforts for the welfare of the Academy, and that every individual would consider the interest of the institution as his personal charge. Having spoken of the differences between this and the Academies of Medicine in Europe, which were exclusive, and whose membership was limited to a comparatively small number of men who were distinguished in special departments, while this was of a democratic character and open to all reputable medical men, he said that here all were engaged in active practice instead of devoting themselves entirely to study. This was also the case in Great Britain, and among Anglo-Saxons it had always been the aim of all medical science to accomplish the practical result, or relieving suffering and curing disease. At the same time, he said, no little original work had been accomplished by the profession in America, and the history of modern medicine would be very incomplete without a reference to the names and labors of such men as Bard, Rush, McDowell, Drake, and Beck. In this

connection Dr. Jacobi mentioned a long list of distinguished physicians and surgeons, now deceased, whom he had had the opportunity of personally meeting.

A greater interest, he thought, should be manifested in the Academy on the part of the profession at large. There was too much division and too large a number of societies, it seemed to him, and there was no good reason why the various special medical organizations in New York should not be made sections of the Academy, thus increasing the efficiency and usefulness of that institution, while they could still practically retain their independence. The mixture of the "best brains" and the modest practitioner, such as was seen in the fellowship of the Academy, was capable, he believed, of materially elevating the general standard of the profession. The earnest coöperation of both old and young was desirable for the best success of the institution, for books and brains with experience were a greater power than books and brains without experience. Well might all emulate the example of the Nestor of New York surgeons (the venerable Dr. Alfred C. Post, who occupied a seat on the platform), who was seldom absent from a meeting of the Academy. The time would yet come, he continued, when the profession would have more influence in the community than at present,—when the President of the Board of Health would be nominated by it, when no school-board would be without a physician among its members, and when medical men would actually have something to say in the management of hospitals.

Dr. Jacobi then gave a *résumé* of the history of medicine from the beginning of the eighteenth century down to the present time in France, Germany, England, and America, maintaining that it was entirely the Anglo-Saxon mind that shaped the medical thought of that century. In describing the condition of affairs in Germany just before the brilliant era of Virchow, he said that the people very naturally preferred the homœopathic's little pill to the pathologist's post-mortem box.

Dr. Jacobi next took up the topic of bacteriology, which he treated in rather a disparaging manner. It required considerable courage at the present day, he said, to resist the flood of popular opinion in the profession, but there were some competent observers in America who had taken a stand of this kind. To himself, while no one thought more of pathological knowledge in general than he, it had always seemed that purely bacteric pathology often begged the question. With the rapid advances that were continually being made in the study of organic chemistry it appeared to him more and more probable that some at least of the acute infectious fevers were due to chemical rather than bacteric agents. In this connection the subject of cadaveric poisoning was of great interest, and it was pertinent to inquire whether the poisonous agent might not originate before death. More than once it had occurred that several bacilli were successively announced as beyond doubt the real cause of some disease, so that it seemed altogether probable that some of them were such. Thus, three different microbes had at different times been assigned as the *contagium vivum* of diphtheria by as many authorities, and the matter was becoming

rather ludicrous. A dozen years ago a whooping-cough coccus was discovered, and at the same time it was announced that quinine was an infallible destroyer of it; but notwithstanding all this *accurate* knowledge of the disease and its treatment, it could hardly be said even yet that the affection had been stamped out of existence. Bacteric microscopy in the hands of beginners was exceedingly noisy and self-opinionated, and there was an immense amount of speculating going on all the time in Germany, where it was a very common thing to see in the medical journals "preliminary announcements" of discoveries which are not as yet *completely* substantiated, but the glory of which their authors apparently feared might be wrested from them by some other ambitious investigator.

In concluding, he spoke again of the excellent work accomplished by American physicians, and referred particularly to the fact that Dr. Oliver Wendell Holmes had pointed out the communicability of puerperal fever four years before Semelweis announced its contagiousness in Europe.

#### LETTER FROM DR. HOLMES.

When he had finished his address, the new President introduced Dr. Chadwick, of Boston, who presented to the Academy a copy of the latest photograph taken of Dr. Holmes, and then read a letter written by him to Dr. Barker in reference to his withdrawal from the presidency. This little episode was entirely unexpected on the part of Dr. Barker, and it formed one of the pleasantest features of a very enjoyable evening.

### Recent Literature.

*Osteotomy and Osteoclasia for Deformities of the Lower Extremities.* By CHARLES T. POORE, M.D., Surgeon to St. Mary's Free Hospital for Children, New York. New York: D. Appleton & Co. 1884.

We have rarely read a book to which we can accord more praise than this carefully prepared volume. Osteotomy and osteoclasia are operations which have of late become quite popular. Yet there is a large class of surgeons who have not kept pace with the times, to whom this volume is especially commended. This class of men, either from indifference or a self-sufficient conservatism, refuse, perhaps wisely, to accept facts as principles until the experience of others has sifted the chaff from the wheat.

Dr. Poore has collated the facts bearing on osteotomy and osteoclasia. A large personal experience in the operation has enabled him to put before us the results of these operations in a very satisfactory manner.

The charm of the monograph to us lies in the completeness of its references and the fairness of spirit manifested in judging of the merits of each method of operating. Yet at the proper time Dr. Poore asserts his own views and preferences, so that no one is left with a jargon of methods.

A typographical error in a numeral exists on page 52, line 16, which makes the result of an operation antedate the operation itself.

We most heartily commend this volume to the reading of all surgeons.

E. H. B.

# Medical and Surgical Journal.

THURSDAY, FEBRUARY 19, 1885.

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## FIRES IN INSANE HOSPITALS.

SEVERAL years ago we took occasion to point out to our readers the not infrequent fires in hospitals for the insane, and we particularly urged that precautions should be taken to guard against such fires in other institutions.

Fortunately, Massachusetts has as yet been spared such a catastrophe by fire, but the number of recent conflagrations in other States, attended in two instances by a large loss of life, again makes it proper to draw attention to the subject.

Two of these fires were at the Indiana Hospital for the Insane, which contains about seventeen hundred patients. The first one, which occurred on the thirtieth of December, in one of the wards, would have been followed by many deaths but for very prompt action on the part of the officials. The money loss on the second fire, which occurred January 27th, was considerable. The third fire occurred on January 18th, in the South Infirmary of the Illinois Eastern Insane Hospital, at Kankakee, and was attended by a large loss of life.

This infirmary was a two-story building of brick and stone, with no wood except the floors and stairs, and held forty-five patients. The newspapers state that "there were no facilities for putting out fire, the State having made no appropriation for the purpose."

Had the building been properly constructed as to floors and stairs, and had it been provided with fire apparatus, as all institutions should be, before occupation, Illinois would not now have to mourn so large and unnecessary a sacrifice of human life.

One of the chief advantages of the isolated building plan for the insane hospital should be that a fire will thereby be confined to the narrowest limits both as to space and number of inmates, and it is to be hoped that the moral of the Kankakee fire will be to point out more exactly what such buildings require to make them absolutely fire-proof.

The fourth and last fire, that in the insane department of the Philadelphia almshouse, is fresh in the minds of all. Since Dickens wrote his "American Notes," the "Blockley Almshouse"

has unfortunately not possessed, to say the least, an enviable reputation, and the destruction of its insane department, with the loss of eighteen or more lives, brings down the curtain on the lurid and terrible glare of the end of its existence, which is, perhaps, not altogether inappropriate.

The most incomprehensible feature of the Philadelphia tragedy seems to be, if we may trust the newspapers, that a very appreciable number of the patients who were burned at the stake, as it were, or those who escaped, were bound with chains, either by hand or foot. The cells in the third story were bad enough, but the chains in these days of advanced treatment of the insane seem like a return of the days of barbarity practised at the beginning of the century.

If Philadelphia should erect another institution for her insane, it is to be hoped that it will not be an almshouse, or managed on the almshouse plan, for the combined experience of the best experts, as well as the present condition of large numbers of almshouses, prove to our minds conclusively, that only medically educated men can so appreciate the nature of the *disease* insanity, and the needs of the insane, as to successfully care for them.

We are glad to see that large numbers of the former Philadelphia almshouse insane are being transferred to the Pennsylvania State Hospital. To them the recent horrible fire is after all a blessing in disguise.

In conclusion, may we not beg all our Legislatures to see to it that as far as they are concerned no stone shall be left unturned to guard public institutions against fire?

Why should not Massachusetts, at least, have a law in her statute-books that no new building should be occupied as a dwelling-place for any of those in her care, until a report had been made in writing to the governor by a proper board of fire experts, that it was fireproof and thoroughly provided with fire apparatus?

Our turn may come next, and the present winter is none too soon to establish such a law.

## EXPERIMENTAL PNEUMONIAS.

It is worthy of note that of all the numerous attempts which have been made to induce artificial pneumonia in animals under experimentation, none have ever resulted in the production of a pulmonary inflammation identical with true fibrinous pneumonia, otherwise called "frank" or "croupous" pneumonia, — "lobar" pneumonia. Bretonneau tried the effect on hares of irritant-acid vapors, such as hydrochloric acid; the animals were confined in barrels where they were exposed to these fumes for a considerable time, being rescued only at the point of death. They were shortly afterward killed, and a careful examination made of the pulmonary

lesions. Both lungs were strewn with ecchymosed patches, and in the centre of the congested tissue were nodules of lobular hepatization. Similar experiments were made with ammonia and chlorine; in some instances nitrate of silver was injected into the bronchi; Cornil used turpentine. The results were negative in effecting anything resembling lobar pneumonia; only bronchitis and islets of broncho-pneumonia succeeded the local application to the air-passages of these irritating chemical agents.

Hohenheimer injected septic fluids, such as putrefying blood and pus, into the bronchi of dogs on which he had practised tracheotomy; he thus determined lobular pneumonias, or pseudo-lobar broncho-pneumonias. Wolff obtained similar results from the injection into the bronchi of hares and Guinea-pigs of fluids containing the ordinary bacteria of putrefaction.

Kuhn injected into the subcutaneous cellular tissue of adult hares pneumonic sputa diluted with water; the symptoms which followed were those of true septicæmia and not pneumonia.

Heidenhain finally essayed to produce experimentally a fibrinous inflammation of the lungs by exposing his animals to sudden severe chilling, after they had been overheated. He obtained "tracheitis, bronchitis, nodules of lobular pneumonia, but in no case did he observe anything resembling lobar pneumonia, or the concomitant pleurisy."<sup>1</sup>

It has been remarked that traumatism of the lung in animals, as wounds of the pulmonary tissue in man, have failed to provoke the lesions and symptoms of ordinary frank pneumonia.

Sections of both pneumogastric nerves above the origin of the inferior laryngeal, and sections of the inferior laryngeal nerves alone, have produced sanguineous engorgement and edema of the lung, with here and there indurated nodules of gray hepatization; there was always accompanying bronchitis with turgescence of the mucosa and abundance of mucus-pus, and the microscope has revealed proliferating endothelium and round (embryonic) cells studding the alveoli, besides peri-bronchitis and peri-arteritis,—but never a clearly defined fibrinous exudation. These lesions, called by German writers *lobular broncho-pneumonias by aspiration*—the fact being that they owe their origin not so much to vaso-motor troubles, as to foreign bodies, such as vegetable cells, animal hairs, food particles sucked into the bronchi during inspiration and remaining there to provoke irritation; the nervous mechanism of expulsion being put *hors de combat* and paralyzed by division of its nerve—these lesions, we repeat, are in no sense those of frank lobar pneumonia.

Talamon and Sée, from whose interesting work<sup>2</sup> we have drawn largely for these facts, plead strongly

in favor of their present view which makes pneumonia a primarily local disease, due to an infectious living agent, which under certain circumstances effects a lodgment in the lungs, and there by its irritating presence produces a specified inflammation with severe febrile reaction and general constitutional perturbation.

Among other powerful arguments, the utter failure of experimentation to produce the disease in question is a striking corroboration of this theory in the abstract. It is, however, not unlikely that we may still have to await the differentiation of the specific organism, and we would not be understood, as might fairly be inferred from an editorial paragraph on page 116 of this volume, to regard the causal relation of any particular microorganism to pneumonia as definitely established.

#### THE ROUTINE USE OF THE VAGINAL DOUCHE AFTER NORMAL CHILDBIRTH.

SINCE this subject was brought prominently to the notice of the profession a year ago by Professor T. G. Thomas, in his memorable paper on the prevention and treatment of puerperal fever, much has been written both in favor of, and in opposition to, the routine use of the douche in normal childbed. A critical review of this literature is not our present purpose, but rather a brief consideration of the subject as presented at a recent meeting of the Obstetric Section of the Suffolk District Society, a report of which appears in another column.

The reader's objections to the douche in normal childbed were that it is artificial, meddlesome, of doubtful utility, that it may be hurtful and even fatal; and the discussion which followed the able introduction of the subject well illustrated the wide diversity of opinion regarding the value of the douche as a prophylactic measure, and the dangers and disadvantages of its use. That the douche has been hurtful, and even fatal, no one will deny; the same may be said of other simple procedures in incompetent hands; and the careful practitioner, whatever his opinion of the utility of the douche, should not subject his patient to possible harm from the careless use of this, any more than of other, therapeutic or prophylactic measures. We believe, however, that the fountain syringe or irrigator, fitted with a vaginal tube having large lateral apertures, may be used with entire safety, provided the tube is not introduced too far and the reservoir of water is not raised too high. It is a wise precaution, too, to introduce the tube with the water running; the entrance of air is thus effectually prevented. The risk of forcing effete material into the uterus we believe to be entirely imaginary, unless improper force is given to the afferent current.

The idea that the douche is artificial and meddlesome is based on the theory that parturition is a physi-

<sup>1</sup> G. Sée, *Maladies Spécifiques des Pouxons*, page 81.

<sup>2</sup> *Des Pneumonies Algères*, Paris, 1885.

ological process and that in normal cases the medical attendant should be merely an intelligent spectator; this theory was vigorously opposed by some in the debate and we think justly so. It seems unnecessary to point out that modern civilization has transferred the parturient woman of the nineteenth century from the physiological status of primitive times to one, which, if not pathological, is certainly beset with many dangerous possibilities. The cry of "meddlesome midwifery" is constantly raised against those who seek to prevent the dangers and palliate the sufferings of normal labor; however justly in other respects, in regard to the douche we can only say that, so far from being painful and annoying, we have always found it considered as comforting and refreshing.

But the vital point at issue seems to be the question of utility. It was pointed out in the discussion that Macan, of the Dublin Rotunda, obtained his extremely favorable results without the aid of the vaginal douche in normal cases; but it should be remembered that Macan employs such extreme antiseptic precautions<sup>1</sup> that he considers the douche simply superfluous. The same may be said of Garrigues, who, in his service at the Maternity Hospital on Blackwell's Island, after the most scrupulous precautions before and during labor, applies to the vulva post partum an antiseptic pad "with the same special care that would be used in dressing a wound after a capital operation"; and this dressing is changed every six hours.<sup>2</sup> Under such circumstances Garrigues regards the douche as unnecessary. In private cases these extreme precautions are seldom feasible and in the purer air of country practice are perhaps unnecessary: but in cities and large towns, where impure air and unsanitary plumbing are a constant source of danger, the douche may be of incalculable value in lieu of the stricter precautions found necessary in hospitals. We should say, therefore, in conclusion, that the vaginal douche in normal childbed, when given by competent hands and with proper apparatus, is not dangerous nor even hurtful; that it affords a refreshing sense of cleanliness and well-being to the patient; that it promotes the healing of abrasions and lacerations; and that it may be the means of preventing infection.

#### HOSPITAL ACCOMMODATION FOR CONTAGIOUS DISEASES.

THE need of better and more extensive accommodation at the Boston City Hospital for the care and isolation of contagious diseases has long been felt by the medical and surgical staff connected with the hospital, and by physicians in general practising in the city, who have occasion to send patients to that institution.

Eighteen rooms, eighteen to twenty feet square, containing seventy-two beds, in a three-story building, constitute the only accommodation for all the noisy, delirious, offensive medical and surgical cases occurring among 250 patients, and for all the cases of contagious disease—except small-pox—which cannot be treated at home, out of a population of 430,000.

It would seem as if this bare statement should be sufficient to incite the city government to immediate action in the premises.

The community at large begins to realize, only less keenly than the medical profession, the importance of isolation and disinfection in dealing with contagious disease, and the double nature of the blessing which flows from suitable hospital provision for them. The care and cure of the individual case is after all a small good compared to the avoidance of extensive epidemics. Our brethren of the daily press have rarely used their energies to better purpose than in concentrating attention upon this point.

#### MEDICAL NOTES.

—The *Australian Medical Gazette* for December 15, 1884, contains four very instructive and interesting photographs of the efflorescence in cases of variola.

—*Science* proposes a new fireproof building for the use of the various scientific societies of Boston, and suggests as an eligible location a part of the lot adjacent to that secured for the new Public Library and next to the Harvard Medical School. "Bowditch Hall" is the name proposed for the new edifice.

—The condition of the two policemen, Cox and Cole, who were the chief sufferers from the recent dynamite explosion in London, is thus given in an English contemporary: Their appearance on admission to the Westminster Hospital indicated clearly the violence to which they had been subjected. Their clothes were torn into shreds and scarcely hung together, while the helmets were damaged almost beyond recognition. The leg of one of the men's trousers was blown completely off, although the leg was apparently uninjured. The men were suffering severely from the shock, and were much prostrated. Cole, in addition, was found to have four ribs broken, presumably from coming violently into contact with some projecting angle, though he was carrying the packet just before the explosion. For some time after admission, too, his urine was tinged with blood. They soon rallied considerably from the shock and partially recovered their hearing and other natural senses, which were in complete abeyance on admission, and from the loss of some of which they will probably suffer for the rest of their lives. Their temperatures at the time of the

<sup>1</sup> See vol. cxli., No. 5, page 162, of this journal.

<sup>2</sup> See vol. cx., No. 1, page 14, of this journal.

report were nearly normal, and there was every reason to hope that they would accomplish a speedy recovery.

#### NEW YORK.

—The report of the Department of Public Works for the year ending December 31st last was sent to Mayor Grace on the fourth of February. The rainfall in the Croton watershed for the year was 53.71 inches, which has been exceeded only in the years 1878 and 1882 since 1865. At the same time there were several periods of extreme dry weather, when 2,040,000,000 gallons of water had to be drawn from the two storage reservoirs and several lakes to supplement the natural flow of the Croton River, in order to keep the aqueduct fully supplied. All the lakes and reservoirs are now full, and an additional water-supply of about 10,000,000 gallons is at present received from the Bronx River. The average quantity of water supplied per day through 10,905 meters is 20,060,600 gallons. The excessive waste which occurs in cold weather through the habit of letting water run from faucets day and night to prevent freezing in the pipes is shown by the fact that in a single cold day, December 20th, the Central Park reservoir was drawn down five inches, indicating an excess of 13,000,000 gallons used on that day over the ordinary consumption, and over the supply received from the aqueduct.

—Under the direction of Dr. Cyrus Edson, of the Sanitary Bureau, a strict investigation into the purity of the drugs sold by the apothecaries has been commenced. Forty samples of quinine have been purchased from various establishments for analysis, and the first arrest for adulteration was made on February 2d. It was that of a druggist in Third Avenue, the quinine purchased from whom was found to be adulterated with a large quantity of sugar of milk. He was charged with violating section 16 of the Sanitary Code, and was admitted to bail.

—Dr. James Owens Smith died January 30th at the age of eighty-two years. He was born at Coxsack, Greene County, N. Y., and was graduated from the College of Physicians and Surgeons, New York, in 1825. At this time the Republic of Columbia, then recently established under the presidency of Bolivar, was engaged in endeavoring to build up a navy, and Dr. Smith secured the position of surgeon (for which there were no less than seventy applications) on a frigate purchased in the United States, and about to sail for Venezuela. On arriving at Caracas it was found that yellow fever was fiercely raging, and, some of the local physicians having died and some having deserted their posts, there was an instant demand on the part of the inhabitants for the ship's surgeon. Dr. Smith entered upon the work with energy and determination, and his labors were crowned with success. He caused strict sanitary precautions to be ob-

served, closed the drinking-saloons, and finally brought the disease under control. The inhabitants of a neighboring city, also suffering from the scourge, then sent for him, and he succeeded in successfully combating the fever there too. Sir Robert Ker Porter, the artist and traveler, at that time British consul at Caracas, made Dr. Smith his physician, and he practised there for the next five years. He then returned to New York on account of the death of his father, and, although earnestly entreated to return to Venezuela by Sir Robert Porter and many others, he decided to remain in that city. Scarcely had he settled in New York, in 1832, when the cholera broke out. His active labors during this epidemic at once brought him an extensive practice, and he remained engaged in full professional work in the city until fifteen years ago, when he retired. Dr. Smith never married. He was a Fellow of the Academy of Medicine, and was prominently connected with Grace Church, where his funeral took place February 2d.

## Correspondence.

### LETTER FROM VIENNA.

VIENNA, January 17, 1885.

To American physicians studying in Vienna the clinic of Professor Billroth is the chief surgical attraction. The material is very abundant and there are two operating-tables in the amphitheatre, both being often in use at the same time. Nearly all the ordinary operations are performed by the assistants, of whom there are constantly six or eight present. Professor Billroth directs and describes the operations, explaining all important points and making frequent use of the blackboard to illustrate pathological states, operations, mechanical appliances, etc., and so often gives the greater portion of his lecture while operations are being made by the assistants, thus doubly occupying the time. The clinic is of two hours duration daily, and a large number of cases are usually disposed of each day, and several important operations may occur at one clinic.

I had the pleasure of witnessing an excision of the stomach made by Billroth, January 15th, which operation I will briefly describe:—

A male patient, aged about fifty, with scirrhus of the pylorus and presenting the history usual to such cases, was anesthetized and the abdominal cavity opened by an incision about five inches long in the median line directly over the stomach. After a careful examination of the tumor and its relations to the surrounding organs, the greater curvature of the stomach and that portion of the small intestine most convenient for the purposes in view were lifted out of the abdominal cavity and held by assistants while an opening was made in each and their edges so united by sutures as to leave a free communication between the cavity of the stomach and the intestine in this position, this gastric opening being of course through the healthy

tissue not far distant from the diseased portion to be removed. The intestinal opening was made about sixteen or eighteen inches distant from pylorus. The diseased end of the stomach was then separated from its attachments, many vessels being ligated and then, together with the surrounding tissues, cut through either with the scissors or thermo-cautery. That portion of the lesser omentum attached to this portion of the stomach was so cut through. The duodenum was now divided near the pylorus and its cut end closed with sutures. The pyloric end of the stomach, into which a sponge had been crammed to prevent the escape of its contents, was now elevated by the assistant and the incision through the stomach made from below upward, or, in other words, from the greater to the lesser curvature. Let it be remembered that the stomach was without the abdominal cavity and so held as to keep the anterior and posterior walls in contact. When the knife had reached a depth of about one inch, or made an opening in the stomach two inches long (please bear in mind that both anterior and posterior walls are cut at the same time), the knife was laid aside and these two walls stitched together to this extent; then the incision was extended an inch further and again stitched, and so on until the whole organ was cut through and the cut edges of the anterior and posterior walls carefully united. The abdominal cavity was carefully cleansed and the wound united in the usual manner and dressed antiseptically. The portion removed was as large as, and shaped much like, a man's fist seen to the wrist-joint. The operation consumed one hour and forty minutes. At last report, twenty-four hours after the operation, the patient was encouragingly comfortable.

Respectfully,

GEO. W. DAVIS, M.D., *Holyoke, Mass.*

#### MRS. DR. HUDSON. — A WARNING.

BOSTON, February 14, 1885.

MR. EDITOR. — On Wednesday, a lady, calling herself Mrs. Dr. Hudson, called at my office, stating that, until his death, she had been the amanuensis of the late Dr. J. Marion Sims.

She was very anxious to raise one hundred dollars to pay the interest on the mortgage on her furniture. Several doctors had aided her, and she hoped I would contribute ten dollars, which would, of course, be repaid in ten days, when she was to receive some money.

As I never knew a deserving person to solicit funds of strangers, without at least a letter of introduction, I declined. Thinking it a case of fraud, I send you the facts, to be used if you see fit, should you hear of similar calls, as the lady seemed to be making a pilgrimage among the doctors.

Yours truly, Wm. L. RICHARDSON.

#### TREATMENT OF FRACTURES OF THE FEMUR WITHOUT SPLINTS.

DOVER, N. H., February 6, 1885.

MR. EDITOR. — I notice in your issue of yesterday an article on the treatment of fracture of the

femur without splints, which treatment, the writer says, was originated by Dr. John Swinburne, of Albany, N. Y., and which was published by him, in 1861, in the Transactions of the New York Medical Society.

The writer says he "has never seen a word in print on the subject since 1861," and wishes to call the attention of the profession to it. The Treatise on Surgery of Prof. Samuel Gross, of Philadelphia, page 958, vol. i., edition of 1864, contains a description of Dr. Swinburne's treatment, *in extenso*, with an engraving illustrating the applied dressing, and with an allusion to the "upwards of forty cases" treated by Dr. Swinburne.

Yours truly, JOHN R. HAM, M.D.

#### Disseclanp.

#### PUBLIC HEALTH IN WEST VIRGINIA.

IN his last message to the Legislature, the Governor of West Virginia refers to the State Board of Health in the following complimentary terms: —

"It is with pleasure that I direct your attention to the operations of this department of the State service. The act of the Legislature establishing the State Board of Health has become popular with all classes of our people. It has been taken as a model for similar legislation in several of the sister States, and the industrious and intelligent labors of the Board have won much credit for West Virginia."

#### IS THERE A CORRELATION BETWEEN DEFECTS OF THE SENSES?

PEOPLE sometimes assume, remarks Prof. Alexander Graham Bell, in *Science* (February 13, 1885), that a defect of any important sense is balanced to the individual by the increased perception of the remaining senses. For instance: it is often thought that deaf persons have better eyesight than those who hear, and that blind persons have better hearing than those who see. The returns of the tenth census of the United States (1880) concerning the defective classes show clearly the fallacy of such a belief. They indicate that the deaf are much more liable to blindness than the hearing, and the blind more liable to deafness than the seeing.

About one person in every thousand of the population is blind, and one in every fifteen hundred deaf and dumb. Now, if these proportions held good for the defective classes themselves, we should expect to find one in a thousand of the deaf-mute population blind, or one in fifteen hundred of the blind population deaf and dumb: in other words, we should expect to find no more than thirty-four blind deaf-mutes in the country; whereas, as a matter of fact, no less than four hundred and ninety-three blind deaf-mutes are returned in the census.

Tables are given, compiled from the census returns, which seem to indicate that in the case of deafness, blindness, idiocy, and insanity, some correlation exists; for persons having one of those

defects appear more liable to the others than persons normally constituted, and doubly defective persons appear to be more liable to be otherwise defective than persons having a single defect. For instance:—

(a) Of 50,155,783 persons in the United States, 246,816, or 0.4921 per cent., are defective.

(b) Of 246,816 defective persons, 4,597, or 1.86 per cent., are doubly defective.

(c) Of 4,597 doubly defective persons, 247, or 5.37 per cent., are trebly defective.

The most marked correlation seems to exist between deafness, blindness, and idiocy. There are

fourteen and a half times as many blind persons among the deaf and dumb in proportion to the population as among the community at large, and forty-six times as many idiotic.

There are fourteen times as many deaf-mutes among the blind in proportion to the population as there are among the community at large, and nineteen times as many idiots.

There are forty-three times as many deaf-mutes among the idiotic in proportion to the population as there are in the community at large, and eighteen times as many idiotic.

## REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 7, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Typhoid Fever.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	775	316	17.94	22.36	.13	5.59	2.08
Philadelphia . . . . .	927,995	443	161	9.20	8.28	3.68	—	2.76
Brooklyn . . . . .	644,526	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	425,890	207	72	14.68	24.00	1.92	7.68	1.44
Baltimore . . . . .	408,520	180	60	10.45	12.10	1.10	3.85	1.10
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	137	32	16.06	10.22	.73	2.19	.70
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	87	12	10.71	24.99	—	2.38	4.76
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,465	—	—	—	—	—	—	—
New Haven . . . . .	102,882	22	7	9.10	18.20	—	—	—
Nashville . . . . .	54,400	20	9	17.25	3.45	6.90	3.45	—
Charleston . . . . .	52,286	39	8	3.33	23.33	—	3.33	—
Lowell . . . . .	71,447	31	12	45.32	—	12.92	19.38	3.23
Worcester . . . . .	69,442	29	13	17.25	20.70	—	13.80	—
Fall River . . . . .	62,674	27	10	22.20	14.80	3.70	3.70	—
Cambridge . . . . .	60,995	31	6	19.58	12.02	3.23	9.69	3.23
Lawrence . . . . .	45,516	15	5	13.33	39.06	—	—	6.66
Lynn . . . . .	44,895	16	5	6.25	12.50	6.25	—	—
Springfield . . . . .	38,090	9	7	33.33	22.22	—	11.11	22.22
Somerville . . . . .	31,250	4	1	50.00	25.00	—	20.00	—
Holyoke . . . . .	30,515	9	4	—	11.11	—	—	—
New Bedford . . . . .	30,144	13	5	30.76	—	—	7.69	—
Salem . . . . .	29,503	—	—	—	—	—	—	—
Chelsea . . . . .	24,347	11	4	18.18	27.27	—	—	18.18
Taunton . . . . .	22,693	6	3	—	16.06	—	—	—
Gloicester . . . . .	21,400	4	2	—	—	—	—	—
Haverhill . . . . .	20,905	6	2	—	—	—	—	—
Newton . . . . .	19,421	5	0	—	—	—	—	—
Brockton . . . . .	18,323	3	0	33.33	—	—	—	33.33
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	9	2	11.11	—	—	—	11.11
Fitchburg . . . . .	13,433	—	2	—	75.00	—	—	—
Waltham . . . . .	13,433	4	2	—	—	—	—	—
Northampton . . . . .	13,508	2	0	—	—	—	—	—
33 Massachusetts towns . . . . .	—	64	8	3.12	15.60	—	1.56	1.56

Deaths reported 2,208; under five years of age, 766; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fever, and diarrheal diseases) 315, lung diseases 367, consumption 343, diphtheria and croup 91, scarlet fever 48, measles 56, typhoid fever 33, malarial fever 22, diarrheal diseases 28, whooping-cough 18, erysipelas 18, cerebro-spinal meningitis 13. From *measles*, New York 30, Boston 3, Philadelphia one. From *diarrheal diseases*, New York 11, New Orleans 7, Boston 3, Baltimore and Nashville two each. From *malarial fever*, New York 10, New Orleans 8, Philadelphia and Baltimore two each. From *whooping-cough*, New York 10, Philadelphia and New Haven two each, District of Columbia, Lawrence, Somerville, and New Bedford one each. From *erysipelas*, New York 6, Philadelphia and Baltimore 4 each, Boston two, New Orleans and District of Columbia one each. From *cerebro-spinal meningitis*, New York 3, Philadelphia and New Haven two each, Fall River one. From *pneumonia*, Fall River 3, Philadelphia, New Orleans, District of Columbia, Lowell, and Worcester one each.

In 110 cities and towns of Massachusetts with an estimated

population of 1,415,519 (estimated population of the State 1,955,104), the total death-rate for the week was 19.15 against 15.09 and 18.54 for the two preceding weeks.

For the week ending January 24th, in the Swiss cities, there were 40 deaths from consumption, lung diseases 40, diarrheal diseases 10, diphtheria and croup 10, whooping-cough 5, small-pox 2, measles 2, erysipelas 2, typhoid fever 2. The death-rates were: at Geneva 21.3; Zurich 5.8; Basle 18.9; Berne 26.2.

In the 28 greater towns of England and Wales, with an estimated population of 8,206,446, for the week ending January 24th, the death-rate was 21.0. Deaths reported 4,091: infants under one year of age 880; acute diseases of the respiratory organs (London) 543, whooping-cough 112, measles 69, scarlet fever 47, fever 38, diphtheria 32, small-pox (London 63, Birmingham, Liverpool and Bolton one each) 46. The death-rates ranged from 16.4 in Brighton to 40.9 in Cardiff; Birkenhead 20.7; Birmingham 26.0; Blackburn 17.6; Bradford 20.0; Hull 19.6; Leeds 21.0; Leicester 23.9; Liverpool 28.2; London 23.1; Manchester 28.0; Nottingham 23.1; Sheffield 24.4; Sunderland 26.2. In Edinburgh 20.2; Glasgow 32.8; Dublin 31.9.

The meteorological record for the week ending February 7th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount, in Inches.		
February, 1885,																			
Sunday, 1	29.782	23.3	29.1	17.0	72	100	65	79.0	N W	Calm.	W	5	Calm.	20	O	N	C	—	
Monday, 2	29.879	6.3	22.1	3.0	57	50	49	52.0	W	W	W	18	23	15	C	C	C	—	
Tuesday, 3	29.850	10.6	16.5	1.9	61	50	40	50.3	W	W	W	12	14	7	C	C	C	—	
Wednes., 4	29.565	11.7	26.7	10.7	72	94	100	88.7	W	S E	N	8	9	0	C	F	C	—	
Thurs., 5	29.507	20.3	36.9	21.1	93	55	75	74.3	N W	N W	N W	10	13	11	N	O	C	—	
Friday, 6	29.705	19.6	31.0	16.9	75	62	68	68.7	N W	N	N W	15	20	24	O	O	C	—	
Saturday, 7	29.940	14.0	22.8	4.8	39	46	77	50.3	N W	N W	W	20	17	11	C	C	C	—	
Mean, the Week.	29.748	17.9	26.4	10.5				66.2										25.30	0.12

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening; N., snow.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE. FEBRUARY 7, 1885.

LONG, W. H., surgeon. Relieved at Detroit, Mich., to proceed to Chicago, Ill., and assume charge. February 4, 1885.

GODFREY, JOHN, passed assistant surgeon. To proceed to Vicksburg, Miss., and Memphis, Tenn., as inspector. February 6, 1885.

BENNETT, P. H., assistant surgeon. To assume temporary charge of the service at Detroit, Mich. February 4, 1885.

WILLIAMS, L. L., assistant surgeon. To report to the officer in charge at Detroit, Mich., for temporary duty. February 7, 1885.

#### RESIGNATION.

MILLER, T. W., surgeon. Resignation accepted by the Secretary of the Treasury, to take effect March 1, 1885. February 4, 1885.

#### PROMOTION.

GODFREY, JOHN, passed assistant surgeon. Promoted and appointed surgeon by the Secretary of the Treasury from March 1, 1885. February 6, 1885.

#### APPOINTMENT.

WILLIAMS, L. L., M.D., of South Carolina, having passed the examination required by the Regulations, was appointed an assistant surgeon by the Secretary of the Treasury, February 6, 1885.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 7, 1885, TO FEBRUARY 13, 1885.

TOWNS, F. L., major and surgeon. Granted leave of absence for twenty days. S. O. H., Department of Texas, February 4, 1885.

WILSON, WM. J., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Proble, Me. S. O. 27, Department of the East, February 5, 1885.

WOODRUFF, EYES, captain and assistant surgeon. Ordered from Wile's Point, New York Harbor, to Department of Dakota.

TAYLOR, MARCUS E., captain and assistant surgeon. Ordered to the Department of the Missouri. S. O. 30, A. G. O., February 5, 1885.

ROBINSON, S. Q., captain and assistant surgeon. From Portland, Oregon, to his proper station, Fort Spokane, W. T. S. O. 29, Department of Colorado, February 2, 1885.

#### SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for scientific improvement will be held in "Social Hall" (Tremont Temple Building, Boston), entrance at 76 Tremont Street, on Tuesday, February 21, 1885, at 7.45 P. M. Subject for discussion: Pneumonia. Communications: "A Report of a Case of Gas-tric Anæmia," E. Pembrey Gerry, M.D., Jamaica Plain.

GEORGE D. TOWNSEND, M.D., Secretary, Roxbury, February 17, 1885.

#### DEATH.

DIED.—In Fall River, February 12, 1885, Ebenezer Turell Learned, M.D., M.M.S.S., aged seventy-two years.

#### RESIGNATION.

DR. C. M. GREEN has resigned his position as Surgeon to Out-Patients at the Free Hospital for Women.

#### BOOKS AND PAMPHLETS RECEIVED.

Consumption: Its Nature, Causes, Prevention, and Cure, By J. M. W. Kitchen, M.D. New York: G. P. Putnam's Sons, 1885.

Report of the Chief of the Bureau of Medicine and Surgery, Navy Department. Surgeon-General.

School Hygiene in Relation to its Influence upon the Vision of Children, or School Sanitation. An Address delivered before the Medical Association of Georgia, 1884, by A. W. Calhoun, M.D., President. Atlanta, Ga. (Reprint.)

The Medical Student's Essentials of Physics. By Condit W. Cutler, M.D., late House Physician, Bellevue Hospital, etc. New York: J. H. Vail & Co. 1884.

Orthopedics, or a Practical Treatise on the Aberrations of the Human Form. A second edition, much enlarged, with additional Engravings and several Colored Lithographs. By James Knight, M.D. New York: J. H. Vail & Co. 1884.

The Role of Bacteria in Infectious Diseases. By Henry O. Marey, A.M., M.D., Boston. (Reprint.) Read before the American Academy of Medicine, Baltimore, October 28, 1884.

Denison's Seasonal (Climatic Map of the United States. Graphically illustrating combined Humidity Statistics with Isotherms, Wind Statistics, and Seasonal Tables. Compiled from Data of the Signal Service Bureau. By Charles Denison, A.M., M.D., Denver, Colorado.

Transactions of the American Dermatological Association. Eighth Annual Meeting, held at Highland Falls, N. Y., August 27-29, 1884. Official Report. New York, 1884.

The Anæsthetic. A Monthly Perioperative Summary of the Progress of Medical Science. Edited by Walter S. Wells, M.D., Vol. I. New York: G. P. Putnam's Sons, 1884.

Cocaine: its Use in Ophthalmic and General Surgery. By H. Knapp, M.D. (Reprint from the Archives of Ophthalmology, December, 1884, with supplementary contributions by Drs. F. H. Bosworth, R. J. Hall, C. L. Keyes, H. Knapp, and Wm. K. Polk.) New York: G. P. Putnam's Sons, 1885.

Bodily Disorders and their Treatment. A Handbook of Practical Orthopedics. By Henry Albert Reeves, F.R.C.S.E., etc. With 228 illustrations. Philadelphia: P. Blakiston, Son & Co. 1885.

Circulars of Information of the Bureau of Education. No. 7. 1884. Aims and Methods of the Teaching of Physics. By Prof. Charles K. Wead, A.M., University of Michigan. Washington, 1884.

The Hygiene of the Nervous System and Mind. "The Relation of the Nervous System to Cholera, and its Prophylaxis and Neurotherapy, etc." By C. H. Hughes, M.D., St. Louis. (Reprint from the Alienist and Neurologist, St. Louis, January, 1885.)

Cremation Scientifically and Religiously Considered. By Henry Houston Bonnell. 1885.

## Original Articles.

UNUSUAL CASES OF VESICO-VAGINAL AND VESICO-UTERINE FISTULA.<sup>1</sup>

BY W. H. BAKER, M.D.

THE medical profession are so familiar with the appropriate treatment of vesico-vaginal fistula that a successful operation is now the rule, a failure the rare exception; nor is this most favorable result confined to a few operators of large experience, but, thanks to Sims, Emmet, Simon, and Bozeman, the principles involved in the preparation of the parts have been so clearly set forth, as well as the steps of the operation so carefully worked out in every detail, that any surgeon of ordinary manipulative skill and care has been able to appropriate it to the particular cases under his charge and obtain very satisfactory results. With this almost universal success attending the operation at the hands of the surgeon each is stimulated to excel if possible, either by gaining an equally good result so far as the closing of the fistula is concerned, and leaving the other organs and surrounding parts in a natural and healthy condition, or by diminishing to the minimum the amount of cicatricial tissue in the vagina, both of which he has found to be so necessary for the future comfort and health of his patient. The report then of ordinary cases of this class would seem to be quite unnecessary and would be of but little interest to the members of this society who give more especial attention to these and kindred complaints. If, however, cases arise which, from their cause, course, or method of treatment, differ from those we are accustomed to see, and thus become unusual, they are at once valuable. For any success which has attended my work in this class of cases, as well as many others, I am indebted to Dr. T. Addis Emmet, for whose faithfulness and kindness as an instructor I shall never cease to be grateful. In looking over the records of my hospital and private practice I find four cases which, from their somewhat unusual character, seem of sufficient importance to bring before this society.

## CASE I. VESICO-VAGINAL FISTULA WITH CLOSURE OF THE URETHRA.

August 14, 1879. I was called in consultation by a physician of this city, who gave me the following history of his patient: She was forty years of age, had been married about two years, and was delivered at full term of a still-born child three weeks before my visit, it being her first and only confinement. For a month before her labor the legs were swollen and an examination of the urine showed twenty-five per cent. of albumen present. The waters broke about midnight and the next morning the os was not at all dilated, but through the day it became so to the size of a half-dollar. About eight p.m. of that day one fluid drachm of ergot was given and during the next two hours four drachms more of the same were administered in teaspoonful doses. At ten p.m. the patient complained that she was unable to see; the child was then at the outlet, it having been steadily but slowly progressing. Another physician was then called in consultation, who at

once applied the forceps and delivered the patient of a child, who gave evidence of having been dead twenty-four hours. The attending physician was then informed by the patient that she had not passed much of any urine for two days before the labor: the catheter, however, showed very little urine in the bladder; but the next day and from that time on, there had not ceased to be a continual flow of urine by the vagina.

The left side of the face was paralyzed and the left side of body and left leg were wanting in sensation, though motion was not especially impaired.

On making a physical examination I found a vesico-vaginal fistula in the median line which readily admitted the forefinger, the anterior edge of which rent involved the neck of the bladder. The perineum had also been ruptured to the sphincter muscle. Diagram No. 1 will show the location of the injury.



Fig. 1.

Neither the general condition of the patient nor the local site of the injury were in any state to warrant an immediate operation, and she was advised to use a vaginal injection of carbolyzed warm water three times a day, and to keep the skin of the vulva, inner thighs, and nates well protected with oxide-of-zinc ointment or vaseline. I expressed a desire to see her again after two or three months.

November 20th. At the request of the attending physician I assumed the care of the case, and an examination then made showed the parts in good condition for closing the fistula, the opening being somewhat smaller than at the previous visit, barely admitting the tip of the forefinger. On exploring the urethra it was found that the upper part of the canal at the site of the neck of the bladder was entirely closed by a dense cicatrix. This was incised with a narrow bistoury, and a hard-rubber plug adjusted to keep it from closing again. The closure of the fistula was delayed for nearly two months more, or until the incised wound at the neck of the bladder had entirely healed and the patient's general health, which was fast improving, should be in as perfect a state as possible.

January 13, 1880. The hard rubber plug was removed and the edges of the fistula denuded and brought together in a line transversely in the vagina with eleven silver sutures. A Sims's self-retaining catheter was adjusted. For the next week the vaginal douche was used twice a day, at which times

<sup>1</sup> Read before the Obstetrical Society of Boston, December 13, 1884.

the bladder was washed out and the catheter thoroughly cleansed and replaced. The sutures were removed on the eighth day, and union found to be perfect.

February 10th. She reported perfect control over the urine except when holding it several hours. I have seen the patient within a few months, and she reports herself quite well and as having had no farther difficulty with the bladder.

The point of especial interest in the injury and its repair was that having cut through the dense cicatrix, which must have been nearly a quarter of an inch thick, there showed no tendency for its contraction again, and there has never been any evidence of the formation of any stricture at the site.

#### CASE II. VESICO-VAGINAL FISTULA WITH LOSS OF THE ANTERIOR LIP OF THE CERVIX UTERI.

Mrs. A. S. was admitted to the Free Hospital for Women on October 4, 1883. She was twenty-eight years of age, had been married seven years, and had given birth to six children, all still-born. Labors were all characterized as difficult, and terminated instrumentally. She had a fair getting up after each of her confinements except the last. Three weeks after the last labor she noticed a dribbling of the urine, and she had been thus constantly troubled ever since. She complained of nothing save this continual flow of urine. Her general health was excellent. An examination showed the external parts red, thickened, and excoriated from the irritation of the urine. The cervix uteri was torn bilaterally, the posterior lip everted and turned back into the posterior cul-de-sac, and the anterior lip entirely gone, it undoubtedly having separated with the slough which came away when the urine first passed by the vagina. The cicatrix had so drawn the upper anterior vaginal wall around the stump of the anterior portion of the supra-vaginal cervix that it was not until the posterior lip of the cervix was forcibly pushed toward the sacrum that the cervical canal could be brought into view. This turning of the uterine canal into the fistula was aggravated by the somewhat retroverted state of the uterus. The fistulous opening itself was about half an inch transversely; it was difficult to estimate its size antero-posteriorly, as it was so covered by the anterior vaginal wall (see diagram No. 2).



Fig. 2.

She was prepared for the operation in a similar manner to case I., that is, by the vaginal douche and

anointing with vaseline. The fistula was closed November 1, 1883, fourteen silver sutures being used. It required a considerable amount of patience to free the parts surrounding the fistula sufficiently to denude its edges, as the opening was held so completely out of view by the cicatricial bands all about it. When this was accomplished, it was found that there was not sufficient of the stump of the anterior lip of the cervix to denude, to which the anterior vaginal wall could be attached. The simplest and by far the easiest way would have been to turn the uterine canal into the bladder and attach the anterior edge of the fistula to the posterior lip of the cervix, but this would have necessitated the patient's subsequently menstruating into the bladder, and not only so, but the everted and lacerated posterior lip of the cervix in the bladder, unprotected by its normal vaginal covering, constantly exposed to the urine, would have almost inevitably given rise to increased disease and suffering. By strong traction, therefore, the uterus was brought sufficiently low to enable a portion of the posterior vesical wall above the stump of the anterior lip of the cervix to be denuded through the fistula to which the vaginal edge was attached.

November 7th. The patient was menstruating, therefore the removal of the sutures was delayed for five days, or until the twelfth of that month. The union in this case was perfect. She was allowed to pass the urine herself each two to four hours and the only unfavorable symptoms presenting themselves were the appearance of the menses before the expiration of a week from the date of the operation, which, however, fortunately did not impair the success of the operation, and the development of an attack of cystitis, which yielded to benzoate of ammonia and washing out of the bladder.

November 27th. The patient reported perfect control over the bladder and was discharged cured.

The specially interesting feature in the case was the fact that vesical tissue alone was denuded posteriorly, by which it became possible to close the fistula without turning the uterine canal into the bladder.

#### CASE III. VESICO-VAGINAL FISTULA OCCASIONED BY AN ILL-FITTING PESSARY.

Mrs. D. was admitted to the Free Hospital for Women, December 19, 1883, and gave the following history: She was a widow, forty years of age, and had had five children and two miscarriages. Her labors were, so far as she knew, natural. She had suffered for a long time with bearing-down pains, for which she had consulted a physician a year previous to her admission to the hospital, who told her she had prolapse of the womb, and introduced a Babcock pessary, which she wore for six weeks. During that time she suffered constant pain from it and so reported to her physician; but he refused to remove it, telling her she must become accustomed to it; when he was told, however, that the urine was running away through the vagina, he hastened to remove it.

While in the hospital it was noticed that the urine did not constantly dribble away, but escaped only at certain times or when in certain positions, for example, she was not obliged to wear a napkin and

had complete control over the bladder for three or four hours and could sleep all night in certain positions without the urine escaping, but on suddenly turning she would find herself wet.



Fig. 3.

A physical examination (see diagram No. 3) revealed a vesico-vaginal fistula, about three quarters of an inch in length, at the site of the attachment of the anterior vaginal wall to the cervix uteri. The uterus was in the first degree of retroversion, its lower segment lacerated bilaterally, and the everted anterior lip forced through the fistula into the bladder. This readily accounted for the ability of the patient to hold the urine under certain circumstances, for the opening was so effectually plugged by this portion of the cervix, that it was only when by some movements of the body the edges of the fistula were made to slide on the anterior lip that the valve would open sufficiently for the urine to flow.

After a week of preparatory treatment with the vaginal douche, the fistula was closed with nineteen silver sutures. Some difficulty was experienced at the time the operation in freeing the fistula sufficiently to allow the anterior lip being drawn back into the vagina from the bladder, where it appeared to be somewhat strangulated by the edges of the fistula which had contracted around its upper part.

On the fifth day after the operation the nurse noticed that the bed was wet and urine continued to dribble afterward. The sutures were removed on January 17th, or the eighth day after the operation; five of them had sloughed out, and were loose in the vagina; these stitches were at the right angle of the wound. Notwithstanding this unfavorable symptom, twenty-five days after the operation no fistulous opening could be found and the bladder filled with milk failed to show any escape into the vagina. The patient herself had noticed no moisture from the vagina for several days previously and she was thought to be cured. It was proved, however, in the succeeding month that she was not entirely relieved, and she entered the hospital again May 14, 1884, and a minute fistula was found at the right angle of the former wound which after denuding, was closed with five silver sutures. The result was perfect and she was discharged, cured, June 3, 1884.

The nearly complete plugging of the fistula by the anterior lip of the cervix, as well as the cause

of the fistula in this case, seem to make it noteworthy.

#### CASE IV. VESICO-UTERINE FISTULA.

Mrs. A. B. was brought to me on October 9, 1884, by a physician of this city, and gave the following history: She was fifty years of age, had been married thirty years, and had had ten children and two abortions. The menopause was established at forty-seven. Twenty-four years before, after a hard and tedious confinement, the head remaining impacted for a long time, she first noticed a dribbling of urine by the vagina, which continued afterward, requiring the use of ten or more napkins a day. The urine flowed away most freely when standing. She could at times retain about four ounces in the bladder and expel it through the urethra.

On examination the fistula could not be detected, and she was advised to enter St. Margaret's Home, and, when etherized, to perfect the examination, and on discovery of the fistula close it at once.



Fig. 4.

October 29th. Ether was given, and a small fistula found communicating with the cervical canal anteriorly about midway between the internal and external os uteri and the bladder. The uterine terminus of the fistula was so small that it barely admitted Emmet's probe, and it was with considerable difficulty that its opening could be discovered, on account of the atrophied state of the uterus, the small size of the os uteri externum, and the somewhat narrow vagina. The anterior lip of the cervix was cut through in the median line down to the fistula, which was then denuded and closed with five silver sutures, the innermost and uppermost suture being turned through the cervical canal and out of the os externum, the remaining stitches uniting the substance of the cervix as in an anterior laceration of the cervix. She had no unfavorable symptoms; four of the sutures were removed on the seventh day and the fifth or uppermost one was left for a month. Union was perfect and the relief complete.

The case is an interesting one, as illustrating the method of the establishment of this class of fistulas from an anterior laceration of the cervix uteri, and the possibility in such a labor of the tear extending beyond the cellular attachment of the bladder to the supra-vaginal cervix into the body of the uterus. It is also worthy of note that, although the urine was constantly flowing through the uterine canal, yet it did not prove a barrier to conception, as she

gave birth to several children after the establishment of the fistula.

In reviewing the cases reported I would remark that a departure was made in the first instance from the general rule which I follow of either allowing the patient to pass the urine after the operation or, if unable so to do, of having it drawn each two or four hours. This was done, as it was thought the patency of the urethra would be surely established by the self-retaining catheter.

The second and third cases showed the advantages of the method of freeing the parts at the time of the operation by cutting the cicatricial bands and thus exposing the fistula sufficiently to denude and close at once, instead of the more tedious way of gradually freeing it by traction and cutting a little at a time, occasioning the patient much more suffering.

In the way of suggestions, I would offer the following:—

First, That in performing this operation more than the usual number of stitches be used; that is, instead of passing five or six to the inch, put in ten or twelve, and then let the patient pass the urine herself, and if we can do without the use of the catheter we can reduce to the minimum the danger of cystitis.

Second, Watch carefully the condition of the urine, and on the first indication of an excess of mucous or ammoniacal odor, give benzoate of ammonia, and if, in spite of this, cystitis is established, frequently wash out the bladder with borated water.

I am indebted to both Drs. F. H. Davenport and J. W. Elliot for their assistance in the operations and subsequent care of three of the cases reported.

#### THE RECENT INVESTIGATIONS CONCERNING THE ETIOLOGY OF CHOLERA.<sup>1</sup>

BY R. H. FITZ, M.D.,

Professor of Pathology in Harvard University.

The evidence against the constant presence of comma-bacilli in cholera may be said to have begun with the report of the French Commission. Although numerous microorganisms were found in the intestine, and some formed a sort of pure cultivation, there were none resembling the comma-bacillus of Koch. Its examinations of the blood and various organs with reference to the constant presence of any special form of bacillus were negative.

Lewis, in the article previously referred to, although finding comma-bacilli more or less conspicuously present in all of the numerous specimens of dejections from cholera patients in Marseilles, objected to their consideration as the *matrices morbi*. His objection was based chiefly on the assumption that the comma-bacilli were identical with forms obtained from the mouth, and on the observation of additional, totally different, organisms in the intestinal discharges in cholera.

Ceci and Klebs report that comma-bacilli are not invariably present in the feces of cholera patients or in the intestinal contents of the bodies of those

who have rapidly succumbed to the disease. It is obvious from what Koch has already communicated that, in doubtful cases, cultivations are necessary, owing to the small number of comma-bacilli present, and their frequent admixture with other organisms.

The Bavarian government sent Dr. Emmerich to Naples to make pure cultivations of Koch's comma-bacilli. From an abstract of the report of this investigator it appears that he was not content with finding a peculiar microorganism in the intestinal contents, and apparently nowhere else, in cases of cholera, but endeavored to discover specific organisms in the organs and tissues. Although he found comma-bacilli in the intestinal contents in certain instances, he laid greater stress upon the presence of a bacterium. This was obtained in cultivations from blood taken during life, and in others from the kidneys, liver, lungs, and spleen of nine persons who had died of cholera. The same bacterium was found in the dejections, in the intestinal contents after death, and in sections of the wall of the intestine.

Emmerich's paper is criticized sharply and at considerable length by Flüge, of Göttingen, who finds that his observations and experiments are not free from errors, and his conclusions not sufficiently justified.

Klein and Gibbes claim that comma-bacilli are found in epidemic diarrhoea, dysentery, and in the intestinal catarrh of phthisis, as well as in the intestines of cases of cholera. They did not find the comma-bacilli in such numbers and with such frequency in acute, typical cases of cholera as to justify Koch's statement that the ileum contains almost a pure cultivation of comma-bacilli. They deny the presence of comma-bacilli in the tissue of the intestine. They find straight bacilli in mucous flakes taken from the ileum of cases of acute cholera soon after death, even when comma-bacilli are not seen.

These adverse criticisms are controlled by the number of supporting observations, some of which are reported in such detail as to leave but little doubt of their value. Nicati and Rietsch were among the first to confirm Koch's views with regard to the presence of the comma-bacilli in the intestinal contents in cases of cholera. Van Ermengem's observations were alike confirmatory. Doyen examined the intestinal contents and viscera from cholera patients soon after death. The comma-bacillus was found in all cases, and as pure cultivations in the duodenum and upper part of the ileum in rapidly fatal cases. In those more protracted they were found mixed with bacteria in the ileum. He does not mention their presence in cultivations from the blood, liver, spleen, and kidneys, but finds other varieties of microorganisms.

Pfeiffer examined the stools of twelve cases of cholera, and found comma-bacilli in all. In three, rapidly ending in death, the intestinal contents at the post-mortem examination consisted chiefly of comma-bacilli. A microscopic examination of the intestinal wall in one instance showed comma-bacilli in the gland crypts. Controlling observations were made, but with negative results. In all but two cases of cholera out of fifteen examined by Babes comma-bacilli were found. In seven they were so

<sup>1</sup> Concluded from page 199.

few and so mixed with other organisms that he could not form an absolute diagnosis with regard to their nature.

Cultivations from five protracted cases, lasting from six to ten days, gave negative results in two instances, although several plates were prepared from one of them. He never found comma-bacilli in intestinal contents except in cholera.

The weight of the evidence thus far recorded is distinctly confirmatory of Koch's claim of the constant presence of characteristic, well-defined micro-organisms in the intestinal contents of cases of cholera, and nowhere else except in direct connection with the latter. In his own words, "the comma-bacilli are specific bacteria found only in Asiatic cholera."

The question now arises for consideration as to the relation borne by the comma-bacilli to cholera.

It follows directly, if the above statement be regarded as proved, that, in the first place, they are to be regarded as diagnostic of Asiatic cholera. The importance of this discovery needs no elucidation. The possibility of recognizing the first case of cholera in any given community, no matter how slight or how abnormal its symptoms, is capable of proving of immense value in permitting appropriate measures to be taken to prevent the spread of the disease.

But Koch claims still more for his discovery: he regards it as proved that the comma-bacilli are the cause of cholera.

When this statement was made at the Berlin Conference he acknowledged the negative results of all his attempts at inoculating the disease in animals. It is needless to say that these were as numerous and as varied as possible. He felt obliged to come to the conclusion that the animals used, and others ordinarily in communication with man, have an immunity from cholera, there being no well-authenticated instances of cholera in animals. At the same time he considers the existing facts sufficient to justify the claim that the comma-bacilli are the essence of cholera. His argument is essentially as follows:—

(1) They are constantly present in the disease and nowhere else.

(2) They are always found in immense quantities, and usually as a pure culture on the linen defiled with dejections from cholera patients.

(3) It is generally admitted that the disease is often transmitted through the soiled linen, and when such transmission occurs the comma-bacilli are the only organisms in question.

(4) Their occurrence corresponds with the pathological changes in the body and the course of the disease.

(5) The entire etiology of cholera is in harmony with the qualities of the comma-bacilli.

In explanation of the fourth proposition, it is stated that the comma-bacilli grow very rapidly, their vegetation soon reaching its height. With its cessation the comma-bacilli are finally overcome by other bacilli. These features in their growth exactly correspond with what takes place in the intestine in cholera. It is easily conceived that with the admission of even a single bacillus into the intestine a rapid increase may take place, which, when it

reaches a certain point, may occasion irritation and diarrhoea. When the progressive increase has reached its maximum the peculiar symptoms of the attacks of cholera may be considered as present.

The infection of individuals with soiled linen was regarded as equivalent to experimental proof of the production of cholera by inoculation with comma-bacilli. The tank affair, previously referred to, was regarded in the same light. When the epidemic was at its height the comma-bacilli were found in the water in tolerable abundance, and in many places along the tank. The abundance was such as to necessitate a multiplication. Later, when only solitary cases of cholera occurred, the bacilli were found only in one place and in small quantity. If the sick had furnished the bacilli, the latter should have been far more abundant at the second examination.

In reply to the argument, based on the above experience, Pettenkofer claims that for this observation to be of value comma-bacilli should have been found in the tank before the cholera made its appearance in the vicinity. It was natural that they should be found in the water after the foul linen was washed in the tank. Their disappearance with the cessation of the epidemic was a natural consequence of the fact that there were no more clothes from cholera patients to be washed.

Koch's attempts at producing in India a disease among animals resembling cholera were negative. Since his return, however, inoculations have been made, and are claimed to be successful. The assumption that the comma-bacilli are the immediate cause of cholera thus appears to have met with experimental proof. Nicati and Rietsch were the first to report favorable results from the inoculation of animals—dogs—with the bacilli of cholera. The intestinal contents from cholera patients or cultivations of cholera-bacilli were introduced into the duodenum. After one or more days the animals died. The symptoms occurring corresponded with those met with in acute and rapidly fatal cases of cholera in man. The intestinal contents consisted of a milk-like pap, rich in epithelium, and containing immense numbers of comma-bacilli. They resembled those of the intestine in acute and rapidly fatal cases of cholera in the human species. Where large quantities of virulent material were introduced into the stomach and duodenum of Guinea-pigs the comma-bacilli were developed.

Koch repeated these experiments, using scarcely the hundredth part of a drop of the product of cultivation. After its injection into the duodenum the animals died within three days. The mucous membrane of the small intestine was found to be reddened, the contents watery, flocculent, and either colorless or pale red. The comma-bacilli were found in the intestinal contents as a pure cultivation, and in extraordinary quantities. The appearances were such as are found in the intestines in recent cases of cholera. He considered that the possibility of a simultaneous poisoning from toxic material contained in the cultivation was eliminated by the small quantity of the infective fluid used.

Van Ermengen obtained satisfactory results from the inoculation with pure cultivations of dogs, rabbits, and Guinea-pigs. Three out of four Guinea-

pigs died within three days after the inoculation, and the results of the post-mortem examinations were like those in cholera.

Doyen also claims to have produced cholera in Guinea-pigs and dogs. A Guinea-pig inoculated from a cultivation by Babes died after three days, and the intestine showed the changes found in cholera.

The results of these inoculation-experiments show that the comma-bacilli possess decided pathogenic properties. Whether the disease thus produced in animals is to be regarded as cholera must still remain an open question. Pathogenic properties must also be claimed for the bacteria which Emmerich obtained from cases of cholera if they prove to be pure cultivations. He believes that the lesions, especially of the small intestine, resulting from his inoculations simulate those in persons who have died of cholera. The alterations are described as varying from a simple desquamative catarrh, with intestinal contents resembling rice-water, to hemorrhagic exudations and ulcerative destruction of the mucous coat. The larger the quantity used for inoculation the earlier the fatal termination, and the more protracted the course of the disease the greater the severity of the intestinal lesions.

In his criticism of Emmerich's report Flügge states that, although cholera-like conditions resulted from inoculations with some of the cultivations, the evidence is not sufficient to warrant the diagnosis of Asiatic cholera. He further maintains that the described alterations of the intestines are by no means rare after injection with fission-fungi, which have no relation to cholera.

The foregoing analysis, based essentially upon abstracts from the various authors referred to, seems to justify the following conclusions:—

(1) A well-defined characteristic organism—the comma-bacillus of Koch—is to be found in all cases of cholera, especially during the earlier stages of the disease. It is never found except in connection with cholera.

(2) It is present in such quantities and under such circumstances as to indicate that it has an important influence in producing the symptoms and spread of the disease.

(3) When introduced into the intestine of certain animals it occasions alterations of the intestine, especially of the small intestine and its contents, resembling in appearance and in composition those found in cholera.

(4) A thorough appreciation of the properties of this organism is, therefore, essential for the early recognition of suspected cases of cholera, and especially for intelligent attempts at preventing the origin and spread of this disease.

The growth of the comma-bacillus demands a moist medium, a certain temperature, and a suitable soil. Its transfer in an active state requires agencies other than the atmosphere, since dried bacilli are incapable of reproduction. The various observations and experiments show that the comma-bacillus is not only present in the discharges and on the soiled garments of the patient, but is also to be found in water which is drunk and which is employed for various household purposes. Among the latter are to be included its use in preparing

food, in cleaning dishes and various utensils, and for bathing purposes. Babes reports that the comma-bacillus is capable of retaining life for at least forty-eight hours on feces, cheese, fresh vegetables, potatoes, fruit-juices, in sweetened water, chocolate, and coffee. It could be cultivated after remaining seven days in the water of the Seine and in that supplied through the Berlin aqueduct. The cultivations in gelatine and Japanese isinglass are capable of reproduction after a period of weeks and months. It grows upon various articles used as food, such as carrots, cabbage, boiled potatoes, pulse, fresh meat, boiled eggs, and in milk and broth.

The intestinal contents of the patient during the early part of his illness constantly offer favorable opportunities for the propagation of the bacillus. Abundant material outside his body serves both for the reproduction of the bacillus and for the preservation of its vitality for a long time. In the latter event the transfer to a suitable soil at once permits an active growth. These facts are sufficiently explanatory of the wide differences in the period of incubation of cholera, extending from two days to several weeks, twenty-four days in one instance being referred to by Eichhorst.

The effect of the various levels of the soil-water in the aetiology of cholera, to which Pettenkofer attaches so much importance, admits of a ready explanation in the light of Koch's researches. Provided that suitable nourishment is at hand in a damp soil, the lowering of the water-level favors stagnation and the concentration of nutriment. The bacilli have not been found in air exhaled from the lungs of patients, nor is it likely, in the light of the late researches, that atmospheric currents can transfer the contagium to any considerable extent, as claimed by Pettenkofer. Koch recognizes the possibility of the transmission of active bacilli by means of the air as an exceptional occurrence, but only for short distances, as in the vaporizing of contaminated water sprinkled in streets and inhaled into the mouth and swallowed.

The doctrine of individual predisposition, which also occupies a prominent position in the aetiology of cholera, is readily explained by Koch in accordance with his view that the comma-bacillus is the cause of the disease. It appeared from experiments on animals that under ordinary circumstances the vitality of the comma-bacillus is destroyed in the stomach. The individuals universally regarded as predisposed to cholera are those suffering from indigestion, gastric or intestinal. The rapid transfer of the contents of the stomach to the intestine, especially of masses of partly digested food, offers an easy passage of active bacilli to the alkaline fluids of the small intestine.

The action of the comma-bacillus in producing the symptoms of cholera is regarded by Koch as chiefly toxic in virtue of its assumed products. The history of various bacterial processes indicates that such a poison may be produced, and comma-bacilli are not found in the blood of patients or of animals who have been infected through the intestine. In rapidly fatal cases, with evidence of paralysis of the circulatory apparatus, but little fluid may be exuded from the vessels. In such instances death cannot be attributed to inspissation of the blood.

In a series of feeding experiments on swine by Dr. Richards, referred to by Koch, some of the animals fed with dejections from cases of cholera died within fifteen minutes; others within two and a half hours. So rapid a death was distinctly suggestive of a toxæmia. In the typhoid stage of cholera it is considered probable that the symptoms are in part determined by the absorption of the products of other bacteria, which are found in abundance in the putrid intestinal contents.

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A CASE OF PELVIC ABSCESS FOLLOWING CHILD-BIRTH.<sup>1</sup>

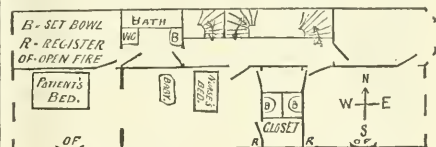
BY E. J. FORSTER, M.D.

For the second time in the same house, at about the same season of the year, I delivered Mrs. X., after a short and natural labor. Two doses of chloral, three quarters of a grain each, were given half an hour apart. Everything progressed well until the morning of the third day, when the temperature was found to be 103.2° F.; this fell to 102° F. toward afternoon, and was attributed, erroneously as I now think, to mental worry. The evening of the fourth day the temperature was again 103° F. A local cause was then looked for and found in a slight laceration about the perineum; this was immediately touched with nitrate of silver, and the morning temperature was found to be 99° F., and the patient's condition in every way satisfactory. On the evening of the sixth day, the temperature being nearly 105° F., the lacerations about the perineum were dusted with iodoform. The next day the temperature was 102° F. in the morning, and reaching 105° F. in the evening, a vaginal examination was made and a laceration of the cervix found; this was wiped clean and thoroughly dusted with iodoform. The following day the temperature was normal in the morning, only reaching 99° F. at night. I thought that we should then have continued improvement; but instead the temperature gradually increased and the

general condition became less favorable, and on the tenth day I felt that an inter-uterine injection was indicated to eliminate any further source of poison. One was given, as I thought thoroughly; but I am convinced it was not, though I gave it myself; for the temperature rose the following night to 105° F., when the douche was carefully repeated and some shreds brought away, the temperature then falling to below 100° F. the next morning, and two days later reaching normal.

The general condition during this time was indicative of septicæmia: there were restlessness, diaphoresis, scanty supply of milk, slight show, the latter not offensive, owing no doubt to the vaginal douches and the applications of iodoform which were daily used. The general treatment consisted of quinine, and nourishment by milk, eggs, and alcohol in the form of punch.

The fifteenth day the amount of milk in the breast increased, and the temperature rose to 102° F. The next day the nurse was taken sick with a follicular tonsillitis, and the patient's temperature rose to 104° F. This sickness of the nurse and the increase in temperature led me to think that there might be some cause other than the patient's own discharges for the septicæmia. A careful examination of the plumbing and drainage was made and nothing was found amiss. I submit a plan of the rooms of the floor occupied



by the patient. The open fireplace (in which a fire was kept) and windows gave good ventilation, and the bathroom was sufficiently removed not to be looked upon with serious concern. On the twentieth day a slight induration was noticed in the anterior cul-de-sac, which a day later discharged a drop or two of pus, when opened by a small incision. On the twenty-second day the temperature for the fourth time reached normal, and a slight show appeared. On the twenty-fifth day a bulging of the posterior vaginal wall was detected, and some tenderness in the left inguinal region on deep pressure, and some dull pain on changing posture. This was the first that any abdominal pain was present, though daily sought for. On the twenty-seventh day fluctuation was clearly defined in the posterior cul-de-sac, and on the twenty-ninth, the patient being etherized, with Dr. Baker's assistance and coincidence as to the proper course to pursue, the presence of pus was demonstrated by the aspiration and a free incision made evacuating a full teaspoon of pus. The sac of the abscess was thoroughly washed out with a Davidson syringe. The washings were continued at first twice, then once, daily, for about two weeks, when the tip of the syringe could no longer be introduced. The only rise in temperature of moment after the operation was on the second day when the common nozzle of the syringe was found not to be long

<sup>1</sup>Read before the Obstetrical Society of Boston, December 13, 1884.



to side, the patient meanwhile moaning slightly. The radial pulse on the right side was very weak; that on the left was almost imperceptible—78 per minute. The left arm and leg were quite paralyzed so far as could be determined. There had been slight vomiting.

On palpation over the præcordia, the cause of the patient's puzzling condition was discovered. A knob of about the size of a large pea was felt adhering to the chest-wall in the situation of the apex-beat; and this object proved to be the head of a large steel shawl-pin, three and three-eighths inches long, which the patient had thrust into her chest in a direction inward and slightly upward and to a depth of two and three-quarters inches. The pin was at once withdrawn and stimulants were given; almost immediately the heart's action began to gain in force, the pulse becoming stronger and steadier; consciousness returned. For some time there was very urgent dyspnoea, and the patient complained of pain in the præcordia, but these symptoms disappeared within an hour. The paralysis of the left side vanished, the pulse became steady and stronger, and the patient fully recognized what went on around her. On the following day she complained of some pain at the situation of the puncture. Her recovery proceeded without interruption.

**II. Recovery after the Passage of a Ramrod through the Brain.** Dr. G. Fischer reports the following:<sup>6</sup>

Through the accidental discharge of a carbine while it was being unloaded, a young man of seventeen received the following injuries: the ramrod was driven into his back at the right<sup>6</sup> side of the fourth dorsal vertebra, passed along the chest cavity, up through the right side of the neck, entering the base of the skull and traversing the brain, and protruded thirty centimeters (eleven and three-quarters inches) above the top of the head on the left side. The ramrod thus passed through the sphenomaxillary fossa, then through the right half of the sphenoid bone. The left frontal lobe must have been penetrated by the missile. The length of the wound, from the fourth dorsal vertebra to the left frontal bone, was thirty-five centimeters (thirteen and three-quarters inches); the length of the ramrod was fifty centimeters (nineteen and five-eighths inches).

The first symptoms after the injury were those of concussion of the brain; while after removing the rod, four hours after the injury (to accomplish which blows with a hammer were necessary), symptoms of compression appeared, due probably to hæmorrhage within the cranium. There was transient loss of memory; and, from the fourth to the twelfth day, escape of cerebro-spinal fluid from the left nostril. Pus was discharged from the right ear on the seventeenth day. Six weeks after the injury, atrophy of the right optic nerve was detected. Other symptoms had then disappeared. The wound in the head had healed on the thirty-fourth day. Eleven months after the injury the man was in a healthy condition, with the exception of the atrophy of the optic nerve.

**III. Rapid Recovery after Wound of the Stomach and Protrusion of Viscera.** Dr. Tansini reports<sup>7</sup> that a peasant was admitted under his care in the hospital at Lodi, with a wound three and a half inches long in the left hypochondrium. Through the wound protruded the stomach, the transverse colon, and a large part of the great omentum. On the anterior surface of the stomach was a wound, an inch and a quarter long, through which the mucous membrane bulged so as to fill it. This wound was closed with catgut sutures. The displaced viscera were cleaned, the external wound was enlarged, and the organs were returned. The peritonæum was cleansed through the wound by introducing pledgets of carbolized gauze soaked in warm carbolized water. The wound was finally dressed antiseptically. No fever supervened. Convalescence was uninterrupted, and the patient was discharged, well, twenty-six days after his admission.

**IV. Resuscitation and Recovery after Apparent Death by Hanging.** Mr. Ernest W. White, senior assistant medical officer in the Kent Lunatic Asylum, details an extraordinary case of resuscitation as follows:<sup>8</sup> A woman, an inmate of the asylum, where she was under treatment for melancholia, after several attempts at suicide by drowning and strangulation, eluded her attendants one afternoon, and was found suspended by the neck from a ladder, by means of portions of her dress and under-clothing tied together. She was discovered and cut down eight minutes after she was last seen. In three minutes more the medical officer reached her and immediately began artificial respiration. At this time her condition was as follows: her eyes were prominent, the corneæ glassy, the pupils widely dilated and insensible to light, the conjunctivæ without reflex irritability. The lips were livid, the tongue was swollen, the skin was ashy pale and inelastic. There was an oblique depressed mark on the neck, most conspicuous on the left side. The small veins and capillaries of the surface were turgid, and the surface temperature was low. There was no radial or temporal pulse, and no definite beat of the heart was recognizable by the stethoscope. There was absolute cessation of all natural respiratory efforts, complete unconsciousness, total abolition of reflex action and of muscular contractility under galvanic stimulus. The urine and faeces had been passed during or immediately following the act of suspension.

Inspiration and expiration were artificially imitated about ten times in the minute, the chest being compressed with expiration. The lower extremities were raised, and manual centripetal friction was used. In ten minutes there was the feeblest possible effort at natural respiration—a single weak, spasmodic contraction of the diaphragm. Simultaneously occurred very distant, weak, reduplicated cardiac pulsations, detected by the stethoscope. During the next half-hour artificial respiration was continued till the breathing was fairly, though feebly, established; the skin began to lose its deathlike hue, and reflex action of the pharynx could be excited. Flagellation with wet towels was

<sup>6</sup> Deutsche Zeitschr. f. Chirurgie, xviii., page 411; Phil. Med. Times, March 8, 1884.

<sup>7</sup> Gazzetta degli Ospitali, Nov. 12, 1884; Lancet, Nov. 22, 1884.

<sup>8</sup> Lancet, September 6, 1884, page 601.

now used with manifest benefit in stimulating the respiration. In about two hours a radial pulse was felt. After two hours and thirty-five minutes the woman was put to bed. Great restlessness and jactitation ensued with the renewal of the circulation in the extremities. The lungs threw off a great amount of extremely fetid organic matter, tainting the whole ward. Consciousness did not return till the following morning. At this time the woman's pulse was 140; she was drowsy, and her mind was confused. There was no sign of pulmonary engorgement beyond some slight basilar hypostasis. She complained of general rheumatic-like pains. Her subsequent progress to full recovery was continuous though slow. She declared that she recollected the impulse which led her to hang herself, and remembered the act of suspension; but from that time, for two days, her memory was wholly obliterated. Her mental convalescence began from the time of this suicidal attempt and its fortunate management by the asylum physicians.

### Therapeutic Memoranda.

#### COCAINE IN THE DILATATION OF URETHRAL STRICTURES.

BY ROBERT B. DIXON, M.D.

During the past month I have used in three cases of stricture of the urethra a four per cent. solution of cocaine previous to inserting, for dilatation of the canal, Otis's conical sounds. Half a drachm of the solution was injected into the urethra from a subcutaneous syringe, with the needle removed, and was retained from five to ten minutes in the different cases. In none of the cases was the stricture contracted below a No. 28 sound, and the sounds were inserted to the full size of the canal, varying from a No. 32 to a No. 34 sound, with usually little or no pain. In two of the cases sounds had been used previously to the injection of the cocaine solution, and always with considerable pain and uneasiness. The sense of relief experienced by those who had had sounds introduced both with and without cocaine was greatly in favor of the employment of the drug.

Its cost (\$1.25 per drachm) is against its being freely used as gradual dilatation of the urethra is generally practised, especially when the stricture is contracted below a No. 26 or No. 27 sound; but in those cases where there is but slight contraction, and the introduction of sounds at one sitting is sufficient to dilate the canal to its full calibre, cocaine is very efficient, and in all probability will soon be frequently employed in the dilatation of slight urethral contractions.

—The friends of the Garfield Hospital in Washington have asked for an appropriation of \$15,000 from Congress to meet the running expenses of the hospital.

—We understand that *The Index Medicus* is to be continued under the same conditions as heretofore, under the auspices of the publishing house of Parke, Davis & Co.

### Reports of Societies.

#### MASSACHUSETTS MEDICAL SOCIETY

##### COUNCILORS' MEETING.

A STATED meeting of the Councilors was held at the Medical Library, Boston, on Wednesday, 4th inst.

The meeting was called to order at eleven A.M., by the President, Dr. C. D. HOMANS. Sixty-nine Councilors indicated their presence by signing the roll.

##### APPOINTMENT OF DELEGATES AND COMMITTEES.

On nomination by the Chair the following delegates to other State Medical Societies were appointed:—

*Maine:* Drs. J. E. Pratt, of Sandwich; T. R. Clement, of Centreville.

*New Hampshire:* Drs. C. C. Pike, of Peabody; C. C. Odlin, of Melrose.

*Rhode Island:* Drs. J. R. Bronson, of Attleboro'; B. D. Gifford, of Chatham.

*Connecticut:* Drs. G. W. Munsell, of Harwich; S. T. Davis, of Orleans.

*New Jersey:* Drs. G. W. Doane, of Hyannis; R. H. Fauce, of Sandwich.

Committees were appointed:—

*To Audit the Treasurer's Accounts:* Drs. J. O. Marble, I. H. Hazelton.

*To Examine the Library:* Drs. Z. B. Adams, A. H. Johnson.

*To Examine the By-laws of District Societies:* Drs. S. D. Presbrey, J. C. White, F. W. Chapin.

In accordance with the recommendation of the Committee on Medical Diplomas it was

*Voted,* That the following Medical Schools be added to the list of Colleges whose degrees are recognized by the society:—

University of Berne, University of Zürich, Woman's Medical College of the New York Infirmary, Woman's Medical College of Pennsylvania, School of Medicine in Paris.

It was also voted that graduates of all foreign Regular Medical Schools which are under government supervision, and graduates of all foreign Regular Medical Schools not under government supervision, who have obtained a license to practise in any foreign country, shall be eligible for examination by the Censors.

In case any applicant for admission (possessing a foreign medical diploma) should not belong to either of these two classes, the Censors shall refer the degree held by the applicant to the Committee on Diplomas, for instruction.

The Committee appointed at the meeting in October last to consider if it be proper to take steps to change the Constitution and By-laws in regard to Boards of Censors reported, through its chairman, Dr. Hazelton, that it is not advisable to take action toward the establishment of a Central Board of Censors. The Committee further stated that it seems desirable to call the attention of the several Boards of Censors to the lack of uniformity in the methods of examination in the different Districts, and suggested that some agreement be brought

about between them; avoiding too great strictness on the one hand, and too great laxity on the other, and securing this advantage in a measure by regular standards.

Dr. HARVEY called attention to the importance of taking immediate steps toward securing from the Legislature a law regulating the practice of medicine. Dr. TOWNSEND, chairman of the Committee appointed at the annual meeting of the Society "to advise, and secure, if possible, from the State Legislature, an enactment to protect the people from ignorant and incompetent practitioners of medicine," stated that the Committee had already taken steps in the duty assigned to it. He expressed the hope that when a hearing should be given, the members of the Society by their presence and influence would assist the Committee. After animated discussion it was voted that a committee of five be appointed from the Council to aid the Society's Committee in its petition to the Legislature.

The following were appointed to constitute the committee: Drs. G. C. Shattuck, B. E. Cotting, G. H. Lyman, H. W. Williams, A. Hosmer.

## PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

DECEMBER 13, 1884. The President, Dr. C. ELLERY STEDMAN, in the chair.

### UNUSUAL CASES OF VESICO-VAGINAL AND VESICO-UTERINE FISTULA.

Dr. W. H. BAKER read a paper on this subject.<sup>1</sup>

Dr. COTTING thought that the name of Dr. George Hayward should be included with those mentioned by the reader as one whose efforts had done much to establish the operation. Hayward was the first to operate in this country, and that too after the operation had been abandoned abroad.

Dr. BOARDMAN remarked that in his student days cases of vesico-vaginal fistula were of frequent occurrence, but of late years they are seldom seen.

Dr. RICHARDSON said that he could recall having seen only two cases of vesico-vaginal fistula in the out-patient department of the Massachusetts General Hospital during the years of his service there: he thought the rarity of the lesion in recent times was due to an improved practice in obstetrics.

Dr. BLAKE thought that there were as many cases of fistula now as formerly; but that now they were cured at the first operation and did not pass from one hospital or physician to another, and therefore the same case was not reported several times. He thought the relation of Hayward and Sims to the operation for the cure of vesico-vaginal fistula was analogous to that of Jackson and Morton to the discovery of the anæsthetic properties of ether. Hayward doubtless could claim priority; but it was Sims who had brought the operation into general notice, established its legitimacy, and made it popular with the profession.

Dr. BAKER said he was aware that different operators prior to Sims had cured isolated cases;

but he thought great credit was due to the man who rediscovers and popularizes an operation. Sims with great zeal devoted a large part of his time for three or four years to nine patients and eventually cured them all: he studied his failures and thus patiently perfected the operation. Dr. Baker thought this lesion was of much less frequent occurrence than formerly: in the Free Hospital for Women he had met with only ten or twelve cases in ten years. This comparative infrequency was in his opinion due to an improved practice of obstetrics. Most cases of vesical fistula can now be cured: there are, however, exceptional cases in which there is a great loss of tissue which can be cured, if at all, only by several operations. He recalled one remarkable case in which a large part of the base of the bladder and nearly the whole of the urethro-vaginal septum had sloughed away: Emmet performed thirty operations on this patient, gaining a little each time, until finally a complete cure was effected.

Dr. E. J. FORSTER reported a case of

### PELVIC ABSCESS FOLLOWING CHILD-BIRTH.<sup>2</sup>

Dr. BAKER said that he first aspirated the effusion to establish the diagnosis; then, using the aspirating needle as a director, he opened the abscess with a long, narrow-bladed bistoury sufficiently to admit the finger. He thought this method superior to the use of trocars, as they were too large to be wielded with equal delicacy.

Dr. CURTIS remarked that one peculiarity in deep-seated abscesses was the great variation in temperature without special reference to treatment: the temperature would often vary from 99° to a very high degree, was sometimes low at night and several degrees higher in the morning.

Dr. BLAKE did not think that these great fluctuations of temperature in post-partum cases were necessarily of much import; but a continuous high temperature was significant. More attention had been given of late years to the diagnosis of this affection, and cases which formerly were called inflammation of the bowels were now known to be pelvic peritonitis or pelvic cellulitis. Regarding the treatment of pelvic abscess Dr. Blake believed in evacuating pus with trocar and bistoury and in subsequent washing and draining of the cavity, rather than in waiting for spontaneous opening which might take place into the bladder or rectum. Dr. Blake further observed that pelvic abscess after labor does not necessarily prevent subsequent pregnancies, that is, the Fallopian tubes are not necessarily occluded; but after non-puerperal cases pregnancy is not likely to occur.

Dr. DOE alluded to a case in the City Hospital of a deep-seated abscess in the inguinal region, occurring after a first labor, which was instrumental: the patient was sick three months, but ultimately recovered, and has since been twice delivered.

Dr. SINCLAIR said that subsequent fecundity in such cases is influenced by circumstances and depends on the situation of the abscess: he had known abortion to follow pelvic abscess several times before finally the patient came to labor at term. He thought that pelvic peritonitis followed or accompanied by abscess was one of the most

<sup>1</sup> See page 193.

<sup>2</sup> See page 196.

difficult cases to manage; but he believed in the expectant treatment, as it was hard to locate the pus and to know where to open: in this opinion, however, he believed he stood nearly alone in the society.

DR. REYNOLDS said: Pelvic abscess, occurring in the course of puerperal disease, is a comparatively rare event. We should bear in mind the truly conservative effort which it implies. The results may be exceedingly grave; but the fact of the limiting of the pus by the walls of the abscess in itself makes recovery possible, at times through judicious surgical interference, at times by the escape of the offending material through some natural outlet. Two remarkable cases illustrating this fact come to mind. I saw repeatedly some years since in a neighboring town a primipara, who had been many days under most thoroughly skilful hands, but whose temperature, pulse, and general condition continued to give the greatest cause for alarm. Clear evidence that pus existed could not be gained; but with rare judgment and skill Dr. W. H. Baker aspirated deeply, through the abdominal walls, a doubtful spot at the right lateral border of the uterus, and withdrew perhaps two drachms of fetid pus: the threatening symptoms subsided at once, and there was no further interference. The patient made a good, though slow, recovery.

About four years ago, a young and strong primipara, eclamptic, was with much difficulty delivered by forceps at term of a male child, dead. During the second week of the lying-in she became very ill, with a rapid pulse and high temperature, and she remained in that condition for many days. Pus was at intervals discharged from the vagina. In order to secure the best opportunity for the frequent use of the intra-uterine douche Dr. Baker introduced for me a hard-rubber drainage-tube into the uterine cavity and secured it in position. It was noticed that no pus followed the douche when given through this opening, though at other moments a free discharge came. I had conceived an impression that a passage had been formed through the uterine wall on the right side, and I was fortunate enough to introduce at that point a long hard-rubber nozzle, slightly curved toward the end: to my amazement this instrument, eleven inches in length, buried itself completely in the patient's body. Through it the abscess was most effectually washed out many times with carbolyzed injections. During the conduct of this case I had fortunately the presence and counsel of both Dr. W. L. Richardson and Dr. Baker. Dr. Baker agreed with me as to the course which my instrument pursued; but Dr. Richardson was not convinced that the tube had at any time entered the uterine cavity. Careful examination after convalescence showed the exact fact: at the right commissure of the uterine lips the wall had been torn through quite up to the internal os: the curved point of the instrument, reaching the angle at the top of this cleft, had passed out to the right and buried itself far up in the mother's abdomen. When a suitable time had elapsed the lacerated cervix was repaired under Dr. Baker's hand, though the depth of the tear made the operation unusually trying. No fixation of the uterus was ultimately left. The perineal body had

been deeply ruptured, the rent extending to the edge of the sphincter: complete restoration of the perineum was obtained. After a considerable interval pregnancy occurred, and a male child was safely delivered at term without accident. I have lately attended this patient in a third labor, when she gave birth to a large boy: the perineum remained unharmed. During the last lying-in some obscure sensitiveness presented itself at the site of the old abscess; but there was no other trace of the former injuries.

#### OBSERVATIONS ON THE CERVIX UTERI.

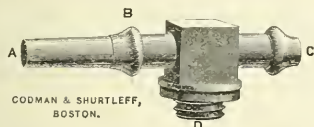
DR. JOSNER spoke as follows: The first observation which I report was made in the case of a young married woman, who aborted at the end of the third month in her third pregnancy. In neither of the previous labors, both at term, was anything discovered which bore any resemblance to the unusual condition that was found to exist at the time of the miscarriage. I reached the patient just as the contents of the uterus were passing into the vagina. I at once removed the ovum, and in doing so detected an elongation of the cervix such as I have before met with at that stage of pregnancy. In strong contrast with the firm and solid substance of the uterine body, and depending from it into the vagina, was the cervix in the form of a cylinder, fully twenty-five mm. in length; its lower extremity presenting an edge perfectly even and unbroken in its continuity; and its wall everywhere soft and flexible, with an estimated thickness of between two and three millimeters.

The second observation was made upon the body of a female fetus that was removed at an autopsy made in aid of a medical examination. In this case the pregnancy was supposed to have passed somewhat the seventh lunar month, the length of the child being 37 cm., and its weight 1,070 grams. On inspection of the genital organs the following condition was found: The length of the vagina was 30 mm., that is, eight per cent. of the whole length of the child. The uterine cervix projected into the vagina five mm., and to this fact I would call your attention with emphasis. The interior of the uterus was exposed by a section made through its anterior wall, and after the specimen had been immersed in alcohol for a short time the distinction between the body and the neck was very plainly marked, and the ratio of the latter to the former, in the matter of length, was as three to seven. The relatively large development of the inferior portion of the organ was a striking feature.

These observations possess a very great interest by reason of their relation to a condition which I long since described to this society, when I called its attention to that form of dystocia originating in tonic spasm of the internal os; and to make this relation, or rather resemblance, as conspicuous as possible I would in the shortest possible statement set forth three things: the excessive elongation of the cervix which is sometimes found in labors at term; the unusual development of the cervix noticed in the case of abortion, which was the subject of the first observation just now reported; the anatomy of the fetal uterus, as illustrated by the single case which I have described.

## APPARATUS FOR WASHING OUT THE BLADDER.

Dr. HOSMER exhibited an apparatus which he had designed to obviate the disadvantages of the double catheter and to facilitate the process of washing out the bladder. The difficulties and unsatisfactory results which attend the use of the double catheter are well known. In practice it constantly refuses to perform the reasonable duty assigned to it by the theory and construction of the instrument.



The wood-cut represents the apparatus in actual size: it is essentially a T, with a short body and two arms of unequal length. By means of the screw at D, it can be affixed to a (No. 1) Davidson syringe, in place of the nozzle. The arm C is intended to receive a piece, sixteen inches long, of 3-16 inch rubber tubing. The long conical tip, B A, is to be inserted into a catheter, the calibre of which may vary considerably.

The method of using is as follows: Place in the bladder a catheter as large as possible; make the connections already described, and carry the suction-pipe of the syringe to the bottom of a good-sized bottle containing the liquid to be used. Work the bulb until fluid escapes from the free end of the rubber tube; then, with a thumb and forefinger, compress the tube near the point C. By this manœuvre the liquid coming from the syringe is forced into the bladder. Continue to inject, slowly, until the patient experiences a feeling of slight distention; then remove the pressure from the rubber tube, and allow the bladder to empty itself. This alternating process must be repeated as often as is deemed necessary for the particular case.

For the male bladder the soft-rubber catheter is the best one, and may be fastened to the T before its introduction. For the female, preference is to be given to the gum-elastic catheter, reduced somewhat in its length.

The method here described offers all the advantage which accrues from the use of a catheter of large capacity. It also accomplishes perfectly the twofold object sought by the practice of washing out the bladder: first, to remove entirely that which is, or may become, foreign material; second, to unfold the diseased mucous membrane, and give it the full benefit of the direct application of a remedial agent.

In addition to these uses the new method furnishes the means of ascertaining, with a good deal of accuracy, the quantity of liquid which the bladder will receive, and the tension to which it may be subjected without serious discomfort. The former can be determined by the number of times the bulb of the syringe is compressed and emptied; and the latter by the degree of pressure that is felt between the thumb and finger which control the efficient current.

Dr. HOSMER alluded to a procedure which he had

found useful in relieving speedily the pain, sometimes serious, which is felt in certain cases of cystitis, as soon as the urine is evacuated: it is to throw into the empty bladder a small quantity (a tablespoonful) of infusion of slippery-elm bark, to which has been added from ten to twenty drops of laudanum. In one case, in the latter stage of convalescence, for the opium Dr. Hosmer substituted carbolic acid in very small proportion, and with very satisfactory results.

## THE USE OF ETHER IN PUERPERAL ECLAMPSIA.

Dr. REYNOLDS said: In accordance with an opinion which has been heretofore advanced by some of our members, I am strongly inclined to believe that in eclampsia continuous administration of ether will wholly prevent the recurrence of paroxysms. At any rate it is thought best to challenge from time to time the production of reliable evidence to the contrary. Ether thus employed should be given only by a physician. It must be so administered as to forbid any consciousness of discomfort or pain and to prevent restlessness. At the slightest indication of an approaching paroxysm it ought to be promptly carried to the surgical degree. The following case is briefly reported for its bearing upon these points:—

A woman, thirty-three years old, V-para, and supposing herself almost at term, had suffered in her first pregnancy severe eclampsia; then necessitating, at six and a half months, the induction of labor. On the present occasion she had been under medical observation. The urine, twice examined, was normal; its quantity continued abundant to the last. Nothing indicated danger. Her unusual health and spirits led her to make very imprudent exertions. There came a day of intense localized headache, with vomiting. I was called at evening. Ten minutes after my arrival she had a well-characterized eclamptic seizure. There was no evidence of labor. The os was soft and easily admitted the forefinger, the cranium presenting. As soon as ether could be procured she was put fully under its influence, Dr. C. M. Green and Dr. R. A. Kingman kindly giving me aid. The conditions were unusually favorable for prompt delivery. After rapid manual dilatation a foot was reached, and in fifteen minutes a small living male was born, apparently eight months advanced. The uterus contracted well. There was no hemorrhage. I remained with the patient till half-past twelve o'clock, frequently giving her ether for relief of pain. I then left her in charge of Dr. Kingman, who kindly offered to watch her. She slept. Ether was discontinued. At length the patient moved and stirred. Dr. Kingman decided to give her a solution of bromide and chloral, which was at hand, and for a moment he left the room to obtain it. A second convulsion of great severity occurred, there was extreme livor of the face, and the tongue was badly bitten. I was at once recalled, and from that hour till half-past ten in the forenoon following I stayed with her, etherizing her most of the time. When in health, Mrs. L. habitually snored in her sleep. One could not decide during these hours whether the labored breathing was the result of the convulsion, was due to the ether, or was

mainly the habit of the woman. Between five o'clock and half-past six the sleep became tranquil, and at that time no ether was given. At ten in the forenoon the temperature was normal, the pulse eighty, the intelligence perfect. Both mother and child did well. Just before the delivery, not less than six ounces of urine were found in the bladder, after an interval of eight hours. The urine was again removed at ten in the morning of the next day. Each of these specimens was carefully examined. The earlier one contained a few hyaline and finely granular casts. Four fifths of the mass formed a coagulum. The next time the amount of coagulum was reduced to one third of the whole. On the sixth day the specimen was normal; no cast could be found by most careful search. There was a bare trace of albumen.

I express my conviction that ether, given instantaneously, would have prevented the second convulsion; and that the tranquillity and opportunity for sleep which its subsequent administration secured to the patient largely influenced the prompt recovery. Under these conditions moderate anaesthesia may be safely kept up for a great number of hours.

This report, if relied on as proof of the foregoing statements, is evidently open to sharp criticism. It is rather presented as a challenge to bring out opposing facts, if such evidence can be produced.

#### PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, JANUARY 8, 1885. The President, DR. SHAKESPEARE, in the chair.

DR. SHAKESPEARE presented the following specimens:—

PRIMARY TUMOR OF THE LIVER IN A CHILD NINE MONTHS OLD.—AORTIC VALVULAR DISEASE, WITH RUPTURE OF ONE OF THE LEAFLETS.—MALIGNANT TUMOR OF THE KIDNEY.—A LARGE RENAL CYST.

The notes of the above cases are withheld for future publication.

#### SARCOMA OF THE CLAVICLE.

Presented by DR. G. E. DE SCHWEINITZ.

This specimen was sent to me by Dr. John Ashhurst for microscopical examination, and he kindly gives me permission to exhibit it to-night. The tumor occurred in the person of a young girl, S. L. B., aged sixteen, who came to him for treatment last August. She was a somewhat frail-looking, clear-skinned blonde, whose general health up to the time of the appearance of the growth had been satisfactory. The family history was good: none of the other five children composing the family presented any similar affection, nor was there any history of tumor for two generations back. The tumor began at the left sterno-clavicular joint as a small nut-shaped swelling, having arisen without known inflammatory or traumatic origin, although, as the father stated, they always believed that the patient had, in some way unknown to herself, received an injury at this point. The growth of the tumor was rapid, and at the end of five months stood out as a prominent swelling, as large as an orange, occu-

pying the inner two thirds of the clavicle, and was covered by somewhat reddened and thinned skin. Pain, although not constant, was at times a very severe symptom. On the seventh of last August Professor Ashhurst removed the growth, together with the inner two thirds or three fourths of the clavicle. Examination of the gross specimen shows it to be a spindle-shaped growth, about four inches long, three inches at its greatest breadth, and two inches deep, which has taken its origin in the medullary cavity of the bone, gradually, and become surrounded by a firm fibrous or periosteal capsule. The true tumor tissue is of moderate consistence and a reddish-brown color. Microscopic examination reveals the following points of interest: The capsule is composed of dense fibrous tissue, from which prolongations pass, dividing the tumor into numerous spaces, which are filled with small, round sarcoma cells. These spaces are in many places again divided by a delicate spindle-shaped tissue into small alveoli. In addition to the round cells, spindle-shaped cells are also seen in spots; giant cells are absent, or at least only a few multinucleated cells, relegated to the regions of the spindle cells are noted. The tumor, I think, should be classified as a small round-celled sarcoma, with an alveolar arrangement. If this tumor be accepted as a variety of alveolar sarcoma, it is somewhat unusual. Twice before this evening specimens of alveolar sarcomata of the long bones have been exhibited to this society: one of the femur by Dr. Nanerode, and one of the knee-joint by Dr. Formad. At that time Dr. Formad thought the variety of the sarcoma justified a rather more favorable prognosis than usual, while Dr. S. W. Gross, during the discussion, after referring to the somewhat unusual microscopical character of the tumor, thought the outlook for the patient was bad, as this variety of sarcoma is peculiarly fatal. Dr. Formad's prognosis was correct, because in that instance the patient was alive and well, if I am not mistaken, for some time after the operation, and may be now for aught I know. In regard to the result in the present case, I am able to speak quite definitely. Although the operation was most successful and the removal of the growth quite complete, the hæmorrhage insignificant, and the recovery of the patient satisfactory, in about two months after the operation the growth reappeared, either in the old wound or about two ribs lower. In this case, then, the truth of Dr. S. W. Gross's remarks has been only too thoroughly proved.

DR. SHAKESPEARE said that this specimen was of interest on account of the rarity with which similar ones had been presented to this society. Through the kindness of Dr. de Schweinitz he had the opportunity of examining sections from the growth, and thoroughly agreed with the exhibitor as to its nature.

DR. SIMES had also examined microscopic sections, and endorsed the statements made by the preceding speaker.

#### ALVEOLAR SARCOMA OF THE KIDNEY.

Presented by DR. M. LONGSTRETH.

The patient, J. E., aged nine months, was first under the care of Dr. McOscar, to whom I am

indebted for the specimens and this history, suffering from an attack of summer complaint. The patient was at that time three months old, and had been ill for a week or two. He was in a state of great emaciation, and upon examination of the abdomen a swelling was found in the right flank. The little patient recovered from the bowel trouble, but the general condition did not materially improve. During the remaining six months of life the child was only occasionally under observation, and at those times suffered from paroxysms of pain, apparently in connection with the tumor. The bulk of the tumor, as felt through the abdominal wall, did not seem to increase greatly up to his death. The urine was not carefully inspected. Three days before death the pain increased to great violence, and in this condition death came. The post-mortem examination showed the enlarged right kidney more firmly adherent to the posterior abdominal wall, and to the ascending colon and mesentery, as well as portions of the small intestine attached to its anterior surface. The diseased organ weighed fifty-two ounces, and presented itself as a rounded, slightly oval mass, regular in outline, smooth of surface, and with a moderately firm, elastic consistence. The capsular surface was of pretty dense, shining whiteness, with conspicuous small vessels passing over it. The section measured three and one-half inches by three inches in the two diameters; the tissue presented a very varied appearance. In parts it was of a dense white, perfectly homogeneous aspect; in others the pinkish-white mass showed streaks of yellow, with numerous small spots of red, and there were also large blood-red areas. In other parts the tissue was breaking down into cysts, of which several large ones were present, the largest of the size of an English walnut. The cysts were all situated on the periphery of the mass, but they did not cause any protrusion of the capsule. At the upper extremity of the mass there was found a portion of kidney tissue not invaded by the new formation. On section this portion occupied about half an inch of the long diameter of the mass, and was seen to be separated from the new growth by a thin partition of connective tissue; externally it showed itself like a lobule of kidney, fitting like a cap on the spherical tumor, as does the supra-renal capsule on the kidney itself. The microscopical examination showed the new formation to be a small, round-celled sarcoma. The greater portion of all sections presented cells nearly rounded in figure, imbedded in a perfectly homogeneous basis substance. The uniform area of cells was, however, interrupted by streaks of spindle cells running in narrow bands, inclosing greater or less areas of round-cell tissue. These circumscribed bands of spindle cells sometimes formed circular areas looking like the cross-section of a tube; in other places the bands pursued a very tortuous course, resembling the outline of a twisting, undulating tube cut in a longitudinal direction. The bands of spindle cells were never of great breadth, rarely more than four or five spindles. The spindle cells were not regularly or closely fitted, but were imbedded, like the round-cell elements, in a homogeneous basis substance. In the spindle-cell bands there were occasionally seen fine capillaries

filled with red blood corpuscles, which sometimes ran along for a considerable length; many other capillaries were seen cut transversely or obliquely; also in the spindle-cell tissue. Many areas of hemorrhage were visible. In many places a scanty fibrillar tissue, with various shaped nuclei, oval, angular, and spindle, was seen. This tissue was thrust in and filled the interstices between the areas of round cells, circumscribed by the spindle-cell tissue. Thus, in the section one passed from areas of round cells to the narrow bands of circumscribing spindles, and then into fibrillar tissue, with open meshes, apparently without any intercellular basis substance. The whole picture resembled the cortical portion of the kidney transformed by the presence of a new growth; the lumen of the convoluted tubes, greatly enlarged, was filled with a round-celled, homogeneous basis-substance tissue; the base membrane of tubes transformed into spindle-cell bands, and finally areas of hyperplastic intertubular connective tissue, in which or along the basement membrane of the tubes (spindle-cell bands) ran the intertubular capillaries. The left kidney weighed five ounces. On section it presented a normal aspect; the capsule separated easily, was not thickened, and the surface of the kidney remained smooth. The microscope showed no alteration of its tissues. The liver was large, smooth, blunt-edged, pale; under the microscope a very high degree of fatty infiltration was found. The other organs showed nothing especial to note. No secondary new formations were found.

### Recent Literature.

#### *A Practical Treatise on Fractures and Dislocations.*

By FRANK HASTINGS HAMILTON, A.B., A.M., M.D., LL.D. Philadelphia: Henry C. Lea's Son & Co. 1884.

Dr. Hamilton's Treatise is too well known to need extended comment upon the appearance of this its seventh edition. A considerable amount of new material has been added, and this, embodying as it does the results of recent observations and experiments, adds greatly to the already approved worth of the work.

#### *A Practical Treatise on Massage: Its History, Mode of Application, and Effects, etc.* By DOUGLAS GRAHAM, M.D., Fellow of the Massachusetts Medical Society. New York: Wm. Wood & Co. Pp. 280.

Dr. Graham's book calls attention to an important and rather neglected subject. There is no question that in "massage"—taking the word in its broadest possible sense, so as to make it include every form of physical exercise for the sick—we have to do with an agent that deserves the respectful attention of physicians. Some of the "irregulars" are better aware of this than we, and the result is that every now and then we are obliged to submit to the mortification of seeing our patients stray off to "respiratory cures" and the like, and return to us benefited and triumphant. Yet of medical men at large how many are there, even

among those who are in the habit of recommending massage, who have really devoted the same amount of study to its action that they have given to a single important drug in the pharmacopœia? Fortunately, this state of things is steadily passing away, and just as surgeons are ceasing to turn over their patients with club-foot or Pott's disease to the mercy of a surgical instrument maker, so physicians will not long continue to "try massage" without knowing just what it is that they are about to try.

Dr. Graham's book aims at collecting the scattered literature of this subject and incorporating with it the results of his own experience. He has certainly succeeded in making an interesting and evidently conscientious statement of what is known about the subject, and one which covers, so far as we know, almost the whole ground.

The mode of applying the different kinds of manipulation to the various parts of the body is clearly described; and the teachings of modern physiology are thoroughly utilized—even overutilized in one or two respects—to explain their mode of action. A long series of citations and personal observations illustrate the practical utility of massage in a great variety of diseases, such as nervous debility, uterine disorders, atony and other affections of the intestinal tract, paralysis, neuralgia, muscular rheumatism, sprains, diseases of the eyes, and catarrhal inflammations of the respiratory tract.

Notwithstanding the large and valuable amount of information which the author places at our disposal, and the fluency of his descriptions, the book has certain blemishes, not of fundamental importance to be sure, but which will often cause it to be read with impatience or thrown aside unfinished, even by some of those who are really interested in the subject-matter. There are too many jokes for a serious work, and too many irrelevant general remarks, especially in the clinical portion, for a critical monograph. Thus we judge the paragraphs given to the history of the Aryans (page 16) and to the question of the suitability of the "rest cure" for melancholia (page 111), and similar excursions. Poetical headings to each chapter impress us unpleasantly, as savouring of a desire (which we well know was not present) of making the book appeal to two sets of readers. The style is fluent, but too diffuse.

The writer is conscientious and fair in his manner of quoting the experience of others, as, for example, with relation to uterine and ocular diseases, but we think that even an excess of caution and of critical spirit could advantageously have been shown in this respect. Massage of the uterus especially is so distinctly a treatment for gynecologists to judge of, and to apply, that the discussion of it might have been advantageously curtailed. As a whole the book is interesting and valuable, but we should like it better if the writer had contented himself with a forcible and critical presentation of the evidence showing to what extent, and in what manner, massage acts on the different tissues and organs of the body, and using the clinical data, so far as possible, to illustrate the physiological action of the treatment, and to point out rather the morbid conditions than the diseases in which it is useful, but leaving it mainly to his readers to draw their own thera-

peutic conclusions. Of course, there are some diseases, such as neuralgia and constipation, where we cannot wholly explain the *modus operandi* of such a remedy, but must content ourselves with recognizing its practical utility. In fine, we recommend the book cordially to our readers. There are many typographical errors, but the writer, in his preface, explains the reason for their presence.

*Surgical Delusions and Follies.* By JOHN B. ROBERTS, A.M., M.D. Philadelphia: P. Blakiston, Son & Co. 1884.

Dr. Roberts deals with many delusions held rather by the laity and some physicians than by professed surgeons. Many of the points he makes are however excellent, and might well be considered by practising and hospital surgeons. He justly condemns the habitual use of sponges, and points out the advantages of clean linen and towels, or of absorbent paper for the cleansing of wounds during operation. His recommendation of always incising the scalp over a simple fracture of the skull before the appearance of symptoms of compression or irritation, "whenever there is the least suspicion as to the existence of depression or splintering," cannot be regarded as wise. What surgeon is so sure of obtaining antiseptic conditions over the hairy scalp as to willingly convert a simple fracture of the skull into a compound one, without very strong presumptive evidence of the necessity of interference. It would be hard to say, whether the folly is most conspicuous in the overconservative or in the overbold treatment of these cases.

*Women, Plumbers, and Doctors; or, Household Sanitation.* By MRS. H. M. PLUNKETT. New York: D. Appleton & Co. Pp. 248. 1885.

Mrs. Plunkett's book is a valuable addition to the rapidly increasing list of popular works on household and personal hygiene. The author has treated the subject with the evident object, as expressed in the preface, of arousing the interest and practical efforts of a new class—the women: to whom the volume may safely be commended as a satisfactory illustration of the comment on page 10, that "women can rise above the beaten paths of cookery and needlework to some purpose." The book is supplied with copious illustrations. The chapters on the house-cellar, the water-supply, sewerage, and overlooked channels of infection, are especially commendable.

In view of the recent action, or rather inaction, of Congress in regard to the united appeal of the representatives of State Boards of Health from all parts of the Union, the comments on page 228, entitled "Wanted, an Epidemic," beginning as follows, are especially timely:—

"The only thing that scourges Congress up to any worthy action is an epidemic, either in progress or threatening: so that, while other nations are inaugurating broad and wise and statesmanlike measures, our government stands in the attitude of the typical bad boy who is 'good' just as long as the impending switch is in sight, but returns to his evil ways directly it is laid away."

It appears that not even the "impending switch" has had the desired effect upon the present session.

# Medical and Surgical Journal.

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## THE RUPTURE OF VEINS.

THE accidental rupture of a superficial varicose vein is an accident of so frequent occurrence that few practitioners of long standing have failed to meet with an example. The rupture of internal veins of any size, in the absence of serious accidental injury of neighboring parts, is of so infrequent occurrence that few practitioners have ever thought of its possibility. The rupture of an artery giving rise to traumatic aneurism is a well recognized accident, but there are many reasons why the veins should escape similar injuries. The fact that veins are liable to rupture, and that a ruptured vein may behave like a ruptured artery, causing an affection analogous to that named traumatic false aneurism and requiring similar treatment for its relief, is set forth in an article by Dr. Henry B. Sands, in the December (and, we regret to say, the final) issue of *The Archives of Medicine*. That the accident deserves special consideration, by and for itself, Dr. Sands has well shown. That the subject is scarcely alluded to in systematic surgery is sufficient excuse, if excuse is necessary, for drawing attention to the matter here.

The case which drew Dr. Sands's attention to the subject was briefly as follows: A gentleman, fifty-one years of age, while walking in the street was suddenly seized with a sharp pain in the left thigh so severe as to compel him to return home in a carriage. On the following day slight swelling of the thigh was noticed, and three or four days later ecchymosis of the upper and anterior portion of the thigh and of the scrotum. Continued pain, increasing swelling, and extensive discoloration marked the progress of the case for the next two months. No positive diagnosis was reached. It was imagined to be scorbutic; it was suspected to be a traumatic aneurism. Two months after the attack the swelling occupied the inner and posterior portions of the upper two thirds of the thigh, the affected limb being six inches greater than its fellow. The skin covering the tumor was stained in various hues by blood which had evidently come from a deep-seated extravasation. Much of the swelling was indurated, but fluctuation was well

marked at its lower and inner part. At first sight it seemed to pulsate, but careful examination showed that the pulsation was limited to the femoral artery, which could be seen and felt beating from Scarpa's space as far down as the lower end of Hunter's canal, which had apparently become superficial in consequence of a displacement of the sartorius muscle from the pressure of the swelling beneath it. The tension of the tumor was only moderate, but the patient alleged that at times it had been very great: an item of the history which attracted little attention, but which was subsequently shown to be of great importance. No thrill or murmur could be detected, nor did compression cause reduction in its bulk. Pulsation could be felt in the arteries below the tumor. A hyperdermic syringe withdrew dark-colored semi-fluid blood but no pus. The effusion was recognized as coming from a vein, and absorption was still hoped for; but seventeen days later, suppuration being again suspected and some indications of septic poisoning appearing, it was decided to lay the tumor open by free incision; but during the administration of ether it suddenly grew large and became exceedingly firm and elastic. Such a change could be accounted for only upon the supposition that the cavity communicated directly with some large blood-vessel. On incision the swelling was found to be filled with blood, mostly coagulated. Most of the coagula were soft and dark-colored, but a globular mass, about the size of a lemon, which escaped last, was light in color, quite firm, and distinctly laminated. An elastic tourniquet allowed a satisfactory inspection of the cavity, at the bottom of which blood was seen trickling from a lateral opening in a vein of considerable size. The direction and situation of the vein was that of the *venae comites* of the profunda artery, and a ligature was applied above and below the opening by means of an aneurism needle. Four months afterward the patient was entirely well. In this case the absence of cardiac lesion, external violence, or unusual muscular exertion warrants the suspicion that the vein was abnormally weak at the seat of rupture, which suspicion is corroborated by a varicose condition of the long saphena vein of the opposite limb.

The alteration in tension, which can be due only to a fresh extravasation, affords almost positive evidence of communication between an open blood-vessel and the sac, and must be regarded as the diagnostic mark which allows the exclusion of an ordinary hematoma.

A *résumé* of the scattered literature of the subject accompanies the report of this case, and shows that some very remarkable examples of this accident have been recorded. Morgagni found a rupture of the *vena azygos*, the vessel being extremely varicose. Portal describes a case of rupture of the superior vena cava, occurring in a woman who died

suddenly in a cold bath. Mr. Else, surgeon to St. Thomas Hospital, wrote a very interesting article "Of tumors formed by ruptured veins sometimes mistaken for aneurysms," which was published in the third volume of *Medical Observations and Enquiries*, in 1769. In one of these cases occurring in the leg, the leg was actually amputated for the supposed aneurism, subsequent dissection showing the lesion to be in the vein not the artery.

#### BUSINESS MANAGEMENT OF INSANE HOSPITALS.

WE notice, in the ninth and last Annual Report of the New Jersey Insane Asylum at Morristown, that a change is to be made in its form of management.

Hitherto a medical superintendent has had general charge of all matters, both medical and business, and has had two medical assistants. Now the managers have undergone a change of faith, and though the number of patients continues the same—upward of seven hundred—they propose to separate the medical from the business department, placing the former under the care of "a competent alienist of advanced views, to be called Medical Director," with four medical assistants, and the latter under the care of a business man to be called "Warden."

The managers call this change a "radical" one, and it certainly is. There can be no doubt of the wisdom of increasing the number of assistants, as hitherto the number must have been very inadequate for the ordinary routine work. They might go even further and appoint a special pathologist, and still have a staff none too large to do the medical work thoroughly.

As to the wisdom of placing the "business concerns of the asylum under the charge of a warden, who shall have sole control of them," we have considerable doubt.

It is an excellent idea to relieve the superintendent of an insane hospital of as much drudgery as possible, but to do this by placing the institution under two heads may not in the end prove to be for the best.

Almost every detail in the management has a bearing on the medical care of the patients. Thus, work on the farm, in the workshops, or buildings; the quality of the provisions which are bought; the clothing and bedding provided; the heating, lighting, and plumbing, and many other matters that might be classed as of a business nature, are all of a medical character in their relation to the hospital.

There should be one head-officer, to be responsible for the entire management of the institution, and not two, as sooner or later there will surely be a difference of opinion. And, as the care of the

insane is essentially medical, he should be a medical man.

The JOURNAL is always glad to announce any real progress in the care of the insane, and, with the above exception, we heartily commend the advanced step taken by the managers of the Morristown Asylum.

#### A NEW TREATMENT OF SCIATICA.

EVERY physician in general practice must have at different times realized how unsatisfactory are all the modes of treating sciatica. Anodynes have failed, or are required in doses so large and so frequent as to be a source of danger to the patient. All the machinery of the revulsive medication, from rubefacient terebinthine liniments to linear vesication, the actual canter, or punctiform (Paquelin) cauterizations, have been brought to bear upon the suffering member. Electricity in all its forms has been tried and frequently proved disappointing. Local anodynes (solutions of menthol, belladonna, ether spray, chloroform) may have rendered some fleeting service. The general tone of the organism has been fortified by quinine, and the quality of the blood improved by iron and cod-liver oil, but the vitality of the *locus minoris resistentie* (that "greatest and worst nerve of the body," as we have heard patients say) still remains depressed. Anti-rheumatics have been tried from salicylate of sodium to colchicum and iodide of potassium, all to the point of tolerance, but all to little effect. Nerve-stretching remains, but that somewhat delicate and difficult operation has been reserved as a last resort. In view, then, of the want of success which has attended the old methods, a new method of treatment which promises comfort to physician and patient will be welcomed.

Debove has lately proposed refrigeration by chloride of methyl in sciatica, as a medication of singular efficacy. This substance, which is obtained by distilling together methyl alcohol, sodium chloride, and sulphuric acid, is a colorless gas, slightly soluble in water, with sweetened taste and odor; when projected on a part of the body from a suitable siphon bottle, it is attended with the production of intense cold, followed by intense smarting, and if the action be sufficiently prolonged, considerable erythema and even vesication. The benefit which is claimed from this remedy would seem then to be due not so much to the refrigerant as to the subsequent counter-irritant and vesicant effect. Debove, in a late number of the *Bulletin Général de Thérapeutique*, thus explains the principle and *modus operandi* of his method:—

"When we employ revulsion under any form whatever (vesication, punctiform cauterization, etc.) for a neuralgic affection, we act on certain of the sensory extremities of the painful nerve, but we respect a far greater number of these nerve termi-

nations because it is not possible to multiply to any great extent our vesicatories and cautery points. A process of revulsion which may be extended to the totality of the member innervated by the affected nerve will be then of far greater efficacy. This process I have realized in employing, as a revulsive, *congelation*. To this end I have had recourse to chloride of methyl, which is readily obtainable in commerce, and with which you may produce a speedy refrigeration. I practise with this agent, using for the purpose a siphon bottle furnished with suitable stop-cock and beak, pulverizations along the diseased nerve, directing the spray especially upon the *points douloureux*. This spraying ought not to last longer than a few minutes. It is much less disagreeable than the actual cautery, and (what is more important) it is followed by *instantaneous disappearance of the pain*. I have by this means cured patients who long had been sufferers, and who had obtained only partial relief from other revulsives. Ordinarily one *séance* suffices to cause the pain to completely disappear; sometimes, nevertheless, a second *séance* is necessary; but always after the first *séance* the pains are considerably lessened. When you prolong the spraying a little too long, you produce vesication. Although this is an accident of little importance, I think it better to guard against it, and as a precautionary guide, I habitually consult the feelings of the patient; when they tell me that the sensations which they experience resemble the pain which the punctiform cautery would occasion, I cease the pulverization."

This mode of treatment was lately discussed at a meeting of the Academy of Medicine. Desnos reported four cases of sciatica in which this method was tried; in three it was completely successful. The spraying from a siphon bottle was performed with great precautions, occupying only a few seconds. Renuh had found that a liability to the production of eschars follows the careless or too free use of this new medication: nevertheless, in one or two stubborn instances the most gratifying amelioration, and even cure, resulted. Buequoi finds the methyl chloride a revulsive rather than an anodyne; in one rebellious case in his practice it was signally beneficial. Sevestre claims to have cured one inveterate case of sciatica after daily applications for two months of the methyl spray. Legroux has also found spraying with this substance useful in the intercostal neuralgias of the tuberculous. Robin, in December, obtained a striking cure by this means, in a patient forty years of age who had for six months suffered from sciatica with atrophy of the limbs; he was cured after two applications of the methyl, which were followed by vesication and intense pigmentation of the congealed region. Letulle has treated two patients by the same process; the one was affected with sciatica from neuritis, and was completely cured; the other, who was suffering

from Pott's disease, complained constantly of diffuse lumbar pains, and derived the greatest benefit from the methyl-chloride spray.

It is to be hoped that the favorable experiences of these French practitioners with this new remedy may be followed by equally good results in this country, and that this painful, inveterate malady may become less of an opprobrium to medicine and surgery.

#### ANNUAL REPORT OF THE NEW YORK STATE BOARD OF CHARITIES.

THE eighteenth annual report of the New York State Board of Charities was presented to the Senate at Albany, January 27th. The statistics of the returns from the various institutions, analyzed and tabulated, show the appraised value of the property of all kinds held for charitable and correctional purposes in the State; the receipts and expenditures for public relief for the fiscal year ending in September, 1884: the number of persons cared for during the year, and the number under care at its close. The report states that the increase in the number of State paupers is wholly due to the defective administration of the Federal laws respecting immigration, by which large numbers of infirm alien paupers find their way to this State to burden the cities, towns, and counties, who should be rejected at the ports at which they land, and then returned to the vessels bringing them, as the law prescribes. The total valuation of State charitable property on October 1, 1884, was \$46,856,670, against \$43,303,478 on October 1, 1883. The receipts and expenditures were both about \$650,000 more than during the preceding year.

#### MEDICAL NOTES.

—We understand that Dr. P. Brynberg Porter, of New York, has been appointed editor of *Gaillard's Medical Journal*, and will have as collaborators Drs. T. Gaillard Thomas and George T. Harrison, of New York; Hunter McGuire, of Richmond, Va., and C. H. Mastin, of Mobile, Ala.

—*A propos* of the dangers of telegraphy as an occupation, to which attention has been called of late, we note the occurrence in a Scottish telegraph office of three cases of lunacy among the operators in as many successive years. An American publication devoted to telegraphic matters mentions two recent cases of operators dying at their posts. A correspondent of the *Edinburgh Daily Express* writes: In the Edinburgh office no fewer than three cases of insanity have occurred this year. It is believed among the operators that reading by sound for prolonged periods is the chief cause in producing this terrible disease. This is confirmed by what Dr. Savage writes in his recent book on "Insanity and Allied Neuroses": "Work of a monotonous

character is injurious, and assists in producing mental disorder. But such work is comparatively rare. To my mind the letter-sorter, the proof-reader, and persons employed to check mechanical labor, run the greatest risk of breaking down from this cause. A clerk or an accountant may suffer from the monotony of his work, but with all its dryness it is not so absolutely uniform as that of the man who sorts letters, signals trains, or corrects proofs under the pressure of time."

—The *Lancet* issues a warning against the various devices recommended for reducing weight, saying that no specific measure will suffice which is not injurious to health. The only safe rule which is of any effect in this direction is that of *slow eating*, as an aid to thorough mastication and a prevention of repletion.

—The apothecaries of the army and navy are ambitious for higher recognition. They are required to pass a technical examination in elementary chemistry, materia medica, pharmacy, and botany, and they now want a title and rank. They have, therefore, introduced a bill in Congress, providing that the apothecaries of the army and navy shall receive a commission, those of the army ranking with second lieutenants, and those of the navy with ensigns, but that they shall not be in the line of promotion.

—The Massachusetts Emergency and Hygiene Association has prepared a course of five lectures upon School Hygiene, to be delivered in the hall of the English High School in Boston, at 10 A.M., February 14th, 21st, and 28th, and March 7th and 14th. The subjects and lectures in order are: "Heating and ventilation," by F. W. Draper, M.D.; "The use and care of the eyes, especially during school-years," by C. H. Williams, M.D.; "Epidemics and disinfection," by G. B. Shattuck, M.D.; "Drainage," by Frank Wells, M.D., and the "Relation of our public schools to the disorders of the nervous system," by C. F. Folsom, M.D.

—It is said that Dr. Koller, the discoverer of the anæsthetic properties of cocaine, has recently fought a duel. His antagonist, one of Billroth's assistants, received a wound that may prove fatal.

—A case of death from the administration of ether is reported from Adelaide, N. S. W. The autopsy showed the deceased to have a fatty heart.

—A record of abnormally low temperature in a case of double pneumonia is reported in *The Australian Medical Gazette* for November, 1884. The maximum temperature on the first three days of the disease was 99°, 99.1°, 100.5° (the second lung becoming affected). After the fourth day it did not go above 99.6°, and after the sixth day it was not above normal, though the lungs did not become clear till the seventeenth day.

—Sir Joseph Lister has received from the Emperor of Germany the "ordre pour le mérite" for Science and Arts.

#### NEW YORK.

*Death of Louis Elsberg, M.D.*—The profession and the scientific world in general have met with a very serious loss in the death of Dr. Louis Elsberg, the distinguished laryngologist, which occurred February 19th. Dr. Elsberg had been suffering for two or three years with Bright's disease, but the immediate cause of death was an attack of pneumonia, which was of very short duration. He was born at Iserlohn, Prussia, on the second of April, 1836, and was, consequently, just in his prime. His parents removing to this country and settling in Philadelphia while he was a boy, he studied medicine at the Jefferson College, where he received the degree of M.D. in 1857. Having, while yet a student, become particularly interested in diseases of the throat, he went abroad immediately after graduation to pursue a course of special studies in this department, and became a pupil of Tabold, in Vienna.

On his return to America he commenced the practice of his specialty in New York, and in 1861 was made professor of laryngology in the medical department of the New York University, a position which he occupied for seventeen years. The year after he assumed this chair, the Faculty established for him a public clinic for diseases of the throat and nose, which is said to have been the first of its kind in the world, and his fame as a laryngologist soon spread throughout the world, bringing him many honors and a handsome fortune. As an operator he was almost unrivaled in skill, and his medical writings have always occupied a very high position in their department. Among the other literary labors to which he devoted himself was the conducting of the admirable *Archives of Laryngology*, published by the Putnams, in which he was much interested, and of which he remained the editor up to the time that the journal was discontinued last year. He was the founder, and first president, of the New York Laryngological Society, as well as the American Laryngological Association, and was a member of many other societies, including the Academy of Sciences, of which he was librarian. In 1876 he was married to Miss Mary van Hagnm Scoville (who survives him), and in 1880 he resigned his position at the University and went abroad for a year, in order to take a rest from his arduous professional work; being the recipient of much generous hospitality in every city of Europe that he visited. At the time of his death he held the position of professor of laryngology at Dartmouth Medical College, as well as at the New York Polytechnic; and at the recent annual meeting of the New York Academy of Medicine he was elected corresponding secretary.

## WASHINGTON.

*Army Medical Museum Building.*—The most interesting medical event of this session of Congress has been the passage, on Monday, February 16th, by the House of Representatives, of the bill providing for a building for the records, library, and museum of the surgeon-general's office of the United States Army. The bill reads that a brick and metal fireproof building shall be constructed upon the government reservation in the vicinity of the National Museum and the Smithsonian Institution. The cost is not to exceed \$200,000.

There was some opposition to the bill in debate. Mr. Potter from New York was afraid that the course thus entered upon would end in a national library of medicine, a national collection of medical specimens, and, finally, in a national college of medicine. He favored turning over all the specimens in the museum to a Philadelphia medical college, or, better, burying them and covering them over with green grass, and thus be hidden from sight forever. He did not approve of the general government entering upon the field of education; that should be left to the States.

Mr. Nutting, of New York, opposed the bill in the interests of the Congressional Library, which has asked for a separate building sufficient to hold all the books needed by the government. To erect a number of buildings for separate libraries would in the end defeat any such project.

Mr. Thompson, of Kentucky, would put the 52,000 volumes of records in the New War Department and Pension Office buildings, the specimens in the Smithsonian, and the books in the library of Congress.

Mr. Theodore Lyman, of Massachusetts, spoke forcibly in favor of the bill; alluded to the germ theory of disease, and to the study of it now being so thoroughly carried on at the National Medical Museum, as influencing not only our knowledge of the cause of disease, but also its prevention by inoculation. If our fish commission, signal service, and our national surveys, are worth preserving, then has the Medical Museum a double claim on our fostering care.

Mr. Long, of Massachusetts, seconded the remarks of his colleague by alluding to the practical importance of preserving from threatening destruction this valuable material, now kept in a tumble-down, unsafe building.

Messrs. Holman, Slocum, and Follett, all favored the bill, alluding to the imminent danger by fire of the present accommodations; to the fact that the building is already twelve inches out of plumb and has begun to tumble down; that there is no room for this purpose in other public buildings; and of the immense importance of the material to members of the medical profession.

The bill passed by a vote of 181 yeas to 23 noes, and now goes to the Senate, where its friends have strong hopes for it unless the question of location should be discussed, as objections have been raised to using any more of the government reservations for the erection of buildings.

*Asiatic Cholera.*—The Committee on Public Health presented a resolution to the House of Representatives on February 17th, which was referred

to the Committee on Appropriations, and which resolves: That from a probably well-founded apprehension that Asiatic cholera may be introduced into this country during the present year; and that it is very desirable that the introduction of all contagious, infectious, and epidemic diseases into this country be prevented if possible; that there shall be provided in the proper annual bill an appropriation of \$500,000, to be expended in the discretion of the President of the United States, through such governmental agencies as he may designate for the purposes indicated. And, further, that there should also be provided an appropriation of \$25,000 to pay the per diem and necessary expenses of the National Board of Health for the ensuing fiscal year.

## Correspondence.

## SPRAY IN OVARIOTOMY.

Boston, February 17, 1885.

MR. EDITOR,—The following is an extract from a recent work by Dr. Emmet (*Emmet's Principles and Practice of Gynecology*, p. 715): "In this country I do not know of any prominent operator who now employs the carbolic-acid spray."

This statement implies that the writer is not persuaded of the value of spray in ovariotomy. My own experience has led me to an opposite opinion. Indeed, I should not like to do a laparotomy for any purpose without antiseptic spray. I have been led to this conclusion by the results of one hundred and eighty-three cases of removal of cystic ovaries, of which I have lost only twenty-one—but more especially by the result of the last one hundred of these cases only ten of which were fatal while thirty-eight were consecutively successful. I feel that to omit the antiseptic spray would be to deprive the patient of one of the ready and efficient elements of success.

As I can hardly hope for much better results than those I have cited, and being quite content to let well alone, I shall hesitate before disturbing my present plan of operation by giving up a detail to which I attach much importance.

I am, very respectfully, your obedient servant,

JOHN HOMANS, M.D.

## HARVEY'S MANUSCRIPT LECTURES.

To the Editor of the Boston Medical and Surgical Journal:—

SIR,—The MS. of the original lectures at the Royal College of Physicians by William Harvey, including his earliest observations on the heart and circulation, and delivered by him in and after 1616, were rediscovered in the British Museum in 1877. I gave a description of the little book, and exhibited an autotype copy of one page in my Harveyian oration at the college in 1877. I then suggested that it would redound to the honor of the present generation, and be an advantage to the history of medicine, if the whole of the lectures could be published in autotype, accompanied by an intelligible transcript. The handwriting is so crabbed, and there

are so many abbreviations, that no one but an expert could succeed in understanding them. Without the valuable aid of Mr. Bond, now the chief of the British Museum, I should have failed in my attempts to understand much, if anything, of the lectures. By dint of severe labor Mr. Bond succeeded in interpreting one of the lectures, and has now been good enough to make me acquainted with a gentleman who will undertake to transcribe the whole of the lectures. My inquiries lead me to believe that no publisher could be found to undertake the risk of publication in the form proposed, unless guaranteed a certain amount of professional support. On the other hand, I calculate that if from two to three hundred gentlemen would engage to each take a copy at a price not exceeding two guineas, the work might be safely proceeded with. Autotyping is a much more expensive process than ordinary printing, and the honorarium to the transcriber would necessarily add considerably to the cost.

May I ask your permission to submit the question to my professional brethren through your journal whether they will aid in this labor of love of, and admiration for, our great prototype of the scientific physician? I am permitted to state that the Presidents of the Royal Colleges of Physicians and Surgeons warmly support the undertaking.

I am, sir, your faithful servant,

EDWARD H. STEYERLING, M.D.

17 Manchester Square, W., February 2, 1885.

P. S. Any communications on the subject may be addressed to me, or to Messrs. Churchill, 11 New Burlington Street, W.

### Miscellany.

#### RAILWAY ACCIDENTS AND COLOR-BLINDNESS.

DR. WILLIAM THOMSON, writing upon this subject in the *Popular Science Monthly*, says: "It has not been the duty of the writer to investigate cases of accident which might have been caused by defects of sight, but he has been assured by officials that a solution will hereafter be found in them for those hitherto insoluble mysteries where men, otherwise credible, have so flatly contradicted themselves and the circumstances of the case. By one prominent officer he was told that, being upon a train at night, delayed by some slight accident, he himself took a red lantern, and, going a proper distance back, placed himself on the track in the way of an oncoming train, but finding his light not observed he was compelled to dash it into the cab to attract the engineer's attention and arrest him in his progress to a collision. Upon the examination of another engineer, his superior officer being present and convinced of his marked color-blindness remarked that, but a short time before, the man had run into the rear of a train properly protected by a red light in the hands of a brakeman some distance in the rear; that the most careful investigation had resulted only in the suspension of the brakeman for not having gone far enough back; but that he was now satisfied that the color-blindness of the engineer had been the real cause of the acci-

dent. Some slight or minor accidents recently led to the discovery that another engineer had by some oversight not been tested in his division, and this led to his examination and detection there, and to his conviction by the writer as a color-blind. Still another case now presents itself. An engineer some time ago ran over and killed a brakeman, holding a danger-signal on the track in front of his engine, and no satisfactory explanation could then be given; but the division examiner predicted that he would probably be found color-blind, and on his examination this proved to be the case."

#### HOW TO SEE THE SHADOWS OF ONE'S OWN RETINAL VESSELS.

A WRITER in the *Australasian Medical Gazette* (November, 1884) shows how to demonstrate, on one's own person, the retinal vessels and yellow spots. His method is as follows: Standing at a short distance (ten or twenty feet) from a lighted gas-jet in a dark room, and covering one eye, say the left, with the left hand, the observer takes between the forefinger and thumb of the right a strong convex lens, and holds it at about its focal distance in front of the right eye. Then, steadily gazing at the light through the centre of the lens, he shakes the lens rapidly backward and forward along its axis, or up and down, or from side to side. After a few seconds the shadow of the fovea centralis appears in the axis of vision as a light yellow patch studded with dark coarse granules. Simultaneously the retinal vessels in the region of the yellow spot, including the finest capillaries, appear as dark cords against the yellow light. The appearance is not unlike the plate (No. 72) in the last edition of Mr. Nettleship's book on diseases of the eye, except that the difference between the arteries and veins is not so marked, and that one gets a more extensive view, seeing the shadow of the retinal vessels as far as the optic disc. The outline of the shadow of the fovea centralis, which falls upon the most sensitive part of the retina, the yellow spot, is well defined; whilst the outline of the shadow of the optic disc cannot be distinctly seen, as it falls upon a much less sensitive part of the fundus. The shorter and more rapid the movements of the lens the sooner the shadows of the retinal vessels and fovea centralis appear, and the more distinctly are they seen.

The chief other method of accomplishing this end is that of Purkinje, to wit: Whilst looking at a dark ground in a room one concentrates with a lens the rays of light from a gas-jet, and throws them obliquely on the sclerotic immediately behind the sclero-corneal junction, or upon the cornea itself. On rapidly moving the lens up and down, or from side to side, one then sees projected on the dark wall the image of the retinal vessels.

By this method the rays of light are thrown obliquely on the sclerotic or cornea, instead of being, as in the method first described, directed along the visual axis, and consequently falling perpendicularly on the surface of the cornea. The image of the retinal vessels is seen against the yellow light, and

is not projected on a dark well. The author claims that while the shadow of the fovea centralis is faint and difficult to recognize by Purkinje's method, by his method it is as clearly defined and as easily seen as the shadow of the retinal vessels.

REPORT OF THE SALEM (MASS.) HOSPITAL.

The superintendent lately presented the tenth Annual Report. The number of patients admitted to the hospital during the past year was 140. Of these 42 were medical, 98 surgical; 82 were males and 58 females. The average number of days passed in the hospital by free patients was 32½, and by those paying board, 13½. Board was furnished to free patients 553 weeks, and to those paying board 14 weeks. The Eastern Railroad bed was occupied 216 days, the Nantkeag Mills' 170, and the Salem Lead Company's 20, and 63 days' board was furnished to United States patients. The number of patients paying board was much less than in previous years, as, owing to the increase in the funds, the trustees did not wish board exacted from any who could not easily afford to pay. Thus

many were admitted free, who, in former years, would have been expected to pay something at least. The largest number of patients in the house at any one time was 21; the smallest number, 8. The average cost of board was \$2 per day. There were of out-patients: Medical, 332; eye and ear, 295; surgical, 346; and dental, —.

SANITARY COUNCIL OF THE MISSISSIPPI VALLEY.

The executive committee of the Sanitary Council of the Mississippi Valley has fixed the date of the seventh annual meeting of the Council for Tuesday, March 10th, prox., and for the place the city of New Orleans. This is about a month earlier than these meetings are usually held, and the committee assigns as a reason for the change the probability of Asiatic cholera appearing in the country, and the uncertainty concerning national legislation on public health matters. Invitations are extended to all State and local authorities in the valley, and to representatives of commercial and transportation interests.

REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 14, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	724	290	19.74	22.96	7.70	2.52	4.06
Philadelphia . . . . .	327,985	437	146	16.66	9.68	7.26	3.36	.22
Brooklyn . . . . .	614,526	292	114	19.72	20.06	7.82	1.70	1.70
Chicago . . . . .	632,100	229	125	16.72	19.80	8.80	2.20	.14
Boston . . . . .	423,800	187	69	10.07	23.85	3.71	1.06	.53
Baltimore . . . . .	408,520	165	51	13.42	11.59	5.49	1.21	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	136	58	8.88	20.72	2.22	—	2.22
New Orleans . . . . .	253,000	123	27	8.13	11.34	.81	.81	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	106	47	13.16	26.32	3.74	4.70	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,465	—	—	—	—	—	—	—
New Haven . . . . .	62,882	29	8	13.80	17.25	10.35	—	—
Nashville . . . . .	54,400	12	5	24.99	8.34	—	—	—
Charleston . . . . .	52,286	32	8	—	9.39	—	—	—
Lowell . . . . .	71,447	36	11	8.22	3.74	5.18	—	—
Worcester . . . . .	69,442	25	11	12.60	32.00	12.00	—	—
Paul River . . . . .	62,671	22	11	31.85	—	—	—	—
Cambridge . . . . .	60,995	27	6	11.10	18.50	3.70	7.40	—
Lawrence . . . . .	45,516	15	3	13.33	13.33	6.66	—	—
Lynn . . . . .	41,895	21	9	4.76	33.32	—	—	—
Springfield . . . . .	38,090	—	—	—	—	—	—	—
Somerville . . . . .	31,450	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	—	—	—	—	—	—	—
New Bedford . . . . .	30,144	19	7	10.52	45.78	—	—	10.52
Salem . . . . .	29,503	14	—	—	14.28	—	—	—
Chelsea . . . . .	24,317	10	1	10.00	10.00	—	10.00	—
Taunton . . . . .	22,433	5	1	20.00	—	—	—	—
Gloucester . . . . .	21,400	4	0	—	—	—	—	—
Haverhill . . . . .	20,905	8	3	12.50	—	12.50	—	—
Newton . . . . .	19,421	9	3	22.22	11.11	22.22	—	—
Brockton . . . . .	18,323	8	3	17.50	—	25.00	12.50	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	6	1	—	16.66	—	—	—
Pittsburg . . . . .	14,433	6	3	—	16.66	—	—	—
Waltham . . . . .	13,568	7	2	—	28.56	—	—	—
Northampton . . . . .	13,165	0	0	—	—	—	—	—
90 Massachusetts towns . . . . .	—	93	20	4.32	21.60	2.16	—	—

Deaths reported 2,897; under five years of age 1,043; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers and diarrheal diseases) 421, lung diseases 509, consumption 490, diphtheria and croup 172, scarlet fever 54, measles 42, typhoid fever 37, diarrheal diseases 31, whooping-cough 23, cerebro-spinal meningitis 22, malarial fever 15, erysipelas 14, puerperal fever 9, typhus fever one, small-pox one. From typhoid fever Philadelphia 15, New York, Chicago, and Baltimore four each. From diarrheal diseases, New York 8, New Orleans 6, Chicago and Cincinnati three each, Brooklyn, Baltimore, and Nashville two each, Boston, District of Columbia, Lowell, and Lynn one each. From whooping-cough New York and Brooklyn eight each, Philadelphia three, Boston two, Baltimore and District of Columbia one each. From cerebro-spinal meningitis New York and Philadelphia four each, Chicago three, Fall River, Woburn and Chelsea two each, Boston, Baltimore, Nashville, Worcester, and Taunton one each. From malarial fevers New York 10, Brooklyn two, Baltimore one. From erysipelas New York five, Philadelphia four, Brooklyn, Boston, Baltimore, Cincinnati, and New Orleans one each. From puerperal fever Brooklyn, Boston, and District of Columbia two each, Philadelphia, Chicago, and Baltimore one each. From typhus fever Fall River one. From small-pox Chicago one.

The meteorological record for the week ending February 14th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount inches.
February, 1885,																			
Sunday, 8	29.972	18.3	19.5	12.0	48	25	65	66.0	W	NW	W	12	6	9	O	O	C	—	—
Monday, 9	30.004	27.1	33.0	17.0	52	28	100	84.5	NW	E	E	11	11	20	O	F	C	—	—
Tuesday, 10	29.184	22.2	31.4	12.8	100	79	70	83.0	W	W	W	22	22	32	R	C	C	—	—
Wednesday, 11	29.967	3.6	12.8	2.3	53	38	58	49.7	W	W	W	24	24	18	C	C	C	—	—
Thurs., 12	30.193	13.0	20.0	0.8	59	40	57	52.0	W	SW	W	13	9	9	C	C	C	—	—
Friday, 13	30.149	20.7	26.3	6.0	62	57	100	13.0	NW	W	W	22	12	12	C	C	C	—	—
Saturday, 14	30.111	19.6	23.6	14.5	62	78	79	73.5	N	N	NE	29	29	12	C	T	O	—	—
Mean, the Week.	29.940	19.1	26.6	9.3			69.1											26.16	1.77

O., cloudy; C., clear; F., fair; G., fog; ft., hazy; S., smoky; R., rain; T., threatening; P., snow.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FEBRUARY 14, 1885.

GUTIERAS, JOHN, passed assistant surgeon. When relieved at Key West, Fla., to proceed to Charleston, S. C., and assume charge. February 11, 1885.

KALLOCH, P. C., assistant surgeon. To report to Passed Assistant Surgeon Peckham at Wilmington, N. C., for examination for promotion. February 10, 1885.

GLENNAN, A. H., assistant surgeon. Relieved from duty at New Orleans, La., to proceed to Key West, Fla., and assume charge. February 11, 1885.

#### RESIGNATION.

HEATH, W. H., passed assistant surgeon. Resignation accepted, as tendered, by the Secretary of the Treasury. February 11, 1885.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 14, 1885, TO FEBRUARY 29, 1885.

PATYKI, JULIUS H., captain and assistant surgeon. Leave of absence further extended seven months on surgeon's certificate of disability. S. O. 10, A. G. O., February 17, 1885.

PHELPS, H. O., captain and assistant surgeon. Granted leave of absence for one month, to take effect about March 3, 1885. S. O. 16, Department of Dakota, February 10, 1885.

ROBINSON, S. Q., captain and assistant surgeon. Relieved from duty at Ft. Snodgrass, W. T., and ordered for duty as post surgeon, at Fort Klamath, Oregon. S. O. 23, Department of Colorado, February 9, 1885.

REAN, J. R., first lieutenant and assistant surgeon. (Recently appointed.) Assigned to duty at Fort Sill, Indian Territory. S. O. 23, Department of Missouri, February 11, 1885.

Cases reported in Boston: scarlet fever 32, measles 23, diphtheria 22, and typhoid fever three.

In 108 cities and towns in Massachusetts with an estimated population of 1,320,070 (estimated population of the State 1,355,104) the total death-rate for the week was 20.57 against 19.15 and 15.00 for the two preceding weeks.

In the 28 greater towns of England and Wales with an estimated population of 8,762,254 for the week ending January 31st: Deaths reported 4,188; infants under one year of age 897; acute diseases of the respiratory organs (London) 556, whooping-cough 141, measles 58, scarlet fever 56, fever 43, diphtheria 35, diarrheea 32, small-pox (London 29, Liverpool two) 31.

The death-rates ranged from 13.5 in Birkenhead to 36.6 in Norwich; Birmingham 23.7; Bradford 22.6; Hull 19.; Leeds 25.8; Leicester 20.7; Liverpool 27.1; London 24.1; Manchester 26.5; Nottingham 25.2; Sheffield 23.7. In Edinburgh 21.4; Dublin 35.5; Glasgow 33.8.

For the week ending January 31st, in the Swiss cities there 44 deaths from lung diseases, consumption 33, diarrheal diseases 7, diphtheria and croup 6, small-pox 4, whooping-cough 4, puerperal fever 3, typhoid fever 2. The death-rates were: at Geneva 25.3; Zurich 29.9; Basle 28.7; Berne 39.3.

#### BOOKS AND PAMPHLETS RECEIVED.

Tenth Annual Report of the Salem Hospital. Salem, Mass. 1885.

Helps to Health: The Habitation, the Nursery, the School-room, and the Person. With a Chapter on Health Resorts. By Henry C. Burdett. With 19 illustrations. London: Kegan Paul, Trench & Co. 1885.

Ueber die Stielversorgung nach Myomoperation. Von A. Martin. Separat. Abdr. aus der Berl. klin. Wochenschr. 1885.

The Journal of American. An Address delivered before the Philadelphia County Medical Society, January 14, 1885. By W. M. Welch, M.D., Retiring President. (Reprinted from the Proceedings of the Society.) Philadelphia. 1885.

Some Important Points connected with the Surgery of the Urinary Organs. Lectures delivered in the Royal College of Surgeons, London. By Sir Henry Thompson, M.D., F.R.C.S., Illustrated. Philadelphia: F. Blakiston, Son & Co. 1884.

Report of Proceedings of the Illinois State Board of Health. Adjourned Meeting, February 5-7, 1885.

Biennial Message of John M. Hamilton, Governor of Illinois to the Thirty-fourth General Assembly, January 30, 1885.

The Care of Infants. A Manual for Mothers and Nurses. By Sophia Jex-Blake, M.D. London: Macmillan & Co. 1885.

Department of the Interior. Bureau of Education. "Building for the Children in the South." Washington. 1884.

The International Encyclopedia of Surgery. A Systematic Treatise on the Theory and Practice of Surgery by Authors of Various Nations. Edited by John Ashhurst, Jr., M.D. Illustrated with chromo-lithographs and woodcuts. In six volumes. Vol. V. New York: Wm. Wood & Co. 1885.

Boston Lying-in Hospital. Fifty-second Annual Report, January, 1885.

The Science and Art of Surgery: A Treatise on Surgical Injuries, Diseases, and Operations. By John Eric Erichsen, F.R.S., LL.D., F.R.C.S., etc. Eighth edition. Revised and edited by Marcus Beck, M.S. and M.B. Lond., F.R.C.S., etc. With 984 engravings on wood. Vol. II. Philadelphia: Lea Brothers & Co. 1885.

## Original Articles.

## CASES OF CONGENITAL MUSCULAR RIGIDITY, OR LITTLE'S DISEASE.

BY E. H. BRADFORD, M.D.,

*Surgeon to Boston City and Children's Hospitals.*

Any one who has seen a number of idiotic children will have noticed that many of them suffer from a peculiar disability and distortion of the hands and feet, and an inability to control and direct the action of certain muscles. On examination it will frequently be found that the affected muscles are fairly nourished and are unusually firm to the touch, and that they are not lost their contractility; in fact, that they are in a state of spasmodic contraction, that is, in a condition the reverse of paralysis, although the limb is frequently as useless as if paralyzed, voluntary control being impaired or lost. This condition has been classed as a cerebral paralysis, although this expression seems inapt, as the term paralysis, when strictly used, describes a different state; furthermore a similar condition may sometimes be seen where there is no mental impairment, and where the intelligence and symptoms do not justify an opinion that the affection is of cerebral origin.

This "congenital muscular rigidity" was first described as an affection by Little, of London, in 1853, and Rupprecht with justice suggested that the name of Little's disease be applied to it in view of the fact that the pathology at present is conjectural. The following cases will serve as an illustration:—

CASE I. B., a boy aged four years, is said to have been healthy as an infant and that there was no trouble at birth; the child is well nourished, but has never walked, and is apparently deficient mentally and is unable to talk.

Both legs are flexed at the knees, the feet are fixed so that the heels cannot be brought to the floor, the adductor muscles are slightly contracted. These contractions are aggravated when the patient attempts to stand or to move about leaning on a chair or table. The right arm and hand are also in a state of rigidity. The spasm of the affected muscles is not clonic, and the rigidity can be overcome by applying with the hands a constant pressure, but the correction

only lasts while the pressure is maintained. Some permanent contraction, however, of the calf muscles appeared to be present, as the foot could not be brought to an angle with the leg less than a right angle.

There was no atrophy or impairment in the circulation of the limb, and the tissues were firm and hard to the touch, but a diminution of sensation was noticed on the soles of both feet and on the anterior surface of the legs. The knee reflex was exaggerated, but the cremaster and abdominal reflexes were not. No disturbance of the intestines or bladder was noticed.

The tendines Achillis were divided under ether, the knees pulled straight, and a plaster-of-Paris bandage applied to the feet (placed in an over-corrected position) and to the leg and thigh. No pain followed and the stiff bandage was not removed for six weeks. The deformity was found to be entirely corrected and the patient was able to stand well.

A noticeable fact is that the tonic spasm to be seen in the limbs did not disappear under complete anaesthesia.

An appliance was furnished to be worn constantly as a preventive to relapse. Four months later the child's condition was reported to be the same; there being no return of the deformity.

NOTE.—Circumcision was done in this case, a phimosis being present; the operation, however, had no beneficial effect on the patient's condition or deformity.

CASE II. P., a girl twelve years of age, of perfect health and excellent family history, suffered since she has walked from a disability of both lower extremities. In walking she was unable to place her heels upon the ground but supported her weight entirely upon the ball of the foot; the knees turned in badly in walking.

The child had not suffered severely from any infantile disease, and though an excitable, active, and nervous child, was intelligent in every particular. No difficulty had taken place at the child's birth, the mother's labor being normal and not protracted.

Tenotomy of both tendines Achillis was performed and the limbs fixed in a corrected position for three weeks. Ankle supports with additional steel rods to pass up the legs were applied, and the child allowed to walk in three weeks. At the present time, six months after the operation, the girl walks entirely upon the flat of the foot, striking the heel at every step normally, and there is no tendency to relapse. The tendency to in-knee remains however.

CASE III. A girl fifteen years old with some mental deficiency, not sufficiently marked as to be termed idiocy, limped badly in walking from a disturbed condition of the right limb, which was held, when standing, with the knee bent and the heel raised four inches from the floor; there was also contraction of the adductus. By the employment of gradual manual force the rigidity of the muscles could be partially overcome and the heel forced down to the floor, but the front of the foot could not be brought above a right angle with the leg. The limb could also be straightened at the knee temporarily by the use of persistent force, the distortion returning, however, immediately.

After a month's attempt to stretch the tendo Achillis by means of appliances, with but partial success, tenotomy was performed with immediate correction and fixation by means of plaster bandages. After three weeks appliances were furnished designed to allow motion beyond the corrected position, but not in the direction of distortion.

At the present time, three years after the operation, the patient is reported to walk with the heel well on the floor and the limb straight at the knee, but there is still some inversion of the limb,

This patient suffered somewhat from rigidity of



the muscles of the right forearm which gave a stiffness to the motion of the fingers. Nothing was attempted to relieve this condition.

CASE IV. D. F., aged seven, was sent to the Children's Hospital with a diagnosis of hip disease and with a history of having always limped with the right lower limb. A condition of rigidity of the leg muscles was found without atrophy or flaccidity or loss of temperature. The heel was, in walking, raised from the floor and the knee bent, with a slight adduction of the thigh and inversion of the foot. The other limbs were normal and the child's intelligence perfect. The tendo Achillis was divided, the foot forcibly flexed, the limb straightened, and the whole done up in a plaster-of-Paris bandage, which was worn for several weeks, after which a light apparatus was used. The child, at the end of two months' treatment, was able to stand with the heel well down to the ground and to raise the toes slightly when standing.

CASE V. Infant, nine weeks old, with a spasmodic contraction of the extensor muscles of both legs, and the flexors of the thigh, to such a degree that the lower extremities, while the child lay on its back, were held stiff at an angle of  $45^{\circ}$  above the plane of the trunk, the legs being more extended than the thighs. The feet were strongly flexed and the adductors of the thigh slightly contracted.

The upper extremities were not affected, and the child was said to be healthy.

The spasmodic condition was noticed immediately after birth; it relaxed during sleep. The child was otherwise healthy. No especial difficulty at birth was mentioned as having taken place.

CASE VI. A girl aged six years, quite intelligent, but with a spastic deformity of the left hand and foot. Treatment for a while was attempted in correcting the deformity of the foot by means of plaster-of-Paris bandages, but without success. Tenotomy was, therefore, performed, followed by immediate correction and fixation with plaster bandages. The patient's condition was such, two months after operation, that, in walking, the heel touched the floor and the front part of the foot raised. No attempt at treatment for the hand was made. The subsequent history of the case was not obtained.

CASE VII. L., three years old, born without difficulty, a healthy child; never had convulsions. The child never moved her legs as freely as other babies did, and when a year and a half old it was noticed that the right knee was rather stiff. As the child grew this became more noticeable. The child, at the present time, is unable to walk; it has never walked or learned to creep, but can stand leaning on a chair. On attempting to use the legs in the motion of walking, they become crossed spasmodically. The child is also unable to put the heels to the floor when standing, although there is no permanent contraction of the gastrocnemius muscle. No atrophy or flabbiness of the muscles. The child is perfectly intelligent, is healthy. No treatment was attempted.

CASE VIII. G., a girl ten years of age, well-built, and with the appearance of health, presented a spastic condition of the left arm and left leg, with a slight spastic equina varus deformity without

atrophy and with exaggeration of the knee reflex on the left side. Slight occasional strabismus was present.

No difficulty occurred at the child's birth, but severe convulsions took place when the child was a few weeks old. Convulsive seizures have occurred since at different intervals. No abnormality in the shape of the head was noticed.

The child could not be classed as idiotic, but appeared backward in intelligence.

No treatment beyond the application of a brace was accepted by the parents.

CASE IX. F., a boy eight years of age, healthy antecedents, and no severe sickness in infancy and early childhood. No difficulty at the child's birth. Peculiarity of the left side noticed when the child was thirteen months old: this peculiarity, however, did not follow any sickness. Increased tendon reflex of left knee. Spastic rigidity of left gastrocnemius and hamstrings. The adductors of the thigh not affected. The right side is normal. Patient can put the heel upon the ground, but, in walking, the heel is raised two inches from the ground, and the weight falls upon the ball of the foot. A stiffness in the motion of the left fingers and hands also noticed. Some atrophy of the extensor muscles of the fingers and of the muscles on the front of the leg, but no paralysis existed, and all motions could be made, though slowly. The spasm of gastrocnemius could be overcome by the persistent use of moderate force.

The child was perfectly intelligent and otherwise well-developed.

Attempts were made for several months to correct the distortion of the foot by an appliance and by massage, but no permanent benefit followed and tenotomy was advised, but declined by the child's parents.

From the above cases and from other observations, it may be said that the following symptoms are characteristic of this disorder: A tonic spasm of many of the symmetrical groups of muscles, the spasm appearing whenever any energetic movement is made by the patient in the affected group of muscles or on passive movements, the muscle, however, becoming relaxed at times if the patient's attention is not attracted; an increase of the deep tendon reflexes without diminution of the faradic contractility, or impairment of nerves of sensation, or interference with the trophic centres. The muscles affected are most frequently the adductors of the thigh and the calf muscles. This causes a peculiar gait, namely, a knocking-in of the knees with flexion at the knee and walking on the toes with inversion of the foot, distortions which are due, not to a paralysis or paresis, but to the fact that the action of certain muscles causes a more powerful contraction of the antagonistic muscles, either from an increased tendon reflex or from the fact that volition acts through too many motor centres or too powerfully. It has been said that the affection always affects both lower extremities, though, frequently, one to a greater degree than the other. A few of the cases here reported were, however, exceptions to this rule, and hemiplegic and not paraplegic. A spasm of the muscles of the eyes, causing strabismus, is sometimes seen,

and grimacing of the countenance and sometimes difficulty in swallowing. In one case the muscles of the tongue and of the right arm were the only ones affected. The intelligence is frequently impaired, the children learning to speak late, and noticeable as backward at school; but this is not invariably the case. The affection is usually not noticed until the child begins to walk, as awkwardness in the use of the limbs passes unobserved in infants and young children. The disease is not progressive in any true sense. As the child grows heavier, however, the disability may become more noticeable; and if the distortion is severe, a degeneration of certain of the muscles from disease may take place from disuse.

The characteristics of the disease are so marked that a diagnosis is easily made if it is borne in mind that the disease is of congenital origin; is usually first noticed in early childhood; that it is characterized by a rigidity of the muscles, chiefly of the adductors of the thigh and calf muscles, and by a peculiar gait.

The affection has, however, been confounded with hip disease, partly owing to the contraction of the adductors and the distortion, which somewhat resembles the distortion of hip disease, and partly because any lameness occurring in a child suggests to the superficial observer a "trouble at the hip," as it is usually termed.

More common is the error which classes congenital muscular rigidity with infantile paralysis — "teething palsy." The distinction is marked. The two classes of organic disease of the nervous system in infancy and early childhood are: first, the atrophic; second, the spastic. The first includes the so-called infantile paralysis: the muscles are flaccid, and undergo wasting; the faradic contractility is lost or diminished, and the galvanic contractility of the muscles may undergo the quantitative and qualitative changes termed "reaction of degeneration," and the reflex actions are abolished. In the second class, that is, the spastic, the muscles are in a state of tension; there is no wasting; the electrical reactions are normal, and the reflex actions increased, the deep reflexes being especially so.

The symptoms in congenital muscular rigidity resemble those sometimes observed in a compressive myelitis, as that from caries of the spine, namely, the spasmodic contraction of the muscles without impairment of sensation and with exaggeration of the deep reflexes. Caries of the spine at a stage of paralysis is characterized by a deformity of the spinal column and peculiar attitude of the trunk, absent in congenital spastic rigidity.

In regard to the pathology of these cases it should be borne in mind that a spastic muscular rigidity may be brought about by different causes, namely: (1) primary sclerosis of the lateral columns; (2) defects of the cerebral cortex near the fissure of Rolando; (3) trauma affecting the head or upper portion of the spinal cord at birth or afterward; (4) disseminated sclerosis of the cord; (5) compression of the cord.

It may be stated in general, to quote the words of Ross: "Spasmodic spinal paralysis is caused by a disease of the large ganglia cells in the third layer

of the motor area of the cortex of the brain, or of the fibres of the pyramidal tract which connect these with the ganglia cells of the anterior horns of the spinal cord."

Injury during birth has been supposed to be the cause of the affection; but of the cases here reported which I have been able to investigate there was no evidence or any injury at birth, or of any instrumental delivery, protracted labor, or breech presentation. In two cases of spastic condition of the arm, not here reported, the condition was evidently due in one to an injury of the head, with a depression of the skull, and a difficult labor (breech presentation with retarded delivery of the head), but in neither was any disturbance in the lower extremities present.

As has been said, the affection is frequently paraplegic (tetanoid paraplegia, Seguin); it is sometimes hemiplegic, but it is sometimes limited entirely to one lower extremity, as in case IV. This condition may occur coexistent with perfect health and without any tendency to progress.

In regard to treatment galvanization of the spine and warm baths, mentioned by some writers, appear to be without use. The condition of the patient, however, can by surgical treatment be improved, and in the lighter cases the deformity which is the chief impediment in locomotion corrected. This is the more important, as the patient's general health frequently is excellent, and also for the reason that continued disuse of the limb injures the unaffected muscles and increases the disability.

Rupprecht<sup>1</sup> pointed out the advantages of tenotomy in this class of cases, and also the permanent correction of the deformity by the use of this measure. Attempts were made to correct the distortion in several of the cases here reported by mechanical means alone, but in the majority the benefit was slight. Tenotomy of the tendo Achillis, followed by immediate fixation in a corrected position, enables the patient to walk on the flat of the foot; this relieves the flexion at the knee, but not the adductors of the thighs. This latter distortion, however, can in a measure be overcome by side steel supports connected with the shoes below, passing to the outer side of the leg and thigh, and fastened above to a waistband. The equinus deformity at the foot does not relapse when fully corrected by tenotomy. This was true in a case under Rupprecht's observation for six years, and in one operated on by me two and a half years ago, as well as in others under observation for a shorter time. Singularly enough, if the distortion is over-corrected, there is danger of the new position becoming as permanent and rigid. In case I, after treatment, the tendency to walk entirely upon the heel was very noticeable, and was attributed to the fact that to avoid the possibility of a relapse over-correction was sought for by the retaining appliance used after tenotomy.

Stretching the muscles by means of weights and elastic straps, as has been recommended, was tried in several cases without much benefit, as well as forcible correction (without tenotomy) under ether and fixation by plaster-of-Paris bandages. It was found in two cases that the tonic spasm of the

<sup>1</sup> Volkmann's Klin. Vorträge, 172.

gastrocnemius, which relaxed in a measure under gentle passive motion, was in two cases to a degree persistent under profound anaesthesia.

In brief, it may be stated that tenotomy, followed by immediate correction and fixation, and retentive appliances, are the only means to offer relief in this incurable disease.

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### ENTERITIS AND GASTRITIS SUCCESSFULLY TREATED WITH ERGOT.

BY ALEXANDER R. BECKER, M.D., OF BERKELEY, CAL.

ALTHOUGH completely retired from practice for several years, I had occasion, a few months ago, to see what I could do for a gentleman who had been suffering from chronic enteritis for more than four years. This was only one of the protean forms of gout to which he had long been a martyr; but it had persisted, with almost no interruptions, in spite of great and intelligent dietary care, and occasional attempts at specific treatment. In fact, the only interruptions during this long period occurred when the gout appeared "frankly" in one or both feet; but, on the other hand, this had been much less frequent since the enteritis set in than formerly. He had also many times suffered very distressingly from gastric catarrh and dilatation, and several times from acute gastritis.

At the time I speak of his appetite was fairly good, and gastric digestion was fairly well accomplished. But his bowels were in a condition to absorb his whole time and attention. Besides the pain, which was almost constant and frequently severe, and the dejections, which averaged from three to eight or nine daily, he suffered intolerable annoyance from flatulence. The various astringents, mineral acids, arsenic, milk, and lime-water, etc., had been fully tried, and I could find no fault with his very carefully arranged diet.

It was evident that the whole intestinal canal was excessively debilitated, and probably more or less dilated. He had also mitral disease, and dilatation of the heart, and had at times, although not very recently, suffered terribly from asthma. Was there not probably a general arterial debility? and might not *ergot* strike at the root of this trouble? As he is exceedingly susceptible to medicine, I ordered only *maxxx* of Squibb's fluid extract three times a day, and in a week his bowels were almost well, and have remained so ever since, requiring only an occasional Pil. Rhei. Comp. to prevent constipation. A week or ten days later, he had a very severe attack of gout in the left foot, lasting three weeks. Since then the gouty tendency has been kept down by Potass. Bicarh. (gr. v. in a glass of claret and water, with his lunch and dinner), and he has been more comfortable than for years.

So far, so good. There is nothing remarkable about the case, except the delightfully prompt and

perfect manner in which the medicine answered my hopes — I can hardly say my expectations.

But a few days ago I found that he had been overindulging his really hearty appetite during the holiday season, and had thereby brought about a severe attack of gastritis. Any food, however bland, brought on immediate and intense pain, which was only partially relieved when the food had left the stomach, which was already considerably dilated. (It is a fact, by the way, that he has developed what might be called gastric gymnastics, for, by lying upon the right side and contracting the abdominal muscles, — and he believes the muscular coat of the stomach itself, — he is able to force the food up from the depths of the dilated organ, and through the pyloric orifice; and he is made perfectly aware of the success of his efforts by the hot, burning, rasping pain, caused by the passage of the food through the inflamed orifice.) This condition had already lasted three days, and was becoming worse. I at once put him upon the *ergot* again, and in the same doses, and in forty-eight hours he was completely relieved, and able to bear a reasonable meal without discomfort.

From the previous experience, this is just what I fully and confidently expected. But I am led to report the case by the fact that I cannot find the least hint or suggestion of such an application of *ergot* in any book within my reach — even in such as treat fully of acute and chronic gastritis, and recommend (slightly and passingly) *ergot* in certain forms of chronic diarrhoea. My possibilities of reference, however, are limited here, and I have not the least ambition to claim priority in the matter, but I am anxious to draw the attention of physicians to a reasonable and probable remedy for this very painful and distressing condition, and beg them to experiment with, and report upon it. May it always — as in this one case — "work like a charm!"

### REPORT ON RECENT PROGRESS IN THORACIC DISEASE.

BY FREDERICK C. SHATTUCK, M.D.

#### ACUTE PNEUMONIA.<sup>1</sup>

THE sub-committee to which the report on this subject was entrusted has analyzed and tabulated 1,065 cases of acute pneumonia as reported by 182 different observers in all parts of the United Kingdom. Drs. Sturges and Coupland furnish some remarks on the general conclusions which can be drawn from a study of these cases, from which the following is abstracted: —

"It must be admitted, in the first place, that much of the information elicited is of negative rather than positive value. We are unable to assert that the incidence of pneumonia is in harmony with that of any other acute or specific disease, while the fact that bronchial and entarrhal affections, speaking generally, are apt to concur with it, was known already. On the other hand, the evidence that such concurrence is by no means invariable, the frequency with which pneumonia attacks more than one member of a household at the same time, the

<sup>1</sup> The Collective Investigation Record, vol. II., July, 1884.

fact that when it is unusually prevalent its mortality is exceptionally low, and the rarity of enteric fever in any near association with it, are all observations of value. Similarly, the inquiry into sanitary conditions, although it may not satisfy preconceived ideas, seems to show: first, that defective drainage and sewer-gas poisoning may both cause and favor the spread of pneumonia; second, that the affection, when of this origin, is not of exceptional severity or high mortality." . . . "The high mortality of the disease in the imtemperate is no new observation, but the facts before us would seem to show that alcoholic excess is not only an important factor in determining the issue of pneumonia, but that it is often of itself the actual exciting cause of the affection. It may be asserted, indeed, that pneumonia owning this origin is, at all ages, the most fatal form of the disease known to us." Next to alcoholic poisoning there is ground for believing that fatigue and mental depression are the most unfavorable vital conditions with which to meet the disease.

"That pneumonia is sometimes conveyed from person to person must, we think, be admitted, notwithstanding that some of the examples quoted to that effect are capable of other explanation. The sanitary conditions—in which, probably, ill-ventilation as well as defective drainage ought to be included—appear to favor such conveyance, and it would seem necessary that the intercourse should be intimate and prolonged, like that of patient and nurse or of bedfellow. In such circumstances, infectious pneumonia, we think, must be admitted as a reality—a rare characteristic of the disease, of which we are not, at present, in a position to offer an explanation. Yet, while admitting as much, it must be affirmed at the same time, that pneumonia, as we commonly see it, has no infectious character."

The list of previous diseases undergone by the subjects of pneumonia is very small if we exclude infantile diseases; but it is remarkable that one patient in every nine or ten had experienced a previous attack. This fact indicates that one attack predisposes to another, but recovery seems as likely to take place after a second as after a first attack. Only one case in sixty had the disease three times, and of these twenty-five per cent. died.

"In regard to the apex as a seat of pneumonia it is to be noticed: first, that this seat is as favorable for the patient as any other. (In the duration and mortality, indeed, it is more favorable than most.)

"Second, that no tendency is observable on the part of patients of phthisical family to exhibit pneumonia at this seat.

"Third, that in the exceptional event of an apex pneumonia occurring in a patient of phthisical family, such pneumonia shows no tendency to degenerate into phthisis, but undergoes resolution as quickly and completely as another. Thus the doctrine of the exceptional gravity of apex pneumonia finds no support in the *Returus*.

"There is another point which, equally with the one just noted, may demand notice, inasmuch as it conflicts with some accepted definitions of acute pneumonia. The proportion of sudden to gradual subsidence fails to bear out the statement that sudden remission of fever is the rule of the disease.

The only law that obtains in this regard is this: that when the pneumonic pyrexia has lasted over eight days its sudden subsidence is improbable, and that sudden subsidence after ten days is very rare. The favorite days for sudden subsidence are the fifth, sixth, seventh, and eighth, the seventh being far ahead of all the rest, and the fifth and sixth about equal. Crisis seems especially apt to occur in cases of apex pneumonia."

As regards sequelæ, in twenty cases chronic pneumonia resulted; but sequelæ of any kind are rare. Phthisical destruction occurred in but four cases, one, if not two, of these, having phthisis to start with, and two more, one a drunkard, died of gangrene of the lung. Pleurisy and empyema together are sequelæ in but thirteen instances. Death is most common on the sixth, seventh, eighth, and tenth days.

As regards the nature of the disease, in conclusion, it is stated:—

"Keeping clear of hypothesis, we believe that the following statement defines and comprehends the several forms of the affection which have to be recognized and find illustration in the present report:—

"(1) Of pneumonia as a local affection there are examples in plenty, especially in early life. Its onset is sudden, and due to some notable chill or exposure of the body; it has all the character of acute inflammation, with a marked tendency to spontaneous recovery, and is largely dependent on certain meteorological conditions, which are productive also of other forms of lung inflammation.

"(2) Distinguished from these are examples of secondary pneumonia, such as arise in the course of many acute and specific affections, and which do not, at present, concern us.

"(3) In addition to these two well-recognized forms of the disease, clinical observation, we think, bids us recognize a third variety—a pneumonia due to causes not directly injurious to the lung, but operating through the blood or nervous system. It, too, is properly a secondary pneumonia, for it is but the signal and expression of anterior vital changes; yet, owing to the absence (or the apparent absence) of any other organic lesion, it is not so accounted. Although anatomically indistinguishable (so far as we know at present) it deserves separate recognition in virtue as well as of its distinctive origin as of the fact that it has a variable rate of mortality, and a gravity which is not commensurate with the extent of lung tissue involved."

#### RELAPSING OR INTERMITTENT PNEUMONIA.

Sir Andrew Clark<sup>2</sup> reports the case of a man of eighty-two, who in 1877 went through an attack of pneumonia. In the spring of 1881, after exposure to cold, pneumonia developed at the right lung, and during the following seven weeks the patient passed through nine or ten severe rigors with six pneumonic consolidations, all portions of both lungs being invaded before recovery finally took place. The remarkable character, assemblage, and progression of the symptoms, and the age of the patient, make the case one of great rarity in the annals of medicine.

<sup>2</sup> *Lancet*, 1881, II. p. 1,482.

## TUBERCULOUS CROUPOUS LOBAR PNEUMONIA.

Kinnicutt<sup>3</sup> reports the case of a man of thirty-three who had never suffered from pulmonary disease, and who, three days before admission to hospital, had several sharp chills, followed by cough, expectoration, and fever. On admission the sputa were viscid, though not rusty, and the physical signs pointed to advancing pneumonia of the right upper lobe: solidification rapidly became complete, and, until the eighth or ninth day, the course of the disease corresponded with an attack of ordinary pneumonia. After the ninth day, however, the fever, pulse, and respiration, gradually increased, and the physical signs showed rapid disintegration of the solidified portion of the lung, evidences of a cavity being detected on the thirteenth day. On the sixteenth day after admission the patient died with the signs of general pulmonary edema and heart failure. The sputa were examined for bacilli on the fourteenth day, but none were found. At the autopsy the solidification of the right upper lobe was verified; the cut surface was not granular, and numerous miliary tubercles were found near the periphery of the consolidated area as well as in the middle and upper portion of the lower lobe. Some of the alveoli were filled with pus and some with cheesy masses. The right upper lobe contained several cavities. Tubercles were not found in the other organs. The disease was correctly diagnosed several days before death. Dr. Kinnicutt refers to two similar cases reported by Sée to the French Academy of Medicine in 1883.

COLLECTIVE INVESTIGATION IN GERMANY.—PNEUMONIA EVENTUATING IN PHTHISIS.<sup>4</sup>

Eight of the fourteen cases returned are selected for analysis, the others being thrown out by the committee. In two of the eight pleural effusion complicated the pneumonia, phthisis following in one to two years. The other six cases are divided into two series of three each. In the first series the pneumonia, twice of the base, once of the apex, terminated by lysis, and, after an interval of several weeks, during which there was no fever, the temperature rose again and the signs of phthisis, rational as well as physical, began to appear. In the second series, all apex cases, there was lysis; but the temperature never reached and maintained the normal point, unmistakable signs of phthisis developing soon after.

## THE CONTAGIOUSNESS OF PHTHISIS.

Meyerhoff<sup>5</sup> furnishes the report on this subject and analyzes forty cases, in eleven of which the disease was communicated by the husband to the wife, and in twelve from the wife to the husband, the parents of the infected partners not having been phthisical in any case; indeed, of the whole twenty-three there were only three who had had any near relative consumptive. [The large proportion of cases in which the disease was taken by the husband from the wife is remarkable. Of cases hitherto reported the proportion has been much smaller, and the explanation which has been given would

seem satisfactory, namely, that the nursing of a sick man naturally devolves in great measure on his wife, whose other duties are also in the house, rather than outside of it, as is the case with men. The reporter is cognizant of a case in which he is satisfied that the husband contracted phthisis from his wife, she having the disease at the time of her marriage. The man had no hereditary predisposition to consumption and finally recovered entirely, some shortness of breath on exertion being the sole rational sign which he presented, and a number of years having elapsed since cough and expectoration ceased entirely. Rep.]

RECOVERY FROM PHTHISIS.<sup>6</sup>

Leyden and Fraentzel analyze fifty-seven cases, in twenty-two of which there was apparent hereditary predisposition. In thirty-four of the cases there was repeated hæmoptysis. Not to encumber our pages too much with figures, it may be stated that these cases, as far as they go, show that the same periods of life during which phthisis is most commonly developed also show the most recoveries; that hereditary predisposition is not of such evil omen as has been supposed; that repeated hæmoptysis occurs in about two thirds of the cases which recover; that even when both apices are attacked the patient may get well; that there is complete disappearance of all signs, both rational and physical, in only from one third to one fourth of the cases, though cough and expectoration had vanished in two thirds. In the great majority of cases there was no medication whatever, change of climate seeming to be the means of cure.

SYPHILITIC PHTHISIS<sup>7</sup>—DOES IT EXIST?

It has long been known that syphilis may attack the lungs; but a vast deal more has been heard of pulmonary syphilis since the question was broached whether the direct cause of the characteristic lesion of phthisis—caseation and cavity formation—may not sometimes be the venereal virus: that is to say, whether there is not also a syphilitic phthisis.

After a careful critical study of all the literature of the subject and also of three cases under his own observation, Hiller concludes that there is, as yet, no clear scientific proof of the existence of such an affection. In the reported cases of syphilitic phthisis sufficient evidence is lacking either of the destructive and ulcerating nature of the pulmonary process or of the syphilitic origin of the same. Those cases in which the diagnosis was apparently confirmed by the autopsy were really simply combinations of syphilitic with either phthisical or bronchiectatic lesions.

The anatomical changes in the lung chargeable to syphilis are cicatrices, connective-tissue growth, gummata, and chronic induration of the pulmonary tissue in the form of peri-bronchial growths, nodular formations, and diffuse lobular condensation, which generally start from the bronchus of the part (diffuse syphilitic infiltration).

The diagnosis of these changes during life may be made with a certain degree of probability at

<sup>3</sup> N. Y. Record, 1884, II, p. 329.

<sup>4</sup> Kallischer, Zeitschrift für Klinische Medizin, 1884, p. 592.

<sup>5</sup> Op. cit. p. 574.

<sup>6</sup> Op. cit. p. 580.

<sup>7</sup> Hiller, Charité Annalen, IX., Jahrgang. Fortschritte der Medizin, 1884, Bd. II, p. 714.

times, but can never be made with certainty. The shortness of breath, cough, scanty and sometimes bloody expectoration, and other signs, rational as well as physical, are so wanting in characteristic peculiarities that the syphilitic nature of the affection cannot be made out from them. The diagnosis is to be based rather on the history of the case, the presence of the well-known symptoms of general syphilitic infection, and laryngoscopic examination, which will reveal in nearly all cases of pulmonary syphilis old lesions of the upper air-passages.

#### OBLITERATION OF THE THORACIC AORTA.\*

Dr. Hall White showed the specimen and reported the case before the Pathological Society. The patient was a man of forty-six, and the diagnosis of heart disease was made during life, the physical signs being a systolic bruit and some oedema of the lower extremities. "At the post-mortem examination the aorta was found to be so constricted at the point where the ductus arteriosus joins it, that it would only just admit an ordinary probe. The ductus arteriosus had completely disappeared. The aorta between the left subclavian artery and the constriction was so small that the subclavian artery appeared to be the direct continuation of it. The thoracic and abdominal aorta were very small. The collateral circulation was thus carried on: The superior intercostals were very large and convoluted and anastomosed with the first aortic intercostals, which were also very large; the posterior scapular arteries, both of which came from the third part of the subclavian artery, divided on the back of the upper border of the scapula into two branches which, reuniting, formed a circle on the back of that bone; from these posterior scapular arteries branches of great size were given off, which anastomosed with the second, third, and fourth intercostal arteries close to the spinal column; the right subscapular artery was extremely large and tortuous and divided into two branches, both of which joined the intercostal artery in the ninth space; the left subscapular artery joined the arteries of the ninth, tenth, and eleventh intercostal spaces; the internal mammary arteries anastomosed with the aortic intercostals, the phrenic arteries, and by their superior epigastric branches, which were very large and tortuous, with the deep epigastric arteries; the right superior epigastric gave a large branch, which descended in the suspensory ligament of the liver and anastomosed with the hepatic artery in the substance of the liver; small branches of the inferior thyroid artery anastomosed on the longus colli muscle with branches of the intercostal arteries; a descending branch of the profunda cervicis artery running down to the semi-spinalis muscle joined the posterior scapular arteries; the inferior thyroid artery on each side was a branch of the common carotid. The deformity in this case was, as it probably is in all of these cases, due to a faulty development of the fourth left branchial arch, which extends from the left subclavian artery to beyond the ductus arteriosus. The heart, which was also exhibited, showed extreme hypertrophy of both sides. All the cavities were much dilated, the dilatation keeping pace with the hypertrophy. In the

apex of the ventricular wall was a large patch of fibroid degeneration. It was pointed out how extremely rare the deformity was, very few cases having been recorded, and only one of these had been diagnosed during life. The age to which patients thus deformed lived varied very much, for one man lived to be ninety."

[In this connection it is of interest to refer to a case of occlusion of the superior vena cava in a man of seventy-two. The diagnosis was made during life and the full report of the case is to be found in this journal for January 22, 1885. Rep.]

#### CAFFEIN IN HEART DISEASE.

Riegel<sup>9</sup> after extended trial of this remedy and its preparation formulates his conclusions as follows:—

(1) Caffein is a heart regulator and diuretic in the same sense that digitalis is.

(2) Caffein in suitable dose and form increases the power of the heart, slows its action, and increases arterial tension, producing this effect soon after its administration.

(3) Caffein acts rapidly as a diuretic.

(4) The indications for the use of caffein are in general the same as those for the use of digitalis.

(5) Caffein is best administered in small and frequently repeated doses. In most cases one to one and a half grammes of the double salt daily is sufficient, though it is safer to begin with smaller doses.

(6) The main difference between the effect of caffein and that of digitalis is that the former is much more prompt and is not cumulative.

(7) In many cases in which digitalis fails, caffein will succeed.

(8) It is not advisable to give morphia at the same time with caffein; the latter, in that it restores the failing compensation, is practically a narcotic in these cases.

(9) Caffein, and especially its soluble double salts, sodio-caffein benzoate, salicylate, and cinamykate, the solubility of which favors their subcutaneous use also, are, as a rule, better borne than is digitalis.

Becher's<sup>10</sup> results are not materially different from those of Riegel. Diuresis goes hand in hand with the tonic effect of the drug upon the heart, and this observer also found that caffein succeeds sometimes when digitalis fails. He does not seem to have used the double salts, but thinks that of the more common preparations the hydrobromate is less likely to make the patient wakeful.

#### ADONIS VERNALIS IN HEART DISEASE.

Altmann<sup>11</sup> has tried this drug, the use of which as a heart tonic was revived by Botkin, in a number of cases of valvular disease, with ruptured compensation, and also in cases of fatty heart, myocarditis, and parenchymatous nephritis with scanty urine. It is indicated where digitalis is, works more rapidly than that drug, is not cumulative, and often is

<sup>9</sup>Verhandlungen des Congresses für Innere Medicin, 1881 Fortschritte der Medicin, 1881, September 15.

<sup>10</sup>Wiener Med. Blätter, 1884, No. 21. Fortschritte der Medicin, 1884, September 15.

<sup>11</sup>Verhandl. des Vereins für Innere Medicin. Fortschritte der Medicin, 1884, September 15.

\*Lancet, 1884, II. 826.

efficient when digitalis fails. At the same time the author does not propose to give up the use of digitalis but seems inclined to restrict the use of adonis to cases in which the former does not prove efficacious. The method of administration was generally in an infusion of one part to thirty, of which he gave a teaspoonful every two hours.

In the discussion which followed the paper, Lublinski said that, judging from his experience, the cases are rare in which adonis is to be preferred to digitalis, to which remedy he was generally obliged to recur. The bitterness of adonis, which is very difficult to cover, is an objection to its use, and it may cause nausea, vomiting, and even diarrhoea. Diuresis without corresponding increase in the blood pressure is a remarkable effect of the remedy, and the specific gravity of the urine often reaches 1,022 or more, due to increased elimination of urates and chlorides.

#### A MODIFICATION OF THE BINAURAL STETHOSCOPE.

Dr. D. M. Cammann<sup>12</sup> has devised a new chest-piece which can be fitted to any ordinary double stethoscope, but of which it is not easy to give a clear idea without the aid of a wood-cut. The shaft near the chest-piece passes through a rubber bulb which is so connected with the surface to be applied to the chest that the air can be exhausted and the instrument held to the chest by suction.

The advantages claimed for the invention are intensification of the sounds produced within the chest and the liberation of both hands of the examiner who can thus practice auscultatory percussion.

The reporter on seeing Dr. Cammann's article sent immediately to New York for the chest-piece and has tested it upon a number of cases of thoracic disease; he has not been able to satisfy himself that the sounds are rendered either louder or clearer by this addition, which does, however, facilitate auscultatory percussion. The double stethoscope is sufficiently cumbersome to carry already without an addition the value of which is so very limited.

Dr. B. W. RICHARDSON, in an article on the "Painless extinction of life," in the current number of the *Popular Science Monthly*, says that in the method devised by him the mode of death to which the animals are subject is that by anaesthesia, not by suffocation or asphyxia. Death by anaesthesia is death by sleep; death by asphyxia is death by deprivation of air. Death by anaesthesia is typically represented in death by chloroform; death by asphyxia is typically represented in drowning, or in immersion in carbonic-acid gas. When properly carried out, death by anaesthesia is by far the most certain and least violent of the two processes, although both are probably painless. It is worthy of record, however, that all animals are not equally susceptible to the action of the narcotic vapors. Cats, for instance, lie asleep much longer than dogs before they cease to breathe. They fall into sleep as rapidly as dogs, but do not pass so quickly into the final sleep. There is a difference between different animals of the same kind.

<sup>12</sup> New York Medical Journal, 1885, 1, p. 27.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

FEBRUARY 23, 1885. The President, Dr. F. W. DRAPER, in the chair.

#### CASES OF CONSERVATIVE SURGERY.

Dr. C. B. PORTER showed two patients. One had struck himself with an axe while felling trees; the blow extending across the foot from the great toe, dividing the soft tissues of the dorsum and all of the metacarpal bones excepting the fifth, as well as cutting a buttonhole in the sole. When seen by him there had been free bleeding and the extremity of the foot was tipped down from the tarsus. Treatment had been a posterior iron splint with a foot-rest, and a drainage-tube with antiseptic dressing. It is now eight weeks and three days since the accident and the patient will have a serviceable foot, flexing it from the ankle by the tibialis anticus which is strong, although there is no control by the extensors of the toes which were cut.

The other was a lad who by a machinery accident had the soft parts of the arm torn from their attachments to the humerus, with the exception of a small isthmus; the ends of the muscles being turned up and the bone being comminuted. On taking off two tourniquets, which the patient wore to the hospital, the radial pulse was felt, showing good circulation of the brachial artery; the ulnar and median nerves were intact, but the musculo-spiral was stripped of its surroundings for nearly five inches, and laid bare in the wound. After removing broken pieces of bone the muscles were placed in position by two strong catgut ligatures through each muscle, and the skin was stitched together. It is six weeks since the injury and there is practically an excision of the elbow-joint, the skin has not sloughed, and there is perfect control of the muscles supplied by the musculo-spiral. The arm is serviceable and will be more so as the inflammatory thickening passes off.

#### DISCUSSION OF THE BEST SANITARY AND THERAPEUTIC MEASURES FOR THE PREVENTION AND CONTROL OF EPIDEMIC CHOLERA.

Dr. S. H. DUGAN said that there are four factors in the prevention of cholera: Quarantine, cleanliness, isolation, and disinfection. Quarantine, he believed, might, and would, keep all infectious, exotic disease from the land, but to be secure it must be an absolute quarantine, such as no community would submit to. All persons and things must be detained at the port of entry or at the border long enough for the incubation period to pass. Means of purification must be used of course. The delay to commerce at every seaport and on the whole length of our northern and southern frontier would be intolerable. Unless it were enforced at all points business would seek those less guarded, to the commercial injury of the others, and the disease would enter just the same.

What may be called a reasonable quarantine is one against infected places, passengers and goods

from non-infected places being allowed to pass. This is now done at the large seaports of the United States, where it is comparatively easy. On the land border it is more easily evaded, and cholera may come to us, as it has done in the past, from Canada, over whose ports we have no control. Cleanliness, that is, the general principles of hygiene, must be observed. The speaker did not know of any general sanitary means employed against any contagious disease which was not, in his opinion, of service when employed against cholera. We need a clean city. Cholera develops more on one soil than on another, and if an epidemic occurs it is more severe in low, damp, dirty spots, than on high, clean, well-drained ground. The drainage of Boston is to-day fair. Although we are not yet entirely independent of the drainage of other places, the intercepting sewer has done much that it was intended to do. It makes a current in level sewers that were stagnant. Silting has disappeared and some saddle-backed sewers have been tapped at the lowest points and relieved of much filth. The condition of the water-supply is a matter of great importance. Our drinking-water, not always pleasant, has much improved and may still further. Well-water in a city is always liable to contamination, but our wells are fast disappearing, and the Board of Health hope that they will soon be things of the past. Careful inspection of food ought always to be insisted on, and it has been fairly done with us for years. Individual habits are of importance. There can be no doubt that intemperance and filthy habits predispose to the disease. Warm and suitable clothing should be worn inasmuch as chills undoubtedly cause diarrhoea, and the speaker thought that diarrhoea, fear, anger, cold, fatigue, and sleeplessness predispose to cholera. The belief is well-supported that a prevalence of diarrhoea has frequently preceded an epidemic, and it seems rational that the germ may develop in a disordered stomach and bowel, while it may be digested or neutralized in the intestinal canal in a state of health.

If in spite of quarantine and a clean city and individual cleanliness the disease nevertheless comes, then it must be fought by isolation and disinfection; and for this reason every case, and especially the early cases, should be at once reported to the Board of Health. There is a difference of opinion as to whether cases should be removed to hospitals. Dr. Durgin's own opinion is that there are few cholera patients who can be safely carried through the streets, either on their own account or that of others. Time is lost in the treatment, and there is danger of the profuse dejections being scattered about. He believes it unwise to move the very sick, except where isolation cannot be secured at home. It would be better to supply nurses and disinfectants to those who cannot get them otherwise, and as some patients must leave home, a number of district hospitals is preferable to a general cholera hospital. Isolation is of the utmost importance. Should an epidemic occur during warm weather he prefers properly floored tents to buildings, and the Board has asked for legislative authority to take land for the purpose.

Disinfectants will probably be supplied by the

city to the poor and will be sprinkled in the streets and gutters in case of an epidemic, also in vaults, although the Board mean to annihilate vaults and cesspools in the thickly occupied part of the city. They are unnecessary and honeycomb the ground with filth. Corrosive sublimate, chloride of zinc, and sulphurous acid are used by the Board as disinfectants. Corrosive sublimate has been used for a year and is the stronger and better. Importation of rags from any place without disinfection is prohibited by the general government. We shall have in a few days an apparatus now used in New York for forcing dry steam into a bale without unpacking it, by which the temperature is raised in less than a minute to 200°-300° F., and in less than four minutes to 500° F. Dr. Sternberg in New York reports that it is very efficient, although a single experiment with sulphurous acid applied in the same way has failed. The speaker had used sulphurous acid in Boston for eighteen years and has learned to have great confidence in it which he would be sorry to have destroyed. He has been in the habit of burning not less than two pounds of sulphur to 1,000 cu. feet tightly closed, and after this disinfection has not hesitated to equip convalescents from small-pox with the clothes worn by their less fortunate comrades of the hospital. He would do it again.

Dr. H. I. BOWDITCH referred to a recent paper of Dr. Vanderpoel, of New York, on this subject. He, Dr. Bowditch, thought that it ought to be the duty of consuls to telegraph the sailing of ships from cholera ports unless they had been thoroughly explored and found clean. It would be well if every physician in the country should write to his member of Congress on the subject. Everything should be done in advance without panic, and then if cholera comes we should isolate. He agrees with Dr. Durgin that where possible it is better to isolate in the house than to send to the hospital, also that the disease finds its home in filthy places. The city water-supply is filthy at its source and ought to be controlled at once, otherwise if the disease occurs at Natick we shall have it here. Nevertheless, Dr. Bowditch does not think we are to have a serious epidemic.

Dr. FRANCIS MINOT wished to emphasize Dr. Bowditch's remarks on our water. The people of Natick will not drink it themselves. They have a good supply from another source which they pass through their water-closets into our reservoirs. He hopes that cholera will not go to Natick.

Dr. D. W. WILLIAMS said that he was in Paris last summer and had never before seen it so clean. Communication with the infected districts of France was not cut off, but the epidemic was mild. He agrees with Dr. Durgin that it is desirable to have a careful inspection of food, and he thinks that it is a matter of public concern that our inspector of milk, upon whom we can thoroughly rely, should be kept in office.

Dr. J. G. BLAKE said that it is not easy to protect our water collected from a watershed of 72 square miles, in the face of a hostile Legislature. It is for the convenience of the country towns on the watershed to use it for drainage. Last year an effort made to compel another disposal of sewage

was vigorously opposed, and a suit against a Natick hotel-keeper for polluting water was defended by the town. The city, however, won at every step, and there is reason to hope that we may get a proper law on the subject. Much has been said of Pegan Brook. It is an example of what we want to abolish, and of what ought to be abolished. It has, however, been exaggerated. There are one hundred and fifty water-closets discharging into the brook, and the brook is filtered through charcoal and sand before entering the lake, which is three miles from the conduit. There is no current in the lake and it is doubtful if much of this filth gets into the city supply. Many factory owners on the Sudbury River have, at the request of the Water Board, made other arrangements for their filth, and we hope to soon have power to compel. The committee on drainage at the State House is largely made up of members from Framingham and the towns on the Sudbury. The matter has, however, lately been referred to the committee on health. The water is really in fairly good condition, yet if cholera should show itself on the watershed, the speaker would prefer to boil it or to get another supply if possible.

Dr. J. H. McCOLLUM spoke of a source of danger in the city prison under the Court House. Prisoners are there for but a short time, but it is foul, and cholera occurring there would have a tendency to extend. It would not be necessary for a patient to be there long to be very dangerous. In a former epidemic, the presence of a few emigrants at Suspension Bridge for a few hours was enough to give the disease a start at that place. Another source of danger is digging up the ground. There is reason to believe that large quantities of freshly turned soil favors the spread of cholera. Considering the cases at Toulon, reported at the last meeting by Dr. Shattuck, it would seem important to have a sanitary inspection of second-hand clothing-shops, which may be very dangerous, and which are certainly often offensive to passers-by.

In an Indian hospital, reported by Dr. Scudder, there was the difference between 40 per cent. and 20 per cent. of deaths in two similarly situated wards, but in one of which, the one with the smaller mortality, a small quantity of sulphurous acid, not enough to be offensive, was passed into the air constantly. In other respects treatment was the same as everywhere—heat, ice, morphia subcutaneously, etc. In the *Berliner Klinische Wochenschrift*, Dr. Lippert, after speaking of the pathological appearances, recommends rectal injections of opium and dilute disinfectants, in the hope of destroying the comma-bacillus.

Dr. J. C. WHITE said that he thought a quarantine, to be efficient, must be carried out by general rather than by local authorities. Otherwise there will certainly be a weak point somewhere and the restrictions will utterly fail of their object.

Dr. BOWDITCH said that, so far as power goes, we have no national board of health; and that the surgeon-general of the Marine-Hospital service has announced that he will take no steps with regard to cholera until officially notified by the governor of a State that an epidemic exists.

Dr. DURGIN, in reply to Dr. White, said that

when a cargo was known or suspected to have come indirectly from an infected port, he would have it quarantined as if it had come directly. He also said that there is good reason to hope that the Board of Health is about to have power to close vaults. At present it can recommend their closure, but can only enforce their cleansing, which has, of course, only a temporary effect. The present committee on health of the Legislature is disposed to give the Board all the support needed.

Dr. R. H. FRZ entirely agreed with Dr. Durgin in his view of the practical impossibility of establishing an absolute quarantine. The importance of local measures in preventing the spread of cholera could not be too strongly emphasized. The earliest possible recognition of cases of the disease was, therefore, of prime importance, and the differential diagnosis between the early stages of cholera, cholera morbus, diarrhoea, and dysentery, during epidemics of the first, was admitted as often difficult and, at times, impossible.

In the light of Koch's researches, it seemed desirable that the medical inspectors of boards of health should be taught how to recognize the comma-bacillus. His statement of its constant presence in cases of cholera had met with such repeated confirmation in different places as to make its identification an important feature in the early diagnosis of doubtful cases of the disease. The training necessary for this purpose could be obtained in a few days by physicians likely to be selected as inspectors, and the preparation of the objects for examination would add but little to the labor of these officials.

Dr. GEORGE B. SHATTUCK thought the position of the comma-bacillus and its relation to cholera too little established and still too uncertain to justify our basing a differential diagnosis upon its presence or absence, or depending upon it for an early diagnosis. It is still premature to affirm that this bacillus is found in all cases of cholera, and is not found in any other disease. The English commission, just returning from India, has adopted, as the result of their labors, conclusions opposed, in important particulars, to those of Koch. One of these commissioners, at least, Dr. Klein, is an accomplished microscopist, and the commission deserve a hearing. Whatever we may think of the individual members of this commission as bacteriologists, the statement they have recently made, that the occupants of the hutees constantly drink the tank or pond water crowded with comma-bacilli with perfect impunity, is a simple question of fact easily proved or disproved, but which may well make us cautious as to our acceptance of the comma-bacillus as a causative or even pathognomonic cholera bacillus. Dr. Shattuck, in reply to a stricture by Dr. Fitz, said that, so far from wishing himself to weigh the evidence and decide the question, he suggested simply a suspension of judgment until the evidence was in and could be weighed.

Dr. WILLIAMS thought that the disease would be recognized by its symptoms in less time than by the microscope. The train of symptoms is markedly recognizable.

Dr. H. J. BIGELOW said that he thought the

suggestion of Dr. Fitz was in the right direction. He did not understand that Dr. Fitz expected the diagnosis to turn on the microscope. It is one piece of evidence to help in making a diagnosis which, in most cases, can be made without it. In a limited number it may be an important aid. We could not make arrangements for inspection to-night, but he had no doubt they would be made. He hopes and believes that we are not on the eve of a great epidemic, and to-night's discussion is important and valuable.

#### **PATHOLOGICAL SOCIETY OF PHILADELPHIA.**

THURSDAY evening, January 22, 1885. The President, DR. SHAKESPEARE, in the chair.

##### **TWO CASES OF NEVUS PIGMENTOSUS,**

presented by G. E. DE SCHWEINITZ, M.D.

The first of these specimens is one removed from the face of a patient by Dr. John Ashhurst, in the University Hospital. The man was aged about forty years, and the tumor took its origin in an ordinary mole, which, under the stimulus either of external irritants or undue manipulation, grew into a slightly raised mass, with flattened top and constricted base. After Professor Ashhurst had excised the growth I made a microscopical examination of it with the following result: The uppermost portion of the tumor is densely pigmented and the pigment is further seen to be of a brown or brownish-black color and contained in spindle or round cells or to exist as free nuclei and granules. These pigmented spindle cells sometimes are arranged so as to form the boundaries of alveoli, which are in their turn filled with moderately large unpigmented lymphoid cells. The base of the mass shows a small-cell infiltrate, enlarged sebaceous glands, and a massing of the epithelium of the part, forming the appearances of squamous epithelioma. Below the fat and subcutaneous tissue nothing abnormal presents. This growth may be classed, I think, as a hypertrophied mole, having an epitheliomatous base.

The second specimen was removed by Dr. Agnew from the back of a man, also a patient in the University Hospital. This tumor developed from a mole and grew as a papular-shaped excrescence above the surrounding skin level. Microscopic examination of the mass showed it, like the former one, to be composed of a densely pigmented tissue largely made up of spindle cells and free granules. Among the interstices of these were numerous blood channels filled with corpuscles. No malignant change at its base was noted and the surrounding skin was normal. Ziegler in his recent work on Pathology speaks of the not infrequent occurrence of melanotic and alveolar sarcoma in cellular warts and pigment spots, and certainly some parts of the specimens from the first case are strongly suggestive of a sarcomatous structure.

##### **URETHRAL POLYPI,**

presented by DR. DE SCHWEINITZ.

The specimens of urethral polypi were removed from a patient with the following history: Aged about thirty years, contracted gonorrhoea which was unusually stubborn and prolonged in its course.

The disease had lasted about five months when I first saw the patient. He was then suffering, on account of some imprudence, from a moderately sharp attack of cystitis. Having recovered from this and from the acute symptoms of the exacerbation which had probably caused the cystitis, he returned to his former condition of a drop or two of purulent discharge in the morning which no treatment seemed to relieve. Suspecting then that the long-standing discharge, the diminished calibre of the stream of urine, and the feeling of weight in the perinaeum might be due to a polypus, I explored the urethra with an improvised endoscope and found first two, and later these three, polypi, removed them, and had the satisfaction of seeing a cure follow this treatment. They were all situated within the first three inches of the urethra. I think, no doubt, these little tumors are papillomas and belong to the more common varieties of new growths which are seen in the male urethra. A rough examination of them with a pocket lens reveals quite nicely their dendritic formation. Tumors of the urethra, in the male at least, are usually stated to be of rare occurrence, although as Dr. William Belfield, of Chicago, has remarked they may not be so rare as is usually supposed as the urethra is seldom systematically examined upon the post-mortem table. Belfield himself in a series of seventy autopsies discovered two urethral tumors.

##### **SLIDES FROM AN ADENO-FIBROMA OF LACHRYMAL GLAND,**

presented by DR. DE SCHWEINITZ,

These sections were made from a tumor of the lachrymal gland which was removed by Dr. Agnew. The growth occurred in a young man; was of five years' duration and painless, having been situated in the upper and outer part of the orbit. The eye was sightless from atrophy of the optic nerve. The tumor, which was about the size of an English walnut, was surrounded by a dense fibrous capsule. The main body of the growth was composed of fibrous tissue through which the remains of the gland tissue are seen. The epithelium is in places in a state of proliferation, but apparently no formation has taken place which could be justly characterized as malignant. The tumor may be classed, I think, as a fibroma or adeno-fibroma of the lachrymal gland.

##### **SPECIMENS FROM EXCISION OF THE ASTRAGALUS FOR CARIES, ETC.,**

presented by DR. C. B. NAXCREDIE.

Elmer, aged nine and a half years, had for some years suffered from characteristic symptoms of strumous disease of the astragalus, the details of which it is unnecessary to give. Early in November, 1884, he began to have chills, severe pain in the ankle-joint, which now became swollen, hectic and profuse diarrhoea. Although I had never been able to detect dead bone by the probe, I felt convinced that an abscess—the result of carious bone—had ruptured into the previously only slightly diseased ankle-joint. I accordingly, under ether, examined the ankle-joint which I found contained a considerable quantity of very offensive pus, which communicated with a cavity lined with carious bone, situated between the astragalus and os calcis. I excised the

astragalus and scraped out the carious external malleolus, as well the roughened surfaces of the tibia. The boy has since done well.

Dr. M. LONGSTRETH presented the following specimens, the notes of which with the discussion not having been placed in the recorder's hands as yet, will appear in print at a future time.

(1) A kidney preserved as to color and texture by ordinary illuminating gas. (2) Sarcoma of the femur removed by amputation by Dr. J. H. Brinton.

PYELONEPHRITIS AND CHRONIC PARENCHYMATOUS NEPHRITIS IN THE SAME PATIENT, COMPLICATING CYSTITIS.

presented by Dr. J. TYSON.

E. D., a prostitute, aged twenty-five years, white, was first admitted to the Philadelphia Hospital on September 10, 1883. She was at that time suffering from diarrhoea, and stated that she had previously passed blood—although apparently none was passed after admission. She had no symptoms which attracted attention to the urinary organs and no examination of the urine was made. The history of the case at present attainable does not show whether or not she had had contracted gonorrhoea. Her diarrhoea disappeared under treatment, but she regained strength slowly. She was discharged on October 4, 1883, apparently in fair health, but was readmitted on October 25, 1883. She now presented oedema of the legs and face, and an examination of the urine made about this time disclosed the presence of pus. She complained of pain in the lumbar region and in the head and was much debilitated. The treatment was directed to warding off a threatened uræmia. The dropsy disappeared, but her other symptoms progressively increased until death relieved her. She died with symptoms of uræmia. Autopsy, December 2, 1883. Nothing noteworthy in external appearance. Slight pleuritic adhesions; thoracic organs otherwise normal. Abdomen: peritoneum normal; liver normal; spleen not examined. Kidneys: left, typical large fatty organ; right, swollen to more than twice its normal size; when opened found to present a marked pyelonephritis with great distension of the pelvis, the calyces filled with pus—partly fluid and partly inspissated. Bladder was in a condition of chronic cystitis. Cause of death, pyelonephritis with large white kidney. Dr. Tyson said that the chief interest attaching to the specimens lay in the association of these two very opposite conditions, apparent pyelonephritis or suppurative interstitial nephritis with chronic parenchymatous nephritis. The former condition is a well-recognized result of cystitis, the latter not. Dr. Tyson had never before met these conditions in association. Usually as a result of a long-continued cystitis however induced, we have a suppurative nephritis of one or both kidneys, but never so far as he knew parenchymatous nephritis. He thought the most reasonable explanation of the association was that of coincidence. That there had existed previously, perhaps, a chronic parenchymatous nephritis; that upon this a cystitis had supervened, and upon this a pyelonephritis.

Dr. Tyson said that he would like to ask the members whether they had ever found association

of these two varieties of diseased kidneys with cystitis. Dr. Formad thought that he had seen one such case, but there was no history. Dr. Osler said that the condition of this kidney is not infrequently met with in persons dying of intercurrent affections, and that he should not interpret the case as previous speakers had done. The kidney disease was probably of many years' duration, the cystitis was secondary to it, and the other kidney affected with parenchymatous nephritis had become subsequently diseased. It was well-known that the ordinary scrofulous kidney, with pus in the urine, etc., often lasts for many years, ending in general tuberculosis or inspissation of the pus. He would like to ask how long pus had been observed in the urine, the state of the bladder, and whether there was evidence of tuberculosis in the various organs.<sup>1</sup>

Dr. Tyson replied that he was in the possession of no definite facts as to the duration of pus in the urine. The case had only been under observation for three months, and certainly pus had been detected two months before her death.

THE NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting February 16, 1885.

THE PROTECTIVE TREATMENT OF OPEN WOUNDS.

Dr. T. R. VARICK, of Jersey City, Surgeon-General of the State of New Jersey, read a paper on the above subject, which, he said, was designed to be supplementary to the paper which he read, in May last, before the Section of Surgery and Anatomy of the American Medical Association, on "Railroad injuries of the extremities, with observations on the site of amputation, and subsequent treatment of the stump." He remarked in the outset that if his views should appear to some to be sacrilegious, attacking as they did the very Lares and Penates of surgical authority, they are not the inspiration of a moment, but the settled convictions arising from long-continued clinical observation. In serious injuries the things that had to be contended against are: first, shock and hæmorrhage; second, sepsis; and from time immemorial it had been the aim of surgeons to minimize the dangers of the one source of trouble and to prevent the occurrence of the other. After the receipt of an injury the open stomata of the vessels offered a means of access for septic material, and the danger of serious results from this cause would be much greater than it really is, were it not that the vessels continue for some time to pour out considerable quantities of serum, which served to cleanse and protect the parts. When, however, this exudation from the vessels ceased, the patient was exposed to imminent danger of septic infection, unless some means are employed to protect him from it. Any method, therefore, which would hermetically seal the vessels without causing irritation to the parts, promptly after the receipt of the injury, would seem to completely fill the indication of preventing sepsis.

<sup>1</sup> Owing to unavoidable circumstances a portion of the discussion, in which various explanations differing from Dr. Osler's were given, has to be omitted.—Recorder.

Dr. Varick quoted from Holmes's Surgery, Sir James Paget's description of the appearances of an open wound, and then showed from Flint's Physiology that blood-serum contained all the principles found in the plasma, or *liquor sanguinis*, with exception of the fibrin. This serum, he continued, was largely albuminous, and it was the albumen that was directly consumed in the method of treatment to which he wished to call attention. On the coagulation of this element depended the success of the treatment, which was so marked that he had not met with a single case of septicæmia since he had adopted it. He would say in passing, also, that whatever success had attended the use of bichloride of mercury and carbolic acid was in reality due to their power of coagulating albumen.

There are, however, positive objections to the use of both these agents on account of the danger of their constitutional effects, as well as of their properties as local irritants. In regard to the bichloride he had heard of several cases in which marked tenesmus was caused by it, and he then referred to the opening address of Sir Joseph Lister before the Medical Society of London, October 20, 1884, in which he related the case of a lady from whom he removed the mamma and cleaned out the axillary glands. Immediately over the wound was placed a piece of oiled silk which had been dipped in a 1 to 500 solution of corrosive sublimate; then, over this, sublimate gauze, and outside of all, an abundant eucalyptus dressing. The next day when the dressing was changed, it was found that under the oiled silk, exactly corresponding to its extent, the skin was highly irritated, and was covered with small vesicles. It was also found that the inner side of the arm, where there was no wound, was in the same state of intense irritation. "While this case showed," Sir Joseph remarked, "that in the sublimate we had an agent that might give very beautiful results, it also indicated that we were dealing with an edged tool, which, while it might do admirable work, was very apt to cut our fingers." (*British Medical Journal*, October 25, 1884.)

Having quoted from Bartholow some account of the local and constitutional effects of carbolic acid, Dr. Varick alluded to a large number of cases in the hands of both American and foreign surgeons in which the use of that agent was followed by fatal or dangerous consequences. Among these was one under the care of Dr. H. B. Sands at the New York Hospital in 1879, in which the patient had been subjected to the operation of amputation of the thigh for ununited fracture of the femur. For five days after the operation the urine was green in color; an effect due to the absorption by the wound of carbolic acid, and in accordance with Lister's methods. (*New York Medical Record*, vol. xx, p. 151.) At a meeting of the Clinical Society of London in May, 1879, Mr. A. Pearce Gould had reported a case of amputation at the hip-joint in which the patient died at the end of sixty-eight hours. At the autopsy all the veins of the left foot, leg, and thigh were found to be filled with black coagulum, which extended into the common iliac vein; the thrombosis being due, in his opinion, to carbolic-acid poisoning. All went well up to forty hours after the operation; when, suddenly

and coincidentally with the excretion of carbolic-acid urine, the fatal symptoms set in—symptoms which were not merely local and limited to the affected limb, but general. Among the other cases to which he referred were two nearly identical ones reported by Dr. Alfred C. Post at the New York Pathological Society, March 26, 1881, and by Dr. E. H. Bradford at the Boston Society for Medical Improvement, March 28, 1881. Both were in children suffering from large gluteal abscesses in connection with old hip-joint disease. In Dr. Bradford's case the abscess contained about eight ounces of sero-purulent fluid. Carbolic spray was played upon the limb during the incision; the abscess was hyper-distended with a solution of carbolic acid of a strength of 1 to 40. The patient recovered quickly from the ether, but in the following night was seized with obstinate vomiting, which persisted during the morning, but stopped at noon. It returned again in the night, and the following morning the child was in a feeble condition. The urine that was passed was tar-color, and death took place two days later, with symptoms of collapse. (*Boston Medical and Surgical Journal*, April 7, 1881.)

The method which he had adopted with so much success during the past six years involved simply the use of water that was heated to a temperature slightly below the boiling-point employed freely and continuously until all oozing had ceased. By this means a protective shield was formed over an open wound from autogenous material that was always available. It not only facilitated healing, but aided the heart's action by the transmission of heat, and thus tended to prevent shock. With a very large hospital experience, he had had no death from either primary or secondary shock in his practice since he had resorted to the treatment. Its merits were, briefly, as follows: (1) simplicity, (2) availability, (3) safety, and (4) invulnerability. In order to test the protective agency of albumen he had performed some simple experiments, the results of which he now proceeded to give. In each of a number of test-tubes, rendered absolutely clean, he placed, on the thirtieth of October, 1884, some freshly prepared beef-tea; covering half of them with simple linen and the other with linen coated with serum. Within twenty-four hours the beef-tea in half the tubes of the first series became milky and turbid, and within forty-eight hours that in all of them was loaded with bacteria and evidently undergoing the process of decomposition; while in all the tubes of the second series, which were submitted to the inspection of the members, the beef-tea was as limpid and apparently fresh as on the day, four months before, when it was placed in the tubes. On January 21, 1885, he had repeated the same experiments, and in all the tubes which were covered with linen coated with serum the beef-tea was again found to be in a state of perfect preservation.

The paper was discussed by Drs. William Detmold, J. W. S. Gouley, and C. S. Wood, and by the President. Dr. Detmold stated that throughout his professional career he had been accustomed to use a water-dressing for wounds, but he had not employed the hot water, as recommended by Dr. Varick. He was accustomed

to make use of a simple compress in the case of even the largest wound, and he was careful that it should not be wet enough to drip. Too much water he thought was injurious, as he had sometimes seen the skin macerated by the large quantity employed. It seemed to him that Dr. Varick had omitted one point, and that was, he had not shown that the water he used was hot enough to coagulate albumen. Neither had he proved that blood-serum without being exposed to heat would not have the same effect as serum that had been exposed to heat; and it was his own opinion that it would, for he believed that in the case of wounds the albumen would coagulate, or, rather, dry, without heat.

In his experience he had found that the parts where injuries are most likely to be followed by sepsis were the genital organs. It was a well-known fact that internal urethrotomy was a peculiarly dangerous operation, a great many cases proving fatal; while in external urethrotomy this was not the case. Yet in the latter the parts were exposed to the air, and therefore peculiarly susceptible to the access of so-called germs. In internal urethrotomy he thought that the danger arose from the fact that in the vicinity there were large vessels which did not readily contract, and much loose cellular tissue. He believed that pus could get into the veins without the agency of any germs, and was free to confess that he had not yet quite been converted to the germ theory. All through the prevalence of these new fashions of antiseptics and drainage-tubes he had always adhered to the old methods formerly in vogue. He had been brought up to consider that foreign bodies should always be removed, and he did not like the idea of adding a new source of irritation.

In reply to Dr. Detmold, Dr. Varick said that he was perhaps not fully prepared to answer the objection that had been brought up. Physiologists tell us that albumen remains fluid when outside of the body until coagulated by heat or some other agent leaving this power. When left to itself for a considerable time, however, it would desiccate, though not coagulate. But during the time that was necessary for this there was ample opportunity for the admission of any germs that might be in the vicinity, granting for the time being that there were such mischievous agencies in existence. The special point that he had made was that the albumen should be promptly coagulated and the impervious film thus formed over the surfaces of the wound before the oozing had ceased from the vessels.

Dr. Gouley said that years ago he had been accustomed to apply a solution of chloride of zinc to the surfaces of all wounds, as recommended by Dr. Pancoast, of Philadelphia; the object of which was exactly the same as that Dr. Varick now accomplished by his much simpler process. In his experience, however, the cases in which septic trouble was most likely to occur were those in which there had been very profuse hemorrhage. Like Dr. Detmold, he had not yet been converted to the germ theory, and he believed that excessive loss of blood was a much more important factor in the etiology of pyæmia than any so-called germs. The pus, he thought, did not enter the veins from without, but occurred within the vessels

themselves from the disintegration of thrombi which had formed in them. In conclusion, Dr. Gouley said that he could not too strongly express his approbation of the forcible manner in which Dr. Varick had condemned the use of bichloride of mercury and carbolic acid. As to the latter, he firmly believed that more lives had been lost by it than could have been saved through its agency. All good surgeons were antiseptists, though they were not by any means all *Listerists*.

Dr. Wood, who had been a surgeon in the army during the late war, stated some of the impressions which he had received from his experience at that time. Depressing influences, such as wet weather, the effect of defeat, etc., seemed to him to be more potent causes of septic trouble than the lack of antiseptics, which were then unknown, and he believed that the results obtained by the surgeons were, all things being taken into consideration, as favorable as those now met with in these days of Listerism. Cleanliness, he thought, was the essence of antiseptics.

The President, Dr. LEAH, thought that one great source of danger was the decomposition of blood-corpuscles, which became swollen from endosmosis. By the formation of a film coating the wound, through the coagulating agency of hot water, as employed by the author of the paper, not only was the decomposition of the blood-corpuscles avoided, but the admission of germs from the atmosphere, the possibility of which many of the highest authorities of the day believed in, was prevented. Dr. Varick's success was indeed wonderful, and it was of all the more value to the profession from the fact that his experience was so immense. For a number of years he had been surgeon to two of the largest hospitals in the United States, in which acute surgery formed a very prominent feature.

Dr. VARICK, in closing the discussion, said that in his paper this evening the results which he had met with had been given only in a very general way. The statistics of his amputations were fully set forth in the paper which he read at the meeting of the American Medical Association in May last. They were all major operations, and mostly in cases of railroad injury. He had also performed some major amputations since that paper was prepared, and he would now refer for a moment to these, in connection with the others. From the middle of August, 1879, up to the date of the paper he had had at St. Francis Hospital, Jersey City, twenty-one such operations, and since then one primary amputation of the arm; making in all twenty-two, all of which were successful. At the Jersey City Hospital, during the period named, he had had seven operations, and since then four more, making eleven in all, of which one case proved fatal. This amputation was one of the thigh, and the patient, who was a broken-down tramp, died in the night from secondary hemorrhage. In private practice he had had up to the date of the paper three cases, and since then one. Of these four one died, but in this case the stump was doing perfectly well, and the real cause of death was valvular disease of the heart. There was thus a total of thirty-seven cases, with two deaths, which, he thought, was a pretty good showing for the method of treatment

adopted. His success, he believed, depended also on two other additional points, namely, making the amputation through sound tissue and keeping the stump clean.

That the hot-water treatment exerted a distinct protective influence against hospitalism he had met with several excellent illustrations in his experience. On one occasion, at the Jersey City Hospital, when the house was greatly crowded, and when there were several cases of puerperal fever in the lying-in wards, and nine or ten cases of erysipelas in the male wards, two cases of railroad injury, involving amputation of the thigh, were brought in. Yet both these patients made good recoveries, notwithstanding the exceedingly unfavorable influences to which they were exposed. Referring to Listerism, he said that it had been claimed that it was a system of cleanliness, but this he did not hesitate to deny. While he had seen enthusiastic Listerists shave the limb of a child four years of age, that no precaution might be omitted, he had also seen the most approved antiseptic dressing removed from a wound in the shape of a cup that was filled with the most offensive pus that he had ever met with in his life.

On motion of Dr. Detmold, a vote of thanks was given to Dr. Varick for his valuable paper.



#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting February 19, 1885.

##### ELECTRICITY AS A STIMULUS IN CARDIAC AND RESPIRATORY FAILURE.

Dr. GASPARD GRISWOLD read the paper of the evening, the object of which, he said, was to inquire how far the methods of applying electricity under the above conditions were in accordance with what is known of the physiology of the heart's action. In referring to the mechanism of the latter he stated that the accelerator nerves are opposed by the retarding action of the pneumogastric, which was always inhibitory. The accelerators increased the rate of the beats at the expense of force. To stimulate the heart, therefore, it would be necessary to apply the stimulus directly to the organ; but practically it was found that the application of electricity over the præcordial region had an effect the reverse of stimulating. He then proceeded to narrate two cases which he thought very instructive. The first was reported in the *Philadelphia Medical Times* of June 1, 1881, and was one of death from cardiac failure after etherization. In addition to other measures resorted to, a faradic current was applied for a short time, with one pole to the neck and the other in the præcordial region. The respiration remained comparatively unaffected, but the patient continued to sink, and died a little more than an hour after the anæsthetic had been withdrawn. The use of the battery in this case, he thought, might readily have caused the patient's death. The second case was one of poisoning by bitter almonds, which was reported in the *British Medical Journal* of July 2, 1881. When seen, the patient was quite insensible and collapsed; breathing gasping and labored; he was cyanotic; the pulse was hardly perceptible, rapid, and flicker-

ing, and the heart's apex-beat weak and rapid. The stomach-pump was at once used, and the stomach was then washed out with warm water, after which the patient became more collapsed, and his radial pulse almost ceased. The battery was employed for ten minutes.—twenty-five cells,—with one pole over the apex of the heart, and the other in the neck, over the course of the pneumogastric nerve. In twenty minutes liquor ammoniæ fortior was given as an inhalation, and the current applied as before, contact being made and broken with the inspirations. The battery and inhalations of ammonia were then continued alternately, at first every ten minutes and afterward every half-hour, for almost four hours. The patient's recovery was attributed mainly to the use of electricity, but Dr. Griswold thought that he recovered in spite of it, since the current from a battery of twenty-five cells would kill a large dog when applied to his pneumogastric, and that from six cells would cause faintness in human beings. The reason that the man was not killed by the treatment might be either because the battery was not in good order or else that the pneumogastric was so paralyzed by the hydrocyanic acid that it was incapable of responding to stimulus. That the man was paralyzed was indeed probable from the fact that three hours had elapsed between the eating of the bitter almonds and the application of the battery.

He then went on to say that it was rational to apply an electrical current in the neck in case of respiratory failure, since it had been repeatedly shown that stimulation of the phrenic nerve caused contraction of the diaphragm. Either a mild current could be applied continuously, or else one sufficiently strong to excite a deep inspiration be used momentarily, and the application be repeated at intervals of three or four minutes. But while this application of electricity undoubtedly stimulated the phrenic nerve, it also had the effect of stimulating the pneumogastric, and thus depressing the heart's action, unless the pneumogastric was paralyzed. The two nerves were so close together in the neck that under ordinary circumstances it was utterly impossible to stimulate the one without stimulating the other in addition. The function of the pneumogastric was to retard and even stop the heart's action, but in opium-poisoning this nerve was apt to be paralyzed, and hence electricity could be applied to the neck in this condition with a prospect of its affecting the phrenic nerve alone. He knew of one case of opium-poisoning, however, in which instant death was produced by the sudden application of a current in this locality for the purpose of stimulating the phrenic through the effect which it had upon the pneumogastric. Hence the following conclusions: (1) that electrical stimulation of the phrenic nerve was liable to stimulate the pneumogastric also; (2) that only mild currents should be employed; and (3) that especially should the sudden application of a strong current in the neck be avoided.

Dr. Griswold said that he had been induced to make an investigation of this subject in consequence of a case of his own in which a patient suffered from an overdose of tincture of aconite because the druggist who put up a prescription in which some aconite was ordered neglected to add the water

directed. It was advised by Dr. A. A. Smith, who saw the case in consultation, that electricity should be applied to the neck; but he opposed this measure on the ground that while the current might assist respiration by stimulating the phrenic nerve, it might have a dangerous effect upon the heart through the influence of the pneumogastric, which would also be stimulated. He then decided to make some experiments of his own on dogs. The first drug that he experimented with was aconite, and he found that when he applied an electrical current to the pneumogastric nerve of a dog under the influence of aconite the heart's action was not at all affected by it, while the effect on the heart was very marked, as shown by the cardiometer inserted in the carotid, under ordinary circumstances. Even when the current was increased to the full strength of the battery no effect whatever was produced upon the heart. The results of these experiments, he ascertained afterward, are in accordance with the observations of other investigators, and the deduction from them was that there was no danger from electricity in aconite-poisoning, and it was therefore perfectly safe to apply a current to the phrenic nerve. Consequently, he now believed that Dr. Smith had been right in advising its use in the case which he had described.

In dogs under the influence of chloroform he found that death was quickly produced by the application of electricity to the pneumogastric, and in one case the fatal effect was instantaneous, the heart stopping in diastole and never beating again. The deduction was that the pneumogastric retained its excitability in chloroform-poisoning, and it was, therefore, extremely dangerous to apply electricity to the neck in this condition. In asphyxiation by ether he found that the heart could stand stimulation of the pneumogastric as well as in health, and the deduction was, therefore, that it was safe to stimulate the phrenic nerve to a certain extent. In opium-poisoning, when well marked, the pneumogastric was paralyzed, and there was, therefore, less danger in stimulating that nerve in this condition than in health. When morphia was injected into a vein, however, he found that the case was different, and the deduction which he made from this experiment was that, when morphia was injected into a vein, the heart was easily depressed by the application of electricity to the pneumogastric. The general conclusions at which he arrived were:—

(1) That electricity cannot be applied clinically in such a way as to stimulate the heart, literally speaking.

(2) That the application of one pole to the neck and the other to the precordial region stimulates the pneumogastric, and may kill.

(3) That the stimulation of the phrenic nerve necessarily involves the stimulation of the pneumogastric, on account of their proximity in the neck.

(4) That the liability to stimulate the pneumogastric is not great in aconite, ether, or opium poisoning, on account of the paralysis of that nerve caused by these drugs.

(5) That in heart failure from chloroform or the injection of morphia into a vein the application of electricity to the neck is strongly contra-indicated.

(6) That under no circumstances should a current strong enough to excite muscular contraction be applied suddenly over the neck.

Dr. ROCKWELL was the first to take part in the discussion which followed the reading of the paper. Theoretically he thought the views expressed by Dr. Grissold were correct; but practically it was not necessary to use electricity with so much caution as he would lead us to suppose. Brown-Séquard had urged with great emphasis the danger of applying electrical currents to the central nervous system through the pneumogastrics, but in actual practice it was not found that the disastrous consequences apprehended really followed such applications. Some authorities believed that the pneumogastric nerves on the two sides of the body had a somewhat different action; the one having more influence over respiration, the other more influence over the heart, and his own clinical observation had seemed to show that this view was probably correct. One of the most important things about the action of electricity, and one which was apparently very imperfectly understood, was its secondary influence; and as a matter of fact this agent had long been recognized as of special value in stimulating the respiratory rather than the cardiac function. In conclusion, Dr. Rockwell related a case of opium-poisoning in which electricity was employed for four hours. When first seen the patient had a pulse of 40, and the respirations were 10 to the minute. The first application of the faradic current to the phrenic nerve in the neck had a very excellent effect, the respirations at once becoming of normal frequency. The pulse also rallied, and for two hours the case seemed to be doing very well. At the end of that time, however, both the pulse and respiration began to fall, and gradually sank to exactly the state they were in when the patient was first seen. After four hours of constant effort a fatal result seemed imminent, and very little more was done to maintain the flagging powers of the patient. After a time, however, a reaction set in spontaneously, and the case recovered. The practical point that this example impressed upon us was that the use of electricity should be maintained as long as there was any breath left in the patient's body. Here undoubtedly the employment of the current for four hours had aided over the system, failing under the depressing effect of the narcotic poison, until nature had a chance to reassert her power.

Dr. FORDYCE BARKER spoke of the influence on the heart of chloroform as compared with that of ether, and said that while the latter was undoubtedly much the safer in surgical practice, there could be no question that chloroform was in every way better in obstetrical cases. The explanation seemed to him to be that in surgery the anæsthetic was given to anticipate suffering, while in midwifery it was given for the relief of pain already existing. He also maintained that the existence of organic disease of the heart was no contra-indication against the use of chloroform in obstetrical cases, but, on the contrary, that it was a positive indication to resort to the anæsthetic at an earlier period than usual. He believed that the administration of chloroform during labor had the effect of conserving the vital energies of the patient to an extent that

more than counterbalanced any depressing effect that the agent might have on the cardiac function.

Dr. AMIDON was glad that the author of the paper had had the courage to tear down the idol electricity from the throne which it had so long occupied; but he regretted that he had not stated what agents could be depended upon instead of electricity as stimulants in cases of respiratory and cardiac failure. Artificial respiration was a very powerful remedy that could always be tried with perfect safety, and he believed it to be a fact that in a very large proportion of cases the cardiac weakness was merely secondary to that of the respiratory function. Dr. ROCKWELL, it seemed to him, was inclined to regard too lightly the danger of applying currents to the neck, and this was no doubt because, being a specialist, he was thoroughly skilled in the use of electricity, while Dr. Griswold looked at the matter from the standpoint of the general practitioner. In the pressing circumstances attending the cases of chloroform or opium poisoning which physicians were called upon to attend, it was unquestionably true that electricity was rarely ever applied in an intelligent or judicious manner.

Dr. PUTZEL thought that however correct the physiological hypotheses of the author of the paper might be, the deductions based on experiments upon animals were inadmissible. No method, he said, had yet been devised by which electricity could be directly applied to the pneumogastric nerves in the human subject. Consequently, the best electrotherapists now spoke simply of galvanization of the neck. Moreover, he did not believe that this was by any means as dangerous as Dr. Griswold seemed to believe, and although he had himself repeatedly employed a battery of twenty-five cells in perfect order for this purpose, particularly in cases of exophthalmic goitre, he had never seen any change in the respiration or the heart's action produced by it. From a clinical standpoint he thought the subject was one which required a great deal more attention than it had hitherto received, so that physicians generally might be induced to learn how to apply the current with intelligence and discrimination.

Dr. CORNING said he rose to take exception to the statement made by the last speaker that it was impossible to apply faradization to the pneumogastrics, since he himself had devised a method by which this could be successfully accomplished. This was shown by the practical results that he had obtained, and he referred particularly to one case of exophthalmic goitre under his care, in which the pulse was reduced in twelve weeks from 110 to 80.

Dr. A. H. SMITH said that in opium-poisoning the great difficulty was respiratory failure, and the object of the physician was to restore this function to its normal character. It could not be denied that a full inspiration could usually be secured by the application of electricity to the phrenic nerve, and if this was repeated about sixteen times a minute it was apt to be followed by good results. There was often a strong temptation to apply the current more frequently in the hope of stimulating the respiratory function to the fullest extent, but the too frequent repetition was by all means to be avoided. When the respiration became more natural it would generally be found that the cardiac failure would also

begin to pass off. Electricity was also useful as a general stimulant in opium-poisoning. Flagellation was often injudiciously practised, and from the abuse of this there was liable to arise the added danger of shock.

The President, Dr. JACOB, stated that in former years he had used electricity a great deal in cases of cardiac and respiratory failure, such as were met with in opium-poisoning, but more particularly in the asphyxia of new-born children. He had found that if the current was used more or less continuously for any length of time, while at first these functions would be stimulated, the increased activity was afterward followed by paralysis; and that this effect was reached more speedily the closer to the phrenic and pneumogastric nerves he applied the electrical current. His experience taught him, therefore, that the best practical way of using the agent was not to confine the current to the nerves, but to apply it generally to the muscles. His method was to keep one electrode in contact with the body, and then momentarily touch the skin in various parts of the surface; and this was the plan he would also advise in opium-poisoning. The shock thus received by the patient was often sufficient to excite the respiratory function, and he quite agreed with Dr. Amidon in the opinion that cardiac failure was generally secondary to that of respiration. The electrode used for these general applications upon the surface should preferably be a faradic brush.

In closing the discussion, Dr. GRISWOLD remarked that in his paper he had endeavored to bring out three points. The first was that the heart could not be reached in such a way as to be stimulated efficiently and certainly. He would not have thought it necessary to lay any stress upon this had not the two cases to which he referred in the early part of his paper, which were both published in medical journals of the highest standing, led him to believe that such an opinion might be entertained to a certain extent among the profession. The second point was to call attention to the fact that the pneumogastric and phrenic nerves lay so closely together in the neck that the stimulation of one of them was impossible without that of the other also. In opium-poisoning, when the patient was well narcotized and the heart's action had become frequent, we could stimulate the pneumogastrics with impunity, on account of the paralysis from which they were suffering. In the case of instant death to which he had referred (an account of which he had received from Dr. Janeway, whom he had hoped to have present in order that he might make some remarks in regard to it), the pneumogastric had not yet become completely paralyzed at the time the current was suddenly applied to the neck. It was, therefore, confirmatory of the results shown by his own experiments on dogs; and he believed that the reason why more patients suffering from opium-poisoning were not killed by the application of strong currents to the neck was on account of the complete paralysis of the pneumogastric existing at the time. In chloroform-poisoning particularly, he believed it was best to rely principally on artificial respiration, which was safe and efficient, while stimulation of the phrenic nerve was not safe or efficient.

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## THE GERM THEORY OF DISEASE IN ITS RELATION TO THERAPEUTICS.

If the views advocated in a recent editorial<sup>1</sup> prove sound, then an infectious disease may be defined as "a conflict between the subject who is smitten and a particular microorganism, which multiplies at his expense, appropriates his air and water, disintegrates his tissues, or poisons him by the decompositions which accompany its development."<sup>2</sup> Granting this definition (to which daily increasing knowledge lends support), the study of bacteria in general, and especially of the moribigenous bacteria, possesses a surpassing interest to every physician who is not content merely to plod along in the ancient but obscure, and often dangerous and perplexing, path of empiricism, but who looks for illumination from the new aetiology; for it is not too much to affirm that, as the causes of disease are understood, the triumph of therapeutics becomes more easy and more certain.

It has long been the reproach of the medical profession that therapeutics is not an exact science. In the light of the germ theory it might virtually become such, or at least approximately such, with respect to a large group of devastating diseases, consisting of many species, all comprehended under the one genus — *microphytic*. The art of the physician, in the presence of these diseases, will consist in the observance of a few simple rules: What is the nature of the epidemic or particular infectious disease under consideration, and is the causative parasite known? If so, all the recognized agents of the anti-parasitic medication must be brought into use to prevent the development and pullulation of the microbe. What can be accomplished by intelligent and watchful prophylaxis to stay the spread of the infection must first be done, and human habitations and persons protected by suitable aseptic means. Indeed, it is from prophylaxis or prevention that the first and probably the greatest services may be expected. It is needless to say that sanitary science has already taken long strides in this direction.

As for the unfortunates who may be proved to be actually suffering from the invasions of the parasite, the problem of the therapist will be still somewhat difficult of solution. How best to destroy the parasite, and not injure his patient? He may not be able to apply his germicides in quite as unstinted a manner to the living human organism as he would to infected barracks or emigrant ships; but this leading indication he will ever have in view, namely, to render the human environment of the moribigenous microbes as uncomfortable to them as possible, and to weaken and limit their powers of multiplication. In short, when once the cause is ascertained there can ever be but one leading therapeutic indication, namely, to destroy this causal agent, or attenuate as far as possible its influence in the economy. The resources of the physician will be enhanced by the practical discoveries of the chemist and the micro-biologist, and experimental physiology will effect for all rival systems of medication "proving" that cannot be gainsaid because of a strictly objective character.

In surgery and obstetrics it must be confessed that the germ theory has already won triumphs; it has almost revolutionized the treatment of wounds, the methods of performing hazardous and difficult surgical operations (especially on deep parts), and the mode of management of that formidable complication of the lying-in state, puerperal septicaemia. Although the specific microbes of surgical and puerperal infection are not known, or but partially known, the influence of bacteria of some baneful kind on septicæmic processes is none the less recognized, and the results of strict aseptic treatment, germicide sprays, germicide dressings, and absolute cleanliness are of the most brilliant kind. Under Listerian precautions, joints are opened with comparative impunity, resections are less timidly performed, abdominal sections and operations on the pleural cavity have ceased to be a terror, and ovariectomy is no longer the hazardous thing it once was; cases of septicaemia and purulent infection after operations, of surgical erysipelas and gangrene, are almost unknown in our hospitals. In obstetrics the success has been more complete still, if we may trust the reports from the lying-in hospitals of the great metropolitan cities of the Old World and the New which have adopted the antiseptic method: the statistics of Tarnier respecting the freedom from all puerperal diseases of the *Maternité* the past few years are especially gratifying; this old hospital once came near being abandoned on account of the prevalence of child-bed fevers which almost decimated its wards.<sup>3</sup> In short, action based on the assumption that the germ theory is true, has saved thousands of lives and prevented sickness and suffering in a much larger ratio.

How far comparative medicine has benefited by the labors of such men as Koch, Davaine, Pasteur,

<sup>1</sup> Page 111.

<sup>2</sup> Duclaux, *Ferments et Microbes*, Paris, 1882.

<sup>3</sup> G. See, *Phibic Baillière*, p. 26.

Toussaint, Detmold, and others, who have demonstrated the parasitic nature of anthrax, fowl cholera, swine plague, murrain, etc., it is at present impossible to say. A clearer knowledge has certainly been obtained of the best means of prevention and prophylaxis. The real value of Pasteur's protective inoculations is still under dispute, though Greenfield has confirmed Pasteur's discovery as to the immunity afforded certain animals by attenuated virus, and the French government, on recommendation of their scientific commission, has bestowed on Pasteur high honors and a liberal pension for (as is believed) having saved the cattle and sheep of France by the hundreds of thousands from the pestilential charbon. Whether the therapeutic application to the human infectious diseases of a wider and more accurate acquaintance with the special morbid agents — supposing it to be finally proved that the *materies morbi* of all these diseases be a *contagium vivum* — shall verify the old adage that "knowledge is power," it remains for the future to decide. As factors in the problem, climate, locality, food, all have a certain importance; it is also worthy of note, as pointed out by Bouchard, that most of our antipyretic medicaments are antiseptic and antiparasitic. Moreover, all these morbidogenic bacteria are able to exist only within a narrow range of conditions. They are all anaerobic, that is, do not thrive, or they lose their morbidogenic properties in the presence of free oxygen; on this fact Pasteur has based his principle of the attenuation of virus by repeated cultures. A simple change in the temperature of their surrounding medium is sometimes sufficient to destroy their activity. Thus fowls are refractory to charbon. The normal temperature of birds is higher than that of mammals, attaining 42° C. in the gallinaceæ. But experimentation shows that at this temperature the anthrax-bacillus ceases to manifest activity and to multiply. This increased temperature of the blood constitutes the one factor of the superior resistance of the bird to charbon.

What is true of charbon is true of all micro-organisms as far as their life history is known; a certain temperature is necessary, above or below which they cease to present active manifestations. As for the influence of climate, it is worthy of note that bacteria which infest the higher animals sometimes lose their fecundity by simple change of climate; thus European cattle transported to Algiers become refractory to anthrax. Sée, in his late work on "Bacillary Phthisis," devotes a long chapter to the discussion of altitudes at or above which microphytic life in general, and that of the tubercle-bacillus in particular, is compromised; these are the ideal climates for early phthisis.<sup>1</sup>

With regard to the question of pabulum in its relations to the life of the infective microbes, we

are very much in the dark; we know, however, enough to be assured that the nutritive conditions of their existence are very strict, that *healthy* tissues and blood seldom furnish the aliment they require, — hence one important factor of the resistance of the higher organisms to the invasion of the lower; that, moreover, a lowered condition of the vitality of the fluids and tissues is generally the immediate and necessary precursor of the occupation of these latter by the dangerous microorganisms; that, finally, their triumph under circumstances the most propitious to their nutrient activity is always brief, as though certain special organic compounds on which they depend were soon exhausted.

These considerations are sufficient to furnish hints as to the problems with which medicine and hygiene in the future will have to contend, provided the germ theory of the infectious diseases shall have established its right of empire.

#### THE DANGERS OF WATER-GAS.

CONSIDERED as a sanitary matter, the manufacture and use of water-gas for domestic purposes cannot be defended for a moment. On the contrary, every consideration of safety is opposed to the introduction of this dangerous agent into dwelling-houses and public buildings. The source of the danger lies in the relatively great amount of carbonic oxide which is left in the product of the process of converting steam into gas by its exposure to incandescent anthracite. As is well known, carbonic oxide is of all gaseous poisons the most lethal; it kills as surely, if not as quickly, as hydrocyanic acid, and to admit it to inhabited rooms as an illuminating agent, under even more than ordinary safeguards against leakage, is an experiment the risk of which cannot be denied.

These are trite sayings. Yet the energetic agents of speculative enterprises, eager to place their "plant" and to make money out of the dear public, will declare that there is no danger in water-gas worth mentioning. They catch the attention by emphasizing the economic side of the case, and by reiterating how cheaply they can supply the new article. They wish all statutory restrictions removed so that, in the name of economy, they may make and send through our streets and into our houses an illuminating gas containing thirty per cent., more or less, of carbonic oxide. They grow hilarious when their attention is called to the record of deaths by the accidental inhalation of the "improved" gas in cities which have surrendered to their persuasive overtures. They declare that the coal-gas ordinarily used for illuminating purposes contains carbonic oxide like their water-gas, but that no one thinks of going back to whale-oil or tallow-candles through any apprehensions on that account. In short, they sneer at all the cautions which unpre-

<sup>1</sup> That is, at 800 metres. "It is," says Sée, "in this quality of *frugality* of the atmosphere that elevated climates owe their anti-bacillary or prophylactic property."

judiced and unpurchased sanitary chemists have uttered since the composition of water-gas was first appreciated, and they, in effect, ask the people to take a catamount or a lioness into their laps to caress in place of the familiar domesticated animal which gives its name to the whole feline family. Sensible persons will hesitate before they try the experiment, and will choose rather to endure the gas they have than to fly to other gas four or five times more dangerous to life.

These reflections are suggested by a report of recent investigations made under the instructions and direction of the Massachusetts Board of Health, Lunacy, and Charity, by Professors Sedgwick and Nichols, of the Institute of Technology, in accordance with an order of the Massachusetts Legislature. The report, though only preliminary to a fuller exposition of the subject after further experiments have been made by the authors, is very convincing. After a general statement of the nature and composition of illuminating gas, of which "the only ingredient possessed of really toxic properties is carbonic oxide," this being "intensely poisonous," the report presents a summary of the conclusions to which the authors have been led by their experiments. Of these we give a condensed abstract:—

(1) Water-gas is decidedly more poisonous than coal-gas.

(2) An atmosphere containing a small percentage of coal-gas may be breathed many hours without serious effects, while an atmosphere containing the same amount of water-gas will be injurious and even fatal.

(3) On account of natural ventilation constantly going on in the rooms, thus permitting considerable diffusion, ordinary coal-gas, containing about seven per cent. of carbonic oxide, is not a source of serious danger; with water-gas, on the other hand, on account of the larger proportion (thirty per cent.) of carbonic oxide, the danger line is easy to reach. And it must not be inferred that a gas containing twice as much carbonic oxide as another is necessarily only twice as dangerous. Water-gas is not only in itself ~~more~~ more poisonous than coal-gas, but is also far more likely to produce injurious effects from similar accidental causes.

(4) Dogs, cats, rabbits, and pigeons did not show any symptoms of poisoning after exposure for many hours to an atmosphere containing one per cent. of coal-gas, being apparently able to resist it almost indefinitely; but the same animals and birds when exposed, under the same conditions, to an atmosphere containing from one-half to one per cent. of the water-gas invariably showed marked symptoms of poisoning at the end of an hour and a half, and death generally resulted after from five to eight hours of exposure to an atmosphere containing not more than one per cent.

(5) If instead of comparing the effects of the same percentage of the two gases, we consider the

time necessary to cause poisoning by the use of the same quantities of gas under the same conditions, we find a contrast not less striking. With water-gas let into a closed chamber of known capacity (700 cubic feet) at the rate of six feet per hour, the animals under observation showed well-developed symptoms of poisoning in an hour and a half, and were all dead within eight hours. In a corresponding experiment with coal-gas, a similar set of animals presented symptoms from which recovery would have been possible, and even easy, had they been set free; after twenty-four hours of continuous exposure, one cat and one rabbit were dead, but the other animals (dogs, cats, and rabbits) were not even unconscious.

It cannot excite surprise that, after these results, the report should contain these words in its closing paragraph: "Our opinion, based upon experiments, is decidedly averse to the general distribution of the so-called water-gas." Earnestly solicitous to promote all measures for public health and to oppose the advance, insidious or open, of all projects having a contrary tendency, we commend these independent and trustworthy observations of Professors Sedgwick and Nichols to the attention of our legislatures, and hope none of them will be tempted by false doctrines or other considerations to rescind the wise provision which forbids the manufacture of gas containing more than ten per cent. of carbonic oxide.

#### PENNY DINNERS AND OVERPRESSURE.

PENNY dinners has succeeded school-overpressure as the burning topic of the hour among London philanthropists. At first sight there seems but little connection between the two subjects. But under the surface a common root for the two branches of social reformation may be seen to exist. Dr. Crichton Browne attacked the system of public education as imposing too severe a task on the brains of the scholars. Mr. Mundella, representing the administration of the schools, retorted in effect that there was no overpressure, but if there were, it was due, not to the weight of the tasks imposed, but to the inadequacy of the pupils' mental strength, which insufficiency was due to a lack of proper food. Those who sympathized with Mr. Mundella's view of the question have thereupon organized the penny-dinner movement, or, at least, adopted it and harnessed it to the public educational system. The ponderous enginery by which alone our English brethren like to accomplish their good works has been set in motion. Boards, committees, and sub-committees, with their list of titled names and honorary secretaries, have been organized, and the cry of "overpressure" is already nearly drowned by that of "underfeeding." Already more than fifty penny-dinner centres are either in

operation or in preparation in the city of London, and the movement is extending with the alacrity characteristic of new and fashionable philanthrophies over other portions of the kingdom.

The meals are served in connection with the school session, often in the schoolroom itself. A certain number of free tickets are issued to such of the pupils as cannot raise the requisite penny, but in most cases the money is collected. In one instance the shrewd device is adopted of collecting the money for five days' dinners on Monday morning as an incentive to regular attendance of the pupils in order that they may profit by the meals that have already been paid for. It strikes one, however, that the family which is sufficiently "forehanded" to be able to make such a deposit for each of its children as this is likely to be able to feed them at home. The paramount desire of the teacher who devised the scheme just alluded to, to secure a full attendance as the *summum bonum*, is shown by his triumphant statement that in a particularly raw and cold week of midwinter the report of absentees was zero, although whooping-cough was quite prevalent among the scholars!

There is no doubt that the supporters of this movement do furnish for a net cost (the "plant" being supplied by donation) of less than a penny, to each of their patrons, a dish which contains a certain amount of nourishment. In a series of letters published in the *Sanitary Record* (January 15, 1885), a number of receipts are given which can be filled at an average cost per plate of less than a penny. These receipts, for the most part, reduce themselves to two great classes: first, a soup or stew, of which the composition and cost are fairly represented by the following example:—

12 lbs. ox-head at 3½d. . . . .	s. d.
6 " marrow-bones at 1d. . . . .	3 6
10 " carrots at ½d. . . . .	5
4 " turnips at ½d. . . . .	2
Four cabbages . . . . .	5
Sweet marjoram, 2d., thyme, 2d. . . . .	4
Parsley, 2d., leeks, 1d. . . . .	11
½ peck of fine oatmeal . . . . .	9
Salt and pepper . . . . .	3
	7 3
12 4-lb. leaves at 4½d. . . . .	4 3
	11 6

This makes sixty gallons of soup and feeds two hundred and forty children. Cost (including labor, &c.), 3.1 farthings per head. Second, a kind of roly-poly pudding, of which the following is a specimen:—

Flour, 1½ peck . . . . .	s. d.
Suet-lard, 2½ lbs. . . . .	2 1
Jam, 3½ lbs. (half a 7-lb. jar) . . . . .	10
Baking-powder . . . . .	2
	1 9

This feeds seventy children or a still greater number of "infants." The first of these dishes is

substantially in character and, we think, in cost what has been furnished in years past (perhaps with undiscriminating bounty) to the poor in many of our large cities. As to the second, when we think of its introduction to the stomach of infancy, we can only say that the pendulum of reform is in danger of swinging back from underfeeding to overpressure.

One of the best points we have noticed in connection with this movement is that on one occasion the recipe for the soup was given as a dictation exercise to the girls, and they were advised to carry it into execution in their own homes. Doubtless, in the instruction of the poorer classes as to the economies of buying and preparing food, there is room for an excellent work. Mr. Edward Atkinson has recently shown that the average cost by actual experiment and tested accounts, strictly and accurately kept, of boarding and lodging fifty-nine women in a factory boarding-house was less than twenty cents a day, and the food was good and abundant—something more, we are sure, than soup and roly-poly and puddings. The reform most urgently needed is that which will teach the poor classes how to prepare and place the penny dinner on their own tables, and see to it that they are able to earn the penny.

#### MEDICAL NOTES.

—Two or three cases have been reported in which cocaine has been used with good results for vaginismus. The temporary character of the anesthesia was yet sufficient to allow of impregnation, which had before been impossible.

—The Mary Fletcher Hospital of Burlington, Vermont, receives nearly \$200,000 by bequest of Miss Mary A. Fletcher, who has just died in that city. The bequest comprises nearly her whole estate.

—M. Vulpian, at a recent meeting of the Académie des Sciences, read a note from M. Germain Sée, on cardiac hypertrophy consequent on growth. The writer remarks that it frequently happens that growing youths, from fifteen to twenty, are subject to palpitation and constant headaches, accompanied by hypertrophied heart. The principal symptoms of this condition, are increased volume of the heart, recognized by percussion, a *bruit de souffle* at the apex, and irregular pulse. M. Sée recognizes three forms of this affection: the tachycardic, with rapid pulse and violent palpitations; the dyspnoic, in which the respiration is difficult; and the cephalic type, in which the cerebral circulation is disturbed in consequence of hypertrophied heart. He believes this condition is entirely misunderstood, and often interpreted as anæmia or a nervous affection; he asserts that it is perfectly remediable, and is of opinion that "hypertrophy

from growth" ought not to be considered as a reason for exempting youths from military service, always provided that they follow a treatment and diet appropriate to their condition. M. Vulpian and M. Larrey were less certain that lads with hypertrophied hearts are fit to be soldiers.

—The medical fable of the Crow and the Country Doctor, lately published in the *JOURNAL*, has gone the rounds of the Medical Press. The January number of the *Indian Medical Gazette*, published in Calcutta, repeats it with due credit to the place of its original appearance.

—Dr. William Braithwaite, the founder of the "*Retrospect*" that bears his name, and which for many years has been so well known to the profession, and especially to members of the Massachusetts Medical Society, recently died in his seventy-eighth year.

#### PHILADELPHIA.

—Prof. J. M. Mallett, having been re-elected to the chair of Chemistry in the University of Virginia, has decided to accept, and has therefore notified his colleagues of the Faculty at the Jefferson Medical College that he will resign his present position as Professor of Chemistry at the end of this session.

#### PROVIDENCE.

—The annual meeting of the Providence Medical Association was held in the Medical Library on Monday evening, March 2, 1885. Officers for the ensuing year were elected as follows: W. J. Burge, President. C. H. Leonard, Vice-President. Herbert Terry, Secretary. G. T. Swarts, Treasurer. Standing Committee: H. G. Miller, G. A. Pierce, G. W. Porter, G. D. Hersey, R. H. Carver. Committee on Reading-Room: H. G. Miller, G. D. Hersey, G. W. Porter.

### Correspondence.

#### ROLLER-SKATING.

Mrs. Editor, — An opportunity for "collective investigation" on a point of practical importance seems to me to exist at the present time in view of the discussion, so voluminous but so inconclusive and often so absurd, that has of late been going on in the daily press on the subject of roller-skating. Is it not time to collect individual experiences on the existence or non-existence of any well-defined symptoms coming under the cognizance of medical men, reasonably ascribable to roller-skating — not when carried to an *excess*, but, as every exercise should be conducted, in moderation? A recreation so widely practised should not be left to the random criticisms of the lay public, but facts either for or against its hygienic effect as a form of exercise should be carefully observed and recorded. In hope to learn some such facts, I remain, very truly,

QUESTIONER.

### Miscellany.

#### ADDISON'S DISEASE.

The details of the post-mortem appearances and the microscopical condition in a case of Addison's disease are related by Professor Cacciola, of Padua (*London Medical Record*, January 15, 1885). The patient, a man-servant, thirty-five years of age, died a year and a half after the skin had begun to bronze. The discoloration, with muscular weakness, had steadily increased. Febrile attacks occurred from time to time, and the patient died in one, delirious and convulsed. After death, beyond a certain softness of the brain, the nervous system, including the brain, the spinal cord, and sympathetic nerve, was found absolutely normal. The semilunar ganglia and solar plexus especially were carefully examined. The supra-renal capsules, on the contrary, were greatly altered. They were enveloped in a mass of fat and fibrous tissue, closely adherent to them. Each capsule was about the size and shape of a hen's egg, and weighed about thirty-five grammes. On section, the organs were seen to consist of a thick fibrous capsule of lardaceous appearance and tendinous consistence, sending prolongations inward. Between these prolongations were caseous substance and calcareous masses. The fibrous capsule and septa consisted of a thick connective tissue, with accumulations of leucocytes in course of degeneration. The contents of the spaces between the septa were made up of albuminoid detritus and oil-globules. In the central portion of the fibrous mass the connective tissue was calcified. Schizomycetes were looked for without success, but it is especially mentioned that some fat-globules looked like Koch's bacilli colored by Weigert's method. There was little noteworthy amongst the other pathological conditions. There was, however, engorgement of the lymphatic follicles and of the agminated glands of the intestinal mucous membrane. The kidneys also were enlarged.

#### NOISE AS A FACTOR IN DISEASE.

The *British Medical Journal* has a word to say on the subject of noise in the sick-room, not merely as a nuisance, disturbing and irritating by its conscious effect, but as having a destructive effect on the nervous system of those who may not be conscious of the irritation.

Just as there are noises which may be too "loud" or too "acute" for the organ of hearing, that is, scientifically excessive in the numerical speed, or in the amplitude, of the vibrations they set up in the membrana tympani, the plate of the stapes, or the elements of the organ of Corti, so there are noises which are either absolutely or relatively injurious to the auditory centre in the sensorium, or to that superior centre of audition, which is situated in the cortical surface of the cerebrum. The destructive effects of noises such as those of an explosion, or a piercing shriek, are understood. It is to be regretted that the mischief too often done by sudden and unexpected, too long expected, or too exciting, or too distressing, noises acting on the brain proper, necessarily or unnecessarily, when perhaps the fault

is not so much in the noise as in the organ by which it is impressed, is not equally well recognized. There is reason to fear that critically fatal, or permanently destructive, injuries are wrought in too many cases of cerebral irritation, nervous excitability, or mental hyperaesthesia, without the knowledge of either patient or medical attendants, so insidious are the effects of these nerve-destroying agents, and so subtle are the processes by which they produce the most disastrous effects. The ticking of a clock, which may at first soothe by its monotony, will sometimes unconsciously become an excitant. Of all noises, those which are repeated at appreciable intervals are the most harmful, because they set up a rhythmical disturbance in the nervous centres, like the rhythmical contraction set up in an area of capillary vessels, by stimulation of surface acting reflexly on the vaso-motor system.

It is not improbable that a morbid flushing of the auditory centres at regular intervals is set up by rhythmically repeated noises, such as that of bells, particularly the "fairy" and "funeral" bells, or the ding-dong of the regulation three or five bells used for service purposes in urban and suburban districts. Another notably injurious form of noise is that which increases in intensity, as the sound of

approaching wheels. The sense of pain produced by this accumulating excitant is a significant indication of the injury this variety of noise works. Another and most destructive noise is that which occurs frequently but at uncertain periods, and which either keeps the centre in a perpetual state of expectancy, or subjects it to a series of successive shocks. The most notable variety of this class of noises is that which finds its typical embodiment in the shriek or prolonged howl of the locomotive whistle. In some neighborhoods, even the cat-call whistle constitutes a tormentor of the same kind acting in the way described. It is not simply that these noises worry and irritate, preventing or disturbing sleep—that is, the physiological rest of the brain. That would be bad enough, but the matter is worse by far than this; for, whereas disturbance set up in the brain by the ideational centres acting *ab initio*—that is, to the extent, and in the way, in which only ideation can be original—may be destructive, by interrupting the nutritive processes, the disturbance set up from without is much more powerful and injurious, not simply over-exciting the cerebral centre, but actually throwing them—mechanically as it were—into a morbidic tumult.

## REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 21, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York	1,340,114	761	302	18.33	24.05	6.89	2.08	3.09
Philadelphia	927,995	440	157	15.18	—	6.44	1.15	.39
Brooklyn	614,526	295	118	13.60	21.60	7.14	2.04	1.02
Chicago	632,100	217	127	16.40	22.14	8.40	2.40	1.20
Boston	423,800	200	55	12.00	21.50	3.50	1.50	1.00
Baltimore	408,520	—	—	—	—	—	—	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	135	28	10.50	9.75	4.50	.75	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	116	40	7.74	15.48	2.58	1.72	—
Pittsburgh	180,000	80	30	13.75	27.50	6.02	—	2.50
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	30	6	3.33	26.66	3.33	—	—
Nashville	54,400	24	6	8.32	8.32	4.16	—	—
Charleston	52,280	10	10	10.32	11.84	2.44	2.44	—
Lowell	71,447	24	9	33.44	12.48	16.64	8.32	—
Worcester	69,442	13	7	15.38	46.14	15.38	—	—
Fall River	62,674	36	13	16.48	5.56	5.56	—	2.78
Cambridge	60,985	22	7	9.11	22.75	—	—	—
Lawrence	45,516	9	0	22.22	—	11.11	—	—
Lynn	44,895	12	3	—	25.00	—	—	—
Springfield	38,690	12	4	8.33	33.33	—	—	—
Somerville	31,350	10	—	40.00	—	10.00	—	—
Holyoke	30,515	11	6	7.11	11.28	7.11	—	—
New Bedford	30,144	19	10	21.04	10.52	5.26	—	5.26
Salem	29,503	14	—	7.11	14.28	7.14	—	—
Chelsea	24,347	8	1	12.50	12.50	—	12.50	—
Taunton	22,623	3	1	33.33	—	—	—	—
Gloucester	21,400	9	3	—	22.22	—	—	—
Haverhill	20,905	6	1	16.66	—	16.66	—	—
Newton	19,421	10	3	20.00	—	—	10.00	—
Brookton	18,223	4	0	25.00	25.00	25.00	—	—
Malden	15,279	—	—	—	—	—	—	—
Newburyport	13,917	6	0	—	50.00	—	—	—
Fitchburg	13,433	5	2	—	—	—	—	—
Waltham	13,568	2	1	—	50.00	—	—	—
Northampton	13,165	—	—	—	—	—	—	—
33 Massachusetts towns	—	53	16	5.04	26.32	3.77	—	—

Deaths reported 2,600; under five years of age 556; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers and diarrheal diseases) 335, lung diseases 454, consumption 326, diphtheria and croup 162, measles 47, scarlet fever 45, typhoid fever 40, diarrheal diseases 25, whooping-cough 21, malarial fever 19, cerebro-spinal meningitis 13, erysipelas 13, puerperal fever 9, typhus fever one. From typhoid fever, Philadelphia 23, New York and Boston four each, Chicago three, Lowell two, Brooklyn, New Orleans, Pittsburgh, and Fall River one each. From diarrheal diseases, New York 11, Brooklyn and Somerville three each, Boston two, Chicago, District of Columbia, Lowell, Cambridge, Holyoke, and Newton one each. From whooping-cough New York 7, Philadelphia four, Brooklyn three, District of Columbia two, Chicago, Boston, New Orleans, Pittsburgh, and Lawrence one each. From cerebro-spinal meningitis New York 6, Chicago two, Charleston, New Bedford, and Taunton one each. From erysipelas, Boston 3, New York and Chicago two each, Philadelphia, Brooklyn, New Orleans, Cambridge, Springfield, and New Bedford one each. From malarial fever New York 9, Brooklyn four, New Orleans three, Philadelphia, Chicago, and District of Columbia one each. From puerperal fever, New York, Brooklyn,

and Fall River two each, Philadelphia, New Orleans, and Nashville one each. In 110 cities and towns in Massachusetts, with an estimated population of 1,322,024 (estimated population of the State 1,355,104), the total death-rate for the week was 18.25 against 20.57 and 19.15 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending February 7th the death-rate was 21.8. Deaths reported 3,714; infants under one year of age 763; acute diseases of the respiratory organs (London) 421, whooping-cough 164, measles 53, scarlet fever 55, diphtheria 37, fever 34, diarrhoea 29, small-pox (London 41, Birmingham 3, Liverpool and Cardiff one each) 46.

The death-rates ranged from 15.1 in Birkenhead to 32.2 in Preston; Birmingham 24.5; Blackburn 26.4; Bradford 19.5; Hull 21.6; Leeds 20.7; Leicester 23.6; Liverpool 25.4; London 20.3; Manchester 29.1; Nottingham 21.2; Sheffield 16.7; Sunderland 26.6. In Edinburgh 20.9; Glasgow 30.2; Dublin 36.3.

For the week ending February 7th in the Swiss towns there were 35 deaths from lung diseases, consumption 27, diarrhoeal diseases 12, diphtheria and croup 9, measles 4, scarlet fever 2, whooping-cough 2, erysipelas 2, puerperal fever 2. The death-rates were: at Geneva 23.3; Zurich 30.7; Basle 23.1; Berne 32.8.

The meteorological record for the week ending February 21st, in Boston, was as follows, according to observations furnished by Sergeant G. B. Cole, of the United States Signal Corps:—

Date.	Barometer.		Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
	Daily Mean.		Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.		7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	
February, 1885.																	
Sunday, 15	30.161		24.5	31.7	13.8	81	33	72	62.0	N	E	E	16	8	12	N	O
Monday, 16	29.775		31.3	32.0	13.5	100	100	100	100.0	E	E	E	17	48	33	O	O
Tuesday, 17	29.805		34.4	43.0	7.5	52	48	35	45.0	NW	W	W	28	33	15	C	C
Wednesday, 18	29.267		13.3	19.0	6.3	67	70	70	62.3	SW	NW	W	8	8	15	C	F
Thursday, 19	29.829		11.9	21.0	4.2	70	50	49	56.3	W	W	W	13	16	14	C	C
Friday, 20	29.797		15.3	21.0	3.5	76	44	64	60.2	W	W	W	12	14	16	C	C
Saturday, 21	29.893		21.7	30.3	11.3	63	58	70	63.7	W	W	W	20	16	10	C	C
Mean, the Week.	29.881		18.4						63.3								22.00 1.07

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 21, 1885, TO FEBRUARY 27, 1885.

BENTLEY, EDWIN, major and surgeon. Relieved from further duty at Fort Clark, Texas, and assigned to duty as post surgeon, Fort Brown, Texas. S. O. 17, Department of Texas, February 16, 1885.

TAYLOR, M. E., captain and assistant surgeon. Assigned to duty at Fort Stanton, N. M., as post surgeon. S. O. 29, Department of Missouri, February 21, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING FEBRUARY 28, 1885.

BATTLE, K. P., assistant surgeon. To proceed to Pittsburgh, Pa., for temporary duty. February 19, 1885.

PURVIANCE, GEORGE, surgeon. Granted leave of absence for one week. February 24, 1885.

KALLOCH, P. C., assistant surgeon. When relieved, to proceed to Pittsburgh, Pa., and assume charge. February 27, 1885.

WHITE, J. H., assistant surgeon. To proceed to Savannah, Ga., and assume charge. February 24, 1885.

#### RESIGNATION.

HEATH, W. H., passed assistant surgeon. Promotion accepted, as tendered, by the Secretary of the Treasury. February 11, 1885.

#### PROMOTION.

KALLOCH, P. C., assistant surgeon. Promoted and appointed passed assistant surgeon, by the Secretary of the Treasury, from March 1, 1885. February 19, 1885.

#### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The *Section for Clinical Medicine, Pathology, and Hygiene* will meet at 49 Boylston Place, on Wednesday, March 11th, at 7.45 o'clock. Dr. V. Y. Bowditch will describe a case of "Traumatic Linear Atrophy" (E. Wilson). Dr. F. C. Shattuck will read a paper upon "A Case of Multiple Sarcoma of the Skin.—Treatment by Hypodermic Injection of Fowler's Solution.—Recovery."

A. N. BLODGETT, M.D., Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

The Year-book of Treatment for 1884. A Critical Review for Practitioners of Medicine and Surgery. Philadelphia: Lea Brothers & Co., 1885.

Third Biennial Report of the Board of Trustees and Officers of the Minnesota Hospital for Insane (organized 1866), located at St. Peter, and Second Minnesota Hospital for Insane (organized 1877), located at Rochester. Minneapolis, 1884.

The Physiological Action of Cocaine on the Common Frog, with special reference to its Action on Organs and Tissues. By Hermann M. Biggs, A.B., M.D., New York. (Reprint from Journal of American Medical Association for January 17, 1885.) Grieswald, 1885.

Our Bodies as They Live.—An Elementary Textbook of Physiology and Hygiene for use in the Common Schools, with especial reference to the effects of Stimulants and Narcotics on the Human System. By Alfred F. Blaisdell, M.D. Boston: Lee & Shepard, 1885.

The London Medical Student, and other Comicalities. Selected and compiled by Hugo Erichsen, M.D. Detroit, Mich., 1885.

A Handbook of Pathological Anatomy and Histology, with an Introductory Section on Post-Mortem Examinations and the Methods of Preserving and Examining Diseased Tissues. By Francis Delfield, M.D., and T. Mitchell Prudden, M.D., New York: Wm. Wood & Co., 1885.

Küssmann's Coma. By Robert Summley, M.D. (Reprint.) The Physiological Effects and Therapeutical Uses of Hydrastis. By Roberts Bartholow, A.M., M.D., LL.D. (Reprint from "Drugs and Medicines of North America.") Cincinnati, Ohio,

## Original Articles.

FORTY YEARS' EXPERIENCE IN MIDWIFERY.<sup>1</sup>

BY W. SYMINGTON BROWN, M.D., OF STONEHAM, MASS.

THE art of midwifery belongs to prehistoric times; the science of obstetrics is the latest recognized of all the ancient sciences. There is no branch of medicine which demands more skill, presence of mind, or justifiable daring than midwifery. It needs a man who can neither be overwhelmed by disaster nor unduly elated by success,—one who has the courage and honesty to do whatever is best for his patient, irrespective of consequences. Of such men no profession possesses a superfluity.

It is a strange fact, however, that only sixty years ago practitioners in midwifery were not admitted as Fellows to the College of Physicians, London, on the ground of inferiority, and the Royal College of Surgeons did not require candidates for its diploma to undergo an examination in obstetrics. This odium has nearly disappeared in our day, but a single item illustrative of its vestiges may be cited. I refer to the fact that the popular encyclopædias of our own day make no reference to the lives of prominent obstetricians, such as Smellie, Levret, or Naegele. Hundreds of insignificant names are recorded in Appleton's, Chambers's, and Johnson's Encyclopædias, but a profound genius like William Smellie—writer, teacher, inventor, and artist—is not even mentioned.

During a short visit to Scotland, in 1878, I met a lady, thirty-five years old, at whose birth I officiated obstetrically. And I had attended more than a hundred midwifery cases before that one. I wish I possessed a record of them all. While a medical student I served three years as assistant to the late Dr. James Paterson, Professor of Midwifery in the Andersonian University, and delivered many women among the destitute poor of Glasgow. During the last nineteen years I have kept a moderately full record. The whole number, dating from 1840, must exceed 2,000 cases.

In 1842 forceps were rarely used. It was a period of reaction, and many physicians entertained a strong prejudice against their employment, except in extreme cases. Dr. F. H. Ramsbotham, physician to the Royal Maternity Charity, London, in summing up the symptoms warranting recourse to the forceps says: "If the pains have entirely disappeared, if the strength is failing, the spirits sinking, the countenance becoming anxious, if the pulse be 120 or 110 in the minute, the tongue dry, brown, and raspy; if there have been two or three rigors; if there be green discharge; if the head have been locked for four hours, and made no progress for six or eight hours; if the patient be vomiting a dark, coffee-ground-like matter; if there be hurried breathing, delirium, or coldness of the extremities," then we may use the forceps,—before sending for the undertaker.

I recollect attending one case in Glasgow during a long-drawn-out week. The woman was very poor, and had been compelled during the whole period of gestation to sit from fifteen to eighteen hours a day,

winding pirns, in order to earn a bare subsistence. There were no alarming symptoms, but the abdominal muscles seemed to be powerless. I sent for Dr. Paterson, and requested him to help her flagging powers with the forceps, but he declined to do so. The case did not come under any of Ramsbotham's excuses. At last the poor woman got tired of waiting; she sent for a doctor with fewer scruples, and was instrumentally delivered. This case made a deep impression on my mind, and, in fact, converted me to the faith which I hold to-day.

In this paper I propose to state very briefly the principal conclusions I have arrived at under six heads, namely: Forceps, Turning, Ergot, Anæsthetics, Antiseptics, and Craniotomy. Before doing so, however, allow me to make one remark in regard to the language employed. Although what follows may appear like laying down the law in a somewhat curt fashion, such is not my intention. What follows are simply my own opinions on certain obstetrical problems colored by the personal medium. Nobody is more anxious than I am to be set right where I have been wrong. The late Dr. John C. Warren, in his classical work on "Tumors," gives us this good advice: "He [the surgeon] must get the opinion of other surgeons. Even those who have not so much experience as himself may afford him excellent hints, and strike out from his own mind thoughts which without this collision would not have been elicited." Dr. Barnes also truly asserts that "there is no man whose experience is so great that nothing is left for him to learn from the experience of others." Such societies as this one answer that purpose.

## FORCEPS.

I prefer curved to straight forceps. They are about as easily applied, and are less liable to slip. If a beginner can only afford one it should be a long pair, either nickel or silver plated. But it is convenient to own a short pair, and I always carry one in my obstetrical bag, along with a No. 6 gum-elastic catheter (male), a Davidson syringe, a hypodermic syringe, a few feet of flat, covered wire (such as milliners use), ether, ergot, chloral, and whiskey.

The short forceps may be used at any time when their employment will benefit the patient or her coming child. We should not use them merely to save our own time. But the long forceps (when applied within the uterus) should seldom or never be used without a consultation. Indeed, it is a wise precaution, in most difficult or dangerous cases, to call in a brother practitioner to share the responsibility. I make it an invariable rule to pass a soft catheter into the bladder before applying forceps. In some cases using the catheter helps progress, even when forceps are not needed. If the rectum contains solid feces I also give an enema of warm soap-suds.

How should the forceps be applied? In Scotland the woman is placed on her left side, with her hips projecting from the bed. In this country the dorsal position is preferred, and it is the one I most frequently use. Lately I have tried a new way, which has certain advantages. The woman lies on her back, in the centre of the bed or anywhere, and is not moved at all. Of course, it is not convenient

<sup>1</sup> Read before the Obstetrical Section of the Suffolk District Medical Society, January 21, 1885.

to use long forceps in this position; but, when practicable, it avoids the appearance of preparing for a surgical operation, and I think the less fuss we make the better it is for our patient.

In most cases I insert each blade at the sides of the pelvis, without regard to the position of the child's head. If the vertex presents, you can scarcely go wrong by following this rule, and it saves the patient the annoyance of searching for an ear and other irritating manipulations. I make traction only during a pain, and relax pressure when the pain abates. I think it is advisable to pull with a slight pendulum motion, instead of using direct traction, on the same principle that it is easier to pull down a pair of tight pantaloons by drawing on alternate sides than by pulling on both sides at once.

#### ERGOT.

As a means of shortening labor ergot is seldom employed nowadays. The forceps have crowded it out of use for that purpose. But as an agent in promoting uterine contraction, after delivery of the placenta, and especially in cases of threatened flooding (some women have a hæmorrhagic idiosyncrasy), it is a valuable remedy. One reason why ergot has fallen into disrepute is the poor quality of many specimens offered for sale. Dr. Squibb's aqueous extract rarely disappoints me. It should be borne in mind, however, that no drug is readily absorbed during extreme depression.

After much blood has been lost our main reliance should be placed on other agencies, such as injections of very hot water and mechanical pressure. The accoucheur's hand inside the womb, with external counter-pressure, is the most reliable method. In milder cases I have succeeded in arresting severe hæmorrhage by injecting hot water and vinegar into the flaccid uterus. But the water must have a temperature of at least 130° F. in the basin, as it cools during its passage along the tube.

#### TURNING.

As this operation requires no surgical instrument, it obviously antedates the forceps, and, since the days of Ambrose Paré, has been a favorite with many practitioners, and even with skilled midwives. I was acquainted with a physician who, if one might draw an inference from his usual practice, seemed to think that nature had made a mistake in placing the child upside down in the womb. In our own day the late Sir James Simpson, Dr. Barnes, and Dr. Braxton Hicks have done much to bring version into favorable notice. On one occasion, before labor had fairly commenced, while making an external examination, I detected the child's head above the brim, and succeeded in converting a cross presentation into a normal one by the Braxton-Hicks method. I was agreeably surprised at the ease with which the change was effected. But, notwithstanding the plausible arguments advanced by Simpson, Barnes, and others, I have come to the conclusion that turning, after the evacuation of the liquor amnii, is a very dangerous operation for the child, and not much safer for the mother. I admit that cases occur where no other alternative (except Cæsarean section) is left us. If we conclude to turn, the operator's left hand should be used, and,

in most cases, it is better to bring down one foot than two feet. The accoucheur's left hand is the obstetrical hand *par excellence*. Physicians should learn to use it adroitly more than they do.

#### ANÆSTHETICS.

The foremost question under this head is, Do anæsthetics injure the patient? I am pretty sure that they do not. Since 1849 I have used ether, chloroform, or a mixture of the two with alcohol, in every case where the woman was willing to breathe an anæsthetic. Some object; they are afraid to take it, and these I do not urge; but the majority are glad to get it before the labor is over. As a general rule I do not give ether during the first stage.

High authorities tell us that there is a greater tendency to post-partum hæmorrhage after ether or chloroform has been administered. During the last sixteen years I have not employed chloroform in midwifery practice, except as a remedy for convulsions; but I believe that ether, in moderate doses, does not tend to bring on flooding. Ether is seldom given to the extent of unconsciousness. The patient knows what is going on, and can render voluntary assistance when solicited.

A small dose of ether acts beneficially in two ways: it blunts sensibility to pain and allows the abdominal muscles to aid in propulsion. Without ether the patient's will-power is instinctively exerted to delay the labor; with it, the canal is more likely to be relaxed, and the voluntary muscles are not so much restrained. The contractile power of the womb itself is not affected by moderate inhalation of ether.

#### ANTISEPTICS.

Cleanliness is a good thing in midwifery, and antiseptics are its aides-de-camp. A young doctor who keeps his nails in mourning will eventually have to mourn the absence of a lucrative practice. Still it is possible to have too much of a good thing. Dr. Thomas, of New York, has recently taken a stand on this subject which most physicians would call ultra. The rules and regulations he lays down might possibly be enforced in a hospital, but hardly in private practice. And even if they could be carried out, I question the advantage of trying to surround a physiological process with all the paraphernalia needed in a surgical operation. Carbolic acid has had its flood-tide, and begins to ebb. Corrosive sublimate will probably follow suit at no distant day. Please observe, I do not object to disinfectants or antiseptics in themselves. Both of the chemicals mentioned will, no doubt, be used occasionally with advantage. But I believe that carbolic acid nearly killed Dr. Thomas Keith, and not a few unfortunate patients have suffered from its wholesale reckless employment. I greatly prefer a weak solution of iodine, prepared with iodide of potassium, which may be diluted with water without precipitation, or a hot solution of permanganate of potass. In ordinary cases absolute cleanliness is all that is needed. The routine employment of vaginal injections is likely to do more harm than good. I concur in the opinions expressed by Dr. Adams, of Framingham, in his interesting paper read at your last meeting. Dr. Wm. Goodell's suggestion that lying-in women should be encouraged to

assume the erect posture early, with a view to facilitate the removal of clots and *débris*, is an excellent one.

As already hinted, it is a good plan for the obstetrician to wash his hands, keep his finger-nails pared pretty close, and to fill the small remaining space with softened soap before making a vaginal examination. A Syracuse æsthetic M.D. kindly suggests that no harm would result if he also washed his hands afterward.

#### CRANIOTOMY.

During the last nineteen years I have performed craniotomy three times, all of the cases occurring in the practice of other physicians. No operation tries a surgeon's nerve more than this one. When we are sure that the child is dead, of course it is plain sailing. But there are cases where the fetal heart cannot be distinctly heard, and yet the child is alive. To plunge a perforator into a living child's skull, and deliberately take its life, with a view to save that of its mother, is, to say the least, a sad alternative. I hope I shall never feel compelled to do it again. In these days of successful abdominal surgery, would we not be justified in appealing to the patient to allow us to perform the Cæsarean section or laparötytomy? But we should not wait until the woman is at death's door before operating. In this, as in all other life-saving operations, promptness and decision win the day.

The medical profession is deeply indebted to Dr. Thomas for his efforts to popularize laparötytomy. I understand that he tried the operation several times on the cadaver before performing it on a patient. Nearly all great surgeons have been in the habit of doing this. In this case the principal difficulty will be to get the consent of the patient and her friends in season to be of any service. We all love to put off the evil day, or even the evil hour, and so the golden opportunity slips through our fingers. But as successful results in this line increase, the dread of the operation itself will decrease, and obstetric surgery may achieve a new triumph in the salvation of human life.

#### THREE CASES OF PELVIC HÆMATOCELE. —ONE DEATH.

BY M. A. MORRIS, M.D.

On the twenty-third of August, 1876, I first saw Mrs. R., twenty-three years of age, whose previous history was as follows: She had two children, one four, and the other five years of age. In labor she had been attended by an irregular practitioner, and had suffered from "womb trouble" ever since. She first menstruated at the age of thirteen, and had always been regular, the flow continuing three days, and never attended by pain. She had suffered from "inflammation of the bowels."

On the fourth of August her catamenia appeared as usual, but a *watery discharge* had continued up to the time of my visit. On the 17th she had an attack of severe pain in the right iliac region, and soon after, while conversing with a neighbor, she fainted, and fell from her chair to the floor.

Afterward she vomited, and noticed a slight show from the vagina. Four days later, although weak, losing color, and suffering some pain, she felt well enough to start on an excursion down the harbor. When the steamer was reached the pain became suddenly worse, and again she fainted and vomited. She was placed on a mattress and sent home, suffering the most terrible agony. On her arrival a physician was sent for, who gave her an opiate, which, with two doses taken on the way from the boat, relieved her.

I found her in bed, looking very pale, with a pulse of 96, and a normal temperature. There was vomiting, thirst, headache, painful micturition, and rumbling of the bowels,—the abdomen was somewhat swollen, tympanitic, and tender to pressure. Pain over the uterus was complained of, and on examination per vaginam the organ was found to be fixed, somewhat retroverted, enlarged, and tender. The os was sufficiently open to admit the tip of the finger. There was an indistinct feeling of fluctuation above, to the left of the uterus, and the fundus could not be felt through the abdominal wall. She thought she could not be pregnant.

Opium in sufficient quantity to quiet pain was given, and a mixture containing dilute sulphuric acid.

September 1st the flowing had stopped for four or five days, and then returned. September 4th there was barely a sign of flowing, and she was so comfortable that a sound was carefully passed into the uterus, showing its depth to be a little over two and a half inches, and that it was retroverted and displaced to the right. The external os and cervix were sufficiently open to easily admit the finger as far as the internal os. September 8th, with the hand on the abdomen and a finger in the vagina, a mass, perhaps as big as a large orange, could be felt to the left of the uterus. Pressure upon it caused pain, which could be felt in the liver and back. There was a scanty serous flow from the vagina, faintly tinged with blood. Micturition and defæcation were still painful. She slowly improved from this time, and the tumor gradually disappeared. She was in bed seven weeks, and was quite well in three months. Four months after the beginning of her illness I made an examination, but found no trace of the tumor, and the uterus was free and movable. I think the hæmorrhage took place into the peritoneal cavity, in this case, as the pain was so severe and the shock so great. The fact that there was no circumscribed tumor at first, and that later on the mass became encysted, and had a well-defined outline, also points to its having been peritoneal. Treatment: Opium, poultices, and dilute sulphuric acid.

The second patient was thirty-three years of age, the mother of three children, the youngest three years old. She had been in good health and regular in her monthly periods up to two months previous, but since that time she had not menstruated. She always suffered from dysmenorrhœa. On the sixteenth of March, 1877, after eating a hearty breakfast, she began work at the wash-tub, and, soon after lifting a heavy tub, experienced severe pain in the abdomen over the uterus, and then a frequent desire to urinate. There was also a feeling of faint-

<sup>1</sup> Read before the Obstetrical Section, Suffolk District Medical Society, January 24, 1885.

ness, which obliged her to lie down. After a time the pain extended up along the right side to the region of the liver, and across the abdomen in the course of the transverse colon. At 3.30 p.m., when first seen by me, she was in bed, lying upon her left side and back, with the legs drawn up. It was difficult to induce her to lie upon her back for an examination, as the slightest motion increased the pain to a degree that was unbearable. Thinking that the heavy meal which she had eaten was the cause of her distress, she had a very large dose of tincture of rhubarb, which had not operated at the time of my visit.

The abdomen was normal in appearance. The pulse 80, the temperature 98.2° F. The pain following the course of the colon, and the attack following a hearty meal, consisting of some indigestible articles, the case was at first supposed to be one of colic, and an opiate was given to relieve it. Five hours later pain was also complained of in the back and lower extremities, the face and lips were very pale, and the surface of the body and extremities was cold, and there was faintness, thirst, and great prostration; the pulse was 120, and very feeble; the abdomen was swollen and tympanitic, but not tender on pressure. The cathartic had produced many loose watery dejections in such quick succession that she was unable to control them long enough to have a bed-pan placed under her. There was no flowing. The case now presented all the symptoms of a profuse hemorrhage, but there was such an enormous loss of serum and water from the bowels that in the absence of external signs of bleeding it was supposed that the symptoms were due to hypercatharsis.

Full doses of morphia were given to check the flow from the bowels, and she was stimulated with an abundance of brandy and carbonate of ammonia; heaters and blankets were applied about the body and to the extremities. It certainly seemed as if she could live but a short time; however, reaction took place, and the diarrhoea was checked. On the following morning she had a temperature of 102.2° F., a small and feeble pulse of 140, and quick breathing. The abdomen was much swollen, tympanitic, and tender; the pain was less, owing to full doses of the opiate, and there was some flowing. On passing my finger into the vagina I found the uterus movable, but the parts about it and the roof of the pelvis were tender.

On the 18th there was some vomiting and retention of urine, so that the catheter had to be used twice daily. The condition of the abdomen was unchanged. During the next six days she continued to suffer from severe peritonitis, and I began to think that there might be a hæmatocele. The temperature at this time ranged between 102.2° and 104° F., and the pulse between 120 and 132; it was not necessary to use the catheter, and the abdominal symptoms were less severe. On the thirty-first of March the abdomen was almost normal in size above a line drawn transversely through the umbilicus, but below that line it was swollen and flat on percussion. As the tympanitis had subsided, a tumor could now be felt extending half way to the umbilicus, occupying the epigastric and most of both iliac regions; the uterus was fixed, and a hard, irreg-

ular mass could be felt in Douglas's fossa, extending high up and behind it, and pressing upon the rectum. All the parts were tender about the roof of the pelvis, and the metrorrhagia still continued. The bowels, which had been constipated, now became loose, and several copious watery dejections were passed.

March 5th the tumor extended to within two inches of the umbilicus, and was tender on pressure; there was a projection from each side of it extending into the iliac regions, the mass on the right being the larger of the two. She urinated five or six times a day, and had a good deal of pain during the act.

At this time, as she was so debilitated and uncomfortable from vomiting, dysuria, and diarrhoea, all of which seemed to be due to the pressure of the tumor, and as it was rapidly increasing in size, and showed no tendency to point in vagina, rectum, or abdominal wall, and as there was also danger of its emptying its contents into the peritoneal cavity, I decided to empty it, if possible, by means of the aspirator.

April 6th. Pulse 112, temperature 99° F., respiration 28. A small needle was passed into the tumor two inches below the umbilicus on the median line, and nearly three pints of dark fluid blood, which had a strong odor of sulphuretted hydrogen, were withdrawn. Much relief was experienced from the operation. The pulse remained at 112.

April 9th. Pulse 96. Patient comfortable.

April 11th. Pulse 88; respiration 20; temperature not recorded. Urinates without pain; bowels regular; tumor enlarging.

April 13th. Pulse 84; respiration 20; temperature 98.2° F.

April 17th. Pulse 124; respiration 28; temperature 103.2° F. Frequent vomiting; flowing freely. Uterus is low down in the pelvis, and firmly fixed. A hard, irregular mass is felt in Douglas's fossa. By examination through the rectum a tumor, which was irregular in outline, tender on pressure, was to be felt. Externally it could be made out half an inch below umbilicus. Another pint of bloody fluid, a little thinner than molasses, and fetid like the first that was withdrawn, was removed.

April 18th. Pulse 108; respiration 20; temperature 100° F. No pain or vomiting. Slight soreness of puncture.

April 19th. Pulse 101; temperature 100.2° F.; respiration 24. Three ounces of very thick fluid removed.

April 23d. Two ounces removed.

April 24th. Pulse 100; temperature 101.2° F. Tumor has been gradually diminishing.

April 28th. Uterus movable. Sound entered two and a half inches. Only a small amount of fluid was obtained at this tapping, and she continued to improve steadily.

May 17th. She was sitting up, and expressed herself as feeling well.

June 22d. I found her about the house attending to her duties. In this case I fully realized from the time of the second visit that my patient had peritonitis, but did not think of hæmatocele as a possible cause of the symptoms till about the fourth day. I attributed the hemorrhage to a rupture of

some dilated vessels, probably in one of the broad ligaments. She had passed one menstrual period, and it was about the time she expected to be unwell that this accident occurred, so the vessels of the genital organs were in a state of congestion favoring the rupture which occurred when she lifted the tub. The treatment employed was opium in sufficient quantity to quiet the bowels and relieve the pain, digitalis and quinine to lower the temperature and pulse. Equal parts of oil of turpentine and olive oil were applied to the abdomen under hot flaxseed poultices. She took stimulants freely, and a diet of milk and yolk of egg.

On December 30, 1884, I was called to Mrs. T., aged thirty. She had four children, the youngest one year old, whom she was nursing. She first menstruated at the age of fourteen, and has regularly since, the flow always lasting four or five days. She never had dysmenorrhœa. Notwithstanding that she was nursing she had menstruated regularly during the past four or five months. On December 23d she was surprised to find that her courses had come on just one week before the regular time. She had some pain in the groins and over the uterus, but paid little attention to it. On the 24th she went to the city in the snow and wet to do some shopping, and the snow moistened her feet and legs. The pain gradually increased, but was relieved by hot drinks and applications of hot water to the abdomen on her return home, at which time she noticed the flow had ceased. On the 25th she attended to her household duties, and was quite well. From the 26th to the 29th she kept about the house, but complained of a feeling of weight in the pelvis and rectum, and of pains in the abdomen, which she attributed to wind, as her bowels rumbled and the pains shifted about. I found her in bed on her back, complaining of pains all over the abdomen, which was somewhat swollen and tympanitic. The pain was most severe over the uterus, and to relieve it I ordered one fourth of a grain of morphia at once, then one eighth every hour till the pain was stopped. Her pulse and temperature were normal. On the following morning I found that three eighths of a grain of morphia had relieved her, and advised light diet, bismuth of soda before meals, and rest in bed. On the following morning she got up, ate some cold meat and an apple, and soon after vomited. The pain became very severe, and she grew pale, and complained of great thirst and faintness. In the evening I was called again, and found her pulse 76, and the skin cold and pale. She complained of dyspnoea, great thirst, and frequent micturition, and in a few moments fainted, but soon recovered. The pulse was then 110. She complained of dimness of vision, and said that her pains were over the uterus and a little to the left of the middle line, and were like those of "womb colic." She could not turn on her back for an examination, as it increased the pain and made her faint. I introduced my finger into the vagina, and found the uterus quite high in the pelvis; the os was slit on both sides and open; there was no flowing. The body of the womb could not be felt, and the whole cervix was obliterated, and nothing but a ridge around the os to show its situation. The spaces in front of, and posterior to, the uterus were pushed

down, and had a soft, fluctuating feel. When I found she was not having a miscarriage, I made a diagnosis of pelvic hæmatocele. Opium, stimulants, and dilute sulphuric acid were given. In the evening her pulse was 144 and very small, and she had great difficulty in breathing. She said she could not see. She was covered with cold perspiration, and her urine was passed frequently. About twelve o'clock that night she died, apparently from the hæmorrhage.

An autopsy was granted on condition that a small opening only would be made to determine the nature of the case. A tumor, taking its origin in the pelvis behind and to the left of the uterus, could be seen. It gradually enlarged, and, spreading out as it left the pelvis, it extended more than half way to the umbilicus. It was attached by very soft, recent adhesions to the peritoneum, on the left of the abdomen, over a space about two inches square, and the greater omentum (lower border) was attached to the top of it. The tumor was punctured, and found to contain blood. The cause of death being evident, the friends did not allow the autopsy to be carried further.

#### VAGINAL DOUCHES. — ABDOMINAL AND VAGINAL COILS. — RUBBER TUBING CONTAINING BRASS WIRE SPIRAL.<sup>1</sup>

BY M. L. CHAMBERLAIN, M.D.,  
Visiting Physician to Carney Hospital.

THE use of hot vaginal injections has revolutionized the treatment of chronic uterine diseases. Since their introduction into medical practice more women are cured, and more made comfortable during convalescence, than ever before. No remedy, no elaboration of treatment, can show the restorative effects that are now constantly observed from the long-continued, regular application of hot water to the pelvic circulation through the vagina.

I will not enumerate all the various conditions and chronic diseases that are generally treated in this manner, but simply say that regular douches of thirty to forty minutes' duration, twice daily, continued for several months, will reestablish the uterine circulation to an amazing degree; and a continuous douche of several hours will act offensively as a wet blanket to prevent the ignition of inflammatory fires in the cellular tissue after exhaustive examinations, instrumental interference, and after replacing a wayward uterus.

According to Emmet, no procedure will so surely prevent cellulitis in pelvic hæmatocele, and assist in the absorption of the clot.

As given at present it is doubtful if we get the full benefit from douches that we ought. A tin pail or rubber bag, holding from four to eight quarts, is suspended above the level of the body, so that the liquid it contains will pass through the vagina in twenty or thirty minutes. During the first ten minutes the radiation of heat reduces the temperature of the douche-fluid four or five degrees in a room with the thermometer at 67° F. Every ten

<sup>1</sup> Read before the Obstetrical Section of the Suffolk District Medical Society, January 21, 1885.

minutes after it loses two or three points, so that at the end of thirty minutes the loss is ten to twelve degrees. In a chamber where douches are usually taken, the temperature is often under 60°, and the loss is greater. I filled a zinc douche-pail, having a cover, and holding at least two gallons, with water at the temperature of 114°, and allowed it to run out through the tube in nine minutes. I found that the water had lost eight degrees of heat in that time. A douche of the temperature of 100° to 105° has no special value as a remedial agent. If the douche-pail has no attachment whereby the temperature of the fluid can be kept at an even heat, the nozzle should be open enough to allow the water to pass rapidly, and an assistant should refill the pail with water of the desired temperature as often as necessary.

Vaginal douches are given in chronic uterine diseases to constrict the bloodvessels, so as to reinstate the debilitated and defective pelvic circulation, and to produce a salutary contraction of the uterine fibres. To obtain these effects most perfectly, it seems to me that the fluid should be released above the os, so that the cul-de-sacs and the neck of the uterus, at the vaginal attachments, may receive the full benefit of the hot water. To meet these conditions I have devised a hard-rubber nozzle, the upper end of which resembles somewhat the bowl of an ordinary spoon. When introduced the bowl readily seeks the posterior cul-de-sac. The water makes its exit in a continuous sheet from the upper segment, and by rotating the nozzle the whole neck of the uterus and the cul-de-sacs are brought thoroughly under treatment. This does away also with the danger of uterine colic, inseparably connected with the vaginal douche when given with the ordinary nozzle, which parts with the water below the os.

Some of us believe in using the vaginal douche in all cases of obstetrics. Nearly all believe it useful when chills, followed by rising temperature and offensive lochia, indicate that auto-infection is imminent, or is already taking place. Leaving out the question of intra-uterine injections in these conditions, we will confine ourselves to vaginal injections only. It is the custom to order the douche repeated every four to six hours, and perhaps, in some cases, every two hours.

It has seemed to me that washing away an offensive and poisonous discharge intermittently scarcely insures complete antiseptics. If vaginal injections are worth anything in these pathological cases, they should be continuous. One chief essential in giving douches to a parturient woman is that no force shall be imparted to the stream of water. I have observed that after parturition the vagina is nearly perpendicular, when the body is horizontal, and therefore a feeble current must obviously wash mainly the upper segment of the vagina, and leave the bottom of the vaginal well uncleaned; while, if force is used, the poisonous lochia and possibly deadly air may be carried into the cavity of the womb. If it is true, and I believe it is, that the posterior cul-de-sac is the most dangerous point to leave uncleaned, barring rents in the vagina, then the douche-fluid should be released in that spot *when fresh*, having lost none of its

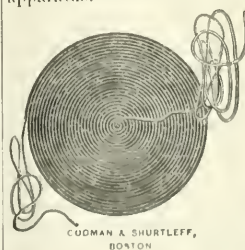
disinfecting power. By this means we make sure that the current will be *upward and outward*, compelling an onward and precluding a backward flow of the lochia, which will be quickly and safely floated out of the vagina. To guarantee such a cleaning of the posterior cul-de-sac I have devised this *vaginal coil*, the mechanism of which I will describe in a few moments.



I think that a continuous or an occasional douche can be given a parturient woman through this coil without force, without air, and therefore *without danger*; and that the fluid will be delivered where it will do the most good. The coil is self-retaining, and can be left in the vagina any length of time without distress or discomfort, even if there is severe inflammation; and to avoid repeated insertions, which are always disagreeable and often painful when a nozzle is used, I leave the coil *in situ* just as long as the patient needs douches, and has not passed out of the stage of convalescence.

#### DESCRIPTION OF APPARATUS.

The complete apparatus which I show to-night consists of a reservoir, abdominal and vaginal coils, and a rubber bed-pan. The reservoir is made of copper, has a thermometer, a brass stopcock with a tin strainer to prevent particles from entering and occluding the coils, and a tin alcohol-lamp. The coils are made of pure rubber tubing, one eighth of an inch in diameter, containing a fine brass wire spiral. The latter prevents the tube from collapsing and allows it to be twisted, tied in knots, coiled or braided into any desired shapes without interfering at all with its patency. The physician or surgeon with fifty or sixty feet of this tubing and a silk fishline can make abdominal, chest, throat, cephalic, perineal, knee-pan coils or a fever mattress, to supply heat or cold to any parts of the body. He can fasten a piece of muslin to one end for a strainer, and drop it into an elevated improvised reservoir of ice-water, and coil as much as necessary around a leg or arm, and by gravity keep up a continuous application of cold; or can irrigate a wound in a similar manner with hot, warm, or cool water. The presence of the wire spiral in the tubing prevents any collapse of the coil by pressure of the body. At the same time the brass wire is so delicate that it adds no appreciable amount to the weight of the apparatus.



The abdominal coil is made by coiling around a central point about sixty feet of the tubing when green; the subsequent vulcanizing process fastens the coils together into a round, smooth, flexible mat, eleven inches in diameter by one eighth of an inch in thickness (the diameter of the tubing), weighing

less than seven ounces empty, and only eight and one-quarter ounces when full of water. It has affluent and effluent tubes, each four feet in length. The water emerges from the outlet in a stream or in rapid drops according to the height of the reservoir, and the temperature of the coil may be kept easily at any point of the thermometer desired. It can be used alone, or in combination with the vaginal coil.

The vaginal coil is made by taking two feet of the same material when green, coiling one end once and a half around into a circle two and one-eighth inches in diameter; the half-circle is laid upon the full circle where it is fastened by the vulcanizing process. The entire circle, only, contains the wire spiral; this forms a delicate spring which adapts itself, without apparent pressure, to the vaginal walls, and makes the coil self-retaining. When in position the coil usually surrounds the uterine neck, the outlet being in the posterior cul-de-sac. The stem emerging from the vagina is tied in a large loose knot which, resting on the pubes, allows the patient entire freedom of motion; it is then fastened by a safety-pin to a bandage around the abdomen. An inch from the end is a metallic cut-off. To give occasional douches by fountain or Davidson syringe, it is a simple matter to couple the smaller nozzles of either to the stem of the coil, under water, after pressing out the air from the inch of stem above the cut-off. Or connected with the reservoir by four feet of tubing, the coil gives a continuous vaginal douche with a minimum of trouble. Heat to the abdomen and hot carbolized water to the vagina can be given simultaneously, and for any length of time, by coupling the vaginal, to the outlet of the abdominal, coil and attaching the affluent tube of the latter to the reservoir.

This middle-shaped bed-pan differs from the ordinary rubber one in two or three points. The cushion is filled with water instead of being inflated with air, which makes it quite comfortable for a patient should it be necessary for her to remain on the pan for a length of time. The outlet tube is longer and larger, and the upper end, where it connects with the bed-pan, contains a hard-rubber perforated tube, five inches in length, that is removable for cleansing purposes; this prevents clots from entering and obstructing the flow of water through the outlet tube.

I first used the coils in November. I was called to a lady who had a moderate uterine hemorrhage of a foetid odor; a very tender abdomen, with severe continuous pain just above the pubes, and a pulse of 120 and temperature of 103° F. She did not think she had been pregnant, although she had passed two periods, but had been unwell two weeks previous to my visit. Before examination I found the uterus in a state of high inflammation, a large swollen neck with widely open external os, while the internal os grasped a pulsatious mass, which proved to be a placenta. I removed all that was in reach, gave a carbolie douche, and prescribed morphia, ergot, and digitalis, the latter on account of a mitral lesion which upon stress always developed an ugly pulse. Upon the next visit the patient was much in the same condition. I very carefully cleaned out the cavity of the womb with a wire curette, and, not thinking an intra-uterine

injection advisable, I washed out the cervical canal with a carbolie douche, and continued the same internal treatment. I also directed that she should have large hot vaginal douches, the last pint of which to contain a drachm of carbolie acid, every four hours. The following morning there was no improvement in the pulse, temperature, pain, or swollen condition of the uterus, and the lochia, in spite of the douches, were still offensive. It occurred to me that a continuous douche would not only be of great service in rendering the lochia harmless, but would be of immense value in reducing the inflammation. Accordingly I made and, after bringing them to a proper temperature, applied the abdominal and vaginal coils. I both carbolized and mercurialized the douche-fluid in the reservoir by adding two drachms of carbolie acid and one grain of the corrosive chloride to the two gallons of water. The abdomen was kept as hot as she could bear, and the vagina full of the hot fluid. The patient regulated the flow by the stopcock on the reservoir, which was placed by the side of the bed and elevated ten or twelve inches. She immediately expressed herself as receiving great comfort from the continuous douche, and insisted over and over again that it gave her greater relief from the pain than any other measures we used. The flow was continued for forty-eight hours with two or three short interruptions to relieve her from the disagreeable pressure of the bed-pan, which was of the ordinary china variety. The improvement of the symptoms was immediate and continuous from the hour of the application of the apparatus. The inflammation was quickly dissipated and the pulse and temperature became normal at the end of the forty-eight hours.

From this case I am led to believe that a continuous hot vaginal douche will do more satisfactory work in reducing acute inflammation of the pelvic organs and membranes than any other single remedial agent. Six months before the above attack this lady had a dangerous metritis following childbirth. For nearly seventy-two hours two trained nurses applied hot fannels to her abdomen with unceasing regularity, until, at her urgent request, I directed them to be less assiduous in their attentions. She was so annoyed by the constant changing of the fannels in that sickness that the apparatus used in the last one was most thoroughly appreciated and commended. The vaginal coils I have used in two cases after childbirth. The first was kept in position eight days. The second I applied to Mrs. B. yesterday morning, January 20th.<sup>2</sup> In neither case was there any discomfort produced by them. As they saved the nurses much trouble and the patients the disagreeable application of syringe nozzles, the coils became very popular in both families.

<sup>2</sup> February 7th. The coil came away from Mrs. B. to-day while she was walking about the room, having been in position eighteen days. She says that there has been no pain or disturbance whatever from it.

—We have received the prospectus of a new periodical to be called *Mind in Nature*, whose object is to furnish, in a popular manner, information regarding physical questions. It is issued by the Cosmopolitan Publishing Company, of Chicago.

## RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.,

*Parkman Professor of Anatomy at Harvard University.*

ONE of the signs of the progress anatomy is making is the attention paid to the significance of both normal and irregular structures with a view to throwing light on the great questions of the day. We refer to the papers on the nature of ligaments and muscles, showing their changes during the development of the individual and the diverse appearances in various animals of muscles that are held to be the same. Much is doing in animal mechanics; and very great attention is given to anomalies, not merely as curiosities nor for the surgical importance they sometimes present, but as indications in one species of the normal appearances in others. A curious question, which opens a field that is almost absolutely new, is the inter-relation of anomalies. If a subject presents a certain muscular anomaly, is he the more likely to present certain others in the vascular and nervous systems, and, if so, what bearing has one on the other? We can easily conceive of cases in which an anomaly in one system necessitates one in another; but there are instances of the simultaneous occurrence of anomalies in which the relation of cause and effect is not easily seen. The following discussion shows instances of both kinds:—

## ANOMALIES OF THE ARCH OF THE AORTA, OF THE RIGHT INFERIOR LARYNGEAL NERVE, AND OF THE THORACIC DUCT.

Dr. Brenner,<sup>1</sup> of Vienna, reports some interesting cases of anomalies of the arch of the aorta, and discusses the effect on the inferior laryngeal nerve of irregular origin of the right subclavian.

Dr. Brenner has observed three cases in which, with an aortic arch pursuing a normal course, the right subclavian is the last branch, and three other cases of anomalies connected with the passage of the arch of the aorta over the right bronchus.

We will remind the general reader, who may not be as familiar with embryology as he has been, that of the five right and left branchial arches which exist (though not all at once) in the fetus, the fourth arch on the right, originally the right root of the aorta, becomes the right subclavian, while that on the left becomes the arch of the aorta, from which the left subclavian is an offshoot. The fifth arches spring from the pulmonary artery. The left one becomes the ductus arteriosus, the right one (in mammals) disappearing very early. The recurrent laryngeal nerves leave the pneumogastrics at the lower border of these fifth arches. As the right arch disappears, and, as the left one joins the aortic arch, it follows that the nerves practically pass under the vessels which represent the fourth arches.

Two of the cases of the first group were similar in all essential respects. The branches from the aorta were in order, the right carotid, left carotid, left subclavian, and, from the descending portion, the right subclavian. In these cases the right, fourth, and fifth branchial arches atrophy early, and the right subclavian is the lowest part of the right aortic

root, which unites with the left one to form the descending aorta. There is nothing to carry the inferior laryngeal down and consequently it runs directly to the larynx.

The third case appears nearly the same, but is very different. The first artery to leave the arch of the aorta was a vessel that divided some two inches from its origin into the right vertebral and the right carotid; then came the left carotid, the left vertebral, the left subclavian, and finally the right subclavian, as before. The vertebrals entered the transverse foramina of the fourth cervical vertebra. The right recurrent nerve in this case left the vagus opposite the sixth cervical vertebra, turned round the vertebral to reascend to the larynx, while the filaments to the lower part of the trachea came directly from the trunk of the vagus. Why this difference? Because the right vertebral artery in this case represented the fourth right branchial arch. A very peculiar feature of these three cases is that in each of them the thoracic duct emptied into the veins on the right side of the neck instead of on the left.

That this connection was not accidental is shown by the following case observed at the Harvard Medical School in the present year and not yet reported. It was noticed during the dissection of the neck that there was no recurrent laryngeal nerve on the right side but that the nerve ran directly to the larynx. Directions were given to search for an anomaly of the right subclavian, and it was found essentially as in Dr. Brenner's two first cases. Directions were also given to look for the thoracic duct on the right side, but unfortunately the veins were removed prematurely. It was found, however, running up on the right side of the right subclavian artery to the very top of the thorax, so that it is hardly possible to doubt that it emptied into the veins on that side.

Brenner's three cases in which the aorta passed over the right bronchus are extremely curious, but we have no space for a thorough analysis. In one of them the course of the nerves and of the thoracic duct does not appear to have been observed. The others give conclusive evidence that the nerves pass under the fifth branchial arches, represented by the ducti arteriosi, for in one case in which the fourth arch was wanting and the duct on the same side present—at least, or a cord—the nerve turned under the latter. No anomaly of the thoracic duct appears to have been observed.

Professor Turner,<sup>2</sup> in his almost classical paper on the irregularities of the large bloodvessels, published a letter from Professor Allen Thomson, in which the latter described a case of the aortic arch passing over the right bronchus in which the thoracic duct ended on the right side. In this case the vessels from the arch occurred in the following order: an innominate dividing into the left carotid and subclavian, then the right carotid, and lastly the right subclavian. The recurrent nerve on the right side turned under the arch of the aorta, on the left under a cord which probably represented a left ductus arteriosus. With regard to the fact that the thoracic duct ended on the right side while it apparently did not in Brenner's cases of a right aortic arch, it

<sup>1</sup> Archiv für Anatomie und Entwicklungsgeschichte, 1883.<sup>2</sup> Brit. and Foreign Med. Chirurg. Review. 1862.

should be mentioned that in this case the order of the great vessels was a different one.

Mr. Arthur Thomson's<sup>3</sup> discussion of the cause of the variations of the thoracic duct is interesting in this connection. Professor Morrison Watson divides the cases of the duct ending on the right into those in which there is also an irregularity of the vessels and into those in which there is not. There may be two ducts, one opening on either side, or there may be a bifurcation of the duct with a similar termination. We see no reason why Professor Watson's subdivision should not apply also to each of these classes. Mr. Thomson reports two cases he has observed in which the right subclavian was the last branch and in which the thoracic duct opened on the right. (In one of these cases, as in the Reporter's, this point could not be absolutely determined.) Cases essentially similar have been reported by Cruikshank, Todd, and Macdonald Brown. Mr. Tompison reports a third case which resembles somewhat Dr. Brenner's third case—the important point however is that here the duct also ended on the right. It passed up behind the subclavian artery, while in this observer's two other cases the duct went before it.

Mr. Thomson remarks that "it would be interesting to know, if, in every case of origin of the right subclavian from the right aortic root or transposition of the aortic arch, a similar disposition of the thoracic duct existed, as it would lead us to presuppose that the transposition of the duct to the right side had some connection with these arterial anomalies." Dr. Brenner's cases of right aortic arch without transposition of the duct show that the association is not necessary, and moreover Professor Watson reported a case<sup>4</sup> of the duct opening on the right side, in which no lesser duct could be found on the left and in which there was no anomaly of the large branches from the arch. This seems at first sight opposed to Mr. Thomson's suggestion that the thoracic duct is formed from lymph-vessels that are developed beside the large arterial branches so that any cause of a diversion of the current from any part of one system would affect the other, and thus there would be a general correspondence between them. The view attributed to Henle that there are communications between the thoracic duct and the right lymphatic duct which may become enlarged and thus turn the current either way appears plausible, though, as Mr. Thomson states, we are not aware that any such anastomosis has been demonstrated. It seems to us very possible to harmonize the two theories, but it is desirable that a greater number of thoracic ducts should be studied to decide this interesting question.

#### MUSCULAR ANOMALIES.

A very useful work on anomalies of the muscular system has recently appeared in France.<sup>5</sup> It is not free from serious defects; but we will not discuss them here. It is valuable for the abundant, almost exhaustive account of the literature of anomalies, and for the sections on comparative anatomy

which tells us in what animals certain arrangements are normal that are irregular in man. A great deal has recently been written about the *musculus sternalis* (*supra-sternalis* or *sternalis brutorum*) and many divergent views defended. It lies near the median line over the sternum and presents many phases. It is frequently attached to the sheath of the rectus, frequently is continuous with the sterno-cleido-mastoid, and occasionally more or less united to the pectoralis major. Nearly twenty years ago Professor Turner<sup>6</sup> expressed the opinion that it was to be considered a rudiment of the *panniculus carnosus*, though he recognized that the *platysma*, which is generally held to have a similar significance, lies more superficially than the *sternalis*.

Bardeleben,<sup>7</sup> in an article involving great research, in which he gives a table of one hundred and twenty cases of the anomaly, maintains, and we fully agree with him, that it may represent different muscles in different cases. He thinks it may be a variation of the *rectus abdominis*, of the *pectoralis major*, of the *sterno-cleido-mastoid*, of the *panniculus carnosus*, or of the two latter at once.

It is evident that the old idea that as a rule it was due to the extension upward of the *rectus* is quite absurd, as it lies above the sheath of that muscle, and in animals in which the *rectus* reaches higher than in man, it runs beneath the *pectorals*. Still there are cases in which the *rectus* extends beyond its usual limit. These, however, would account for few, if any, of the cases of the anomaly in question. In this connection an observation by Mr. Dobson<sup>8</sup> is of great interest. In the golden mole the *rectus* runs to the first rib superficial to the *pectorals*. This is an altogether exceptional occurrence, for which Mr. Dobson offers the explanation that it is due to the shape of the thorax. He thinks Professor Turner's difficulty in calling the muscle a rudiment of the *panniculus*, while it is deeper than the *platysma*, may be got over by regarding the "musculus sternalis as homologous, not with the *panniculus carnosus* lining the integument, but with the *sterno-cuticulis* (*sterno-facialis* of the hedgehog) which is found in many species of mammals springing from the sternum (extending in some even as far down as the sheath of the *rectus*) and attached to the deep surface of the *panniculus carnosus* either in front or behind of the anterior extremities. The very variable condition of the anterior attachment of the muscle in man also agrees well with this hypothesis, for the rudimentary muscle having ceased to have any function, and having lost its connection with the feebly developed representative of the *panniculus carnosus*, attaches itself irregularly anywhere, though the position of its origin remains to a great extent unchanged."

Mr. Abraham exhibited some anencephalous fetuses before the Academy of Medicine in Ireland,<sup>9</sup> which presented fine specimens of the muscle in question which, he argued, is an aberrant portion of the *pectoralis major*. It is a curious fact that he found it in six of eleven anencephalous fetuses.

<sup>3</sup>Journal of Anatomy and Physiology, vol. xviii., 1884.

<sup>4</sup>Journal of Anatomy and Physiology, vol. vi.

<sup>5</sup>Les Anomalies Musculaires chez l'Homme, expliquées par l'anatomie comparée. Leur Importance en Anthropologie. Le Docteur L. Testut. 1884.

<sup>6</sup>Journal of Anatomy and Physiology, vol. i.

<sup>7</sup>Zeitschrift für Anatomie und Entwicklungsgeschichte. Bd. i.

<sup>8</sup>Journal of Anatomy and Physiology, vol. xvii.

Transactions, vol. i., 1883.

The writer of this report finds among his notes an account of a dissection of such a specimen in which the sternal part of the pectoral was divided on both sides, and which presented a sternalis on the right and one on the left, which was interrupted in its course; the lower portion running from the cartilage of the fourth rib to that of the third, and the upper from the third cartilage to the second.

Dr. J. D. Cunningham<sup>10</sup> finds support for Mr. Abraham's view in the fact that he was able to trace a branch of one of the thoracic nerves (which supplied the great pectoral) to a sternal muscle. It is very much to be desired that the nerve-supply should be ascertained in every instance, though, unless the results should present great uniformity, it may be doubted whether great stress should be laid on this point.

We come at last to Dr. Testut's opinion; but before giving it we would mention that he mentions cases in which the muscle has been found in the living, and its nerve-supply sought by electricity. In one case it responded to irritation of the thoracic nerve, and in another to irritation of the intercostal. We cannot conceive by what process of reasoning it is deduced by Malbrancé that in the latter instance the muscle belonged to the sternomastoid. Testut maintains that the upper portion of this muscle belongs to the sternomastoid and the lower to the external oblique, as it often arises from its fascia. He points out that this is not so surprising as appears at first sight, for the sternomastoid and great oblique have much in common: a common direction, an insertion in the same plane, and the same relation to the integument (which last point we do not feel sure about). Now, in serpents the anterior fibres of the great oblique arise from the mastoid process, and constitute a superficial rectus on the ventral aspect of the animal. Humphrey considers these fibres in the serpent homologous with the sternomastoid of batrachians, birds, and mammals. Testut argues that the apparition of a sternum and the anterior limb separates these muscles, originally one. We might reply that if man descended from the serpent there would be rather a long interval between the loss of this muscle and its reappearance as an anomaly; but as no one maintains this theory, but at most that they come from some common ancestor, we may well be startled at the ages during which this muscle has lain dormant. The evolutionary theory, which is too often imposed upon us as an article of scientific faith, is responsible for a great deal of nonsense.

<sup>10</sup> *Journal of Anatomy and Physiology*, vol. XVIII.

—At a recent meeting of the Midland Medical Society, of England, Mr. Bennett May showed a girl whose common carotid artery he had ligatured for hemorrhage from the external auditory meatus, undoubtedly due to erosion of the internal carotid artery occurring during the fourth week of an attack of scarlatina. The girl had thoroughly recovered, and Mr. May remarked that the case appeared to be the only successful one of the kind recorded. Politzer stated that thirteen cases of a similar nature were to be found scattered throughout surgical literature, and that every one of them had terminated fatally.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY.

#### SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT E. DIXON, M.D., SECRETARY.

JANUARY 21, 1885. DR. JAMES R. CHADWICK in the chair.

DR. W. SYMINGTON BROWN, of Stoneham, by invitation of the Society, read a paper entitled

#### FORTY YEARS' EXPERIENCE IN MIDWIFERY.

DR. W. L. RICHARDSON said that he agreed with the reader in very many of the important points that he had brought forward in his paper, although differing from him regarding the use of vaginal injections. He, however, disagreed with Dr. Brown about introducing the left hand only in the operation of version, but should say it would be far preferable to use that hand which, when inserted into the uterus, would be toward that side where the feet of the child lay.

DR. BOARDMAN remarked upon the difference of opinion held by eminent men concerning the choice of the high forceps operation or version. He said that he was taught that version should always be done when the head was above the superior strait. During the first few years of his practice he used high forceps in preference to version, but now he has gone back to his old teachings, and in the generality of cases prefers version. Anaesthetics he considers to be valuable in the second stage of labor. The chief objection made to their use is that they interfere with the action of the uterus, and are liable to cause post-partum hemorrhage. In private and hospital practice he gives ether to complete anesthetization for obstetric operations, and has never had a case in which post-partum hemorrhage followed. He is satisfied, too, that, in the first stage of tedious labor, ether, given in small quantities sufficient to afford comfort, will promote regularity and increase the efficiency of the contractions, so as to favor dilatation of the os, which before had been rigid. He has observed this particularly in recent cases at the Lying-in Hospital, where the more usual employment of chloral had failed to accomplish the object desired. Very decided opinions upon either side of this question have frequently been expressed at some of our Society meetings, and as this meeting was unusually large he thought it well to allude to this point for discussion in order to elicit an expression of opinion from the experience of many gentlemen present who have had a large obstetrical practice.

DR. McCORMACK asked the reader his reason for using, in preference to ether, a mixture of ether, chloroform, and alcohol.

DR. BROWN replied, simply because it seemed more applicable.

DR. RAYMOND mentioned that the last meeting was hardly ended when a member made a statement of great interest in regard to the question that had been debated, the outcome of an extended hospital experience. Dr. Richardson, who is present to-night, will perhaps repeat what he then said. Possibly the Society may direct the Secretary to let the words

appear as an addendum to the minutes. It is much to be desired that diligent search be made for the isolated, and, it may be, quite exceptional, instances of pain following a vaginal douche, of which rumors come to us, that the comparative frequency or infrequency of these events and their importance may become matter of accurate record.

Dr. RICHARDSON remarked that he could but think that the unfavorable symptoms in the few cases mentioned at the last meeting must have arisen from some carelessness on the part of the nurse while giving the douche. At the Boston Lying-in Hospital the thousands of douches that have been given without an unfavorable symptom made the question of the danger of the douche peculiarly pertinent.

Dr. REYNOLDS considered that the prohibition of version after escape of the liquor amnii must not be absolute. Under these conditions full anaesthesia is a wonderful resource, and its use greatly enlarges the scope of the operation. Where the presenting head has already come well down, adjusting the blades of the forceps over the fetal ears is undoubtedly better, more accurate, and safer, though serious objection cannot be made to the method which the paper prefers. We are still without a sufficient number of reliable data establishing the precise effect that lying-in repose has in favoring involution. The arguments in support of early getting-up have not, as a rule, commended themselves to the medical profession. The immense majority of women must soon be again on their feet whether they will or no. There are very few to whom at any period of life a few weeks of quiet will not be an unmixed good. Especially is this the fact when to the discomforts attending the close of pregnancy succeed the exhaustion of delivery and the weariness of early nursing, with its ever-interrupted sleep and its nightly drain. We may dream of a creature who laughs at these disabilities, but to the every-day patient they are very grave evils.

Dr. SINCLAIR said that vaginal douches have for years been given in hospital practice and in the practice of younger men. While physician at the Lying-in Hospital he had instructed that vaginal injections should be used regularly. At one time he was undecided regarding their acting as a cause for the spread of the germs of puerperal diseases. In private practice it is his custom not to use the douche unless indicated by some unfavorable symptoms, as rise of temperature and fetid lochia. He fancies that the routine practice of using douches will not survive much longer. Regarding the applicability of ether in midwifery practice, he considers Dr. Brown's plan of administration admirable. His own habit has been, and is, to allow the patient ether if she demands it, or it is indicated by her condition. He considers the early use of ether as bad practice, and prefers to give it toward the end of the case. Ergot, he thinks, is contra-indicated till after the birth of the child, while disinfectants he uses if bad symptoms develop.

Dr. Cobb asked the reader his reasons for using intra-uterine douches at a temperature of 130° F.

Dr. Brown replied that he uses injections at that temperature to arrest post-partum hemorrhage.

Dr. Cobb then asked the reader his experience with chloral.

Dr. BROWN answered that he had had very little experience with chloral, but when he had used it he had been pleased with its effect. He prefers to use it instead of ether in the early part of the second stage of labor.

Dr. GALVIN asked the reader what his percentage of deaths had been following operations.

Dr. BROWN replied that he did not know, but of his three cases of craniotomy two women recovered and one died.

Dr. DOE remarked that in those cases in which the patient suffered extremely during the first stage of labor, it was his practice to administer ether in sufficient amount to quiet the patient during her pains. He almost always uses ether during the second stage of labor. He had had but one case of post-partum hemorrhage after administering ether, and to this patient but a small amount had been given, and that during the first stage. It was omitted on account of the increased nervous excitement it produced. Although the case terminated naturally half an hour later, hemorrhage followed the delivery.

Dr. MARCY considered it a wise plan to administer chloroform during the first stage if pain is severe, and later give ether if it was needed for operative procedure. Chloroform acted more rapidly and could be used to lessen suffering and yet not make the patient insensible.

He had no doubt that post-partum hemorrhage was much more frequent after anaesthetics and he had observed a number of cases which he attributed solely to their use.

Dr. NORMAN said that for years he had used anaesthetics when the patient asked for them, for he considered them necessary. Generally for operations he uses ether, but not always. He never uses ether during the first stage. If the os is hard and undilatable and the pains ineffective, he gives chloral hydr. and brom. pot., which usually acts satisfactorily. He never uses chloroform in obstetric work.

Dr. BENJAMIN CUSHING mentioned that he had used chloroform formerly in preference to ether, liking its effects better, but of late he had not felt at liberty to risk the danger of its use.

Dr. MINOT wished to call attention to compression of the abdominal aorta, as a means of controlling post-partum hemorrhage, which he had more than once employed with apparent benefit. Considering the ease with which this can be done after delivery, he thought it remarkable that so little attention was paid to what would seem to be an obvious expedient in the emergency. It is hardly noticed in the textbooks.

Dr. ERNEST W. CUSHING asked if those physicians who allow their patients to get up quickly are not those who do not use douches, and, *vice versa*, if douches are not rendered more necessary by keeping the patient continually on her back. Chloroform, he thinks, administered in whiffs in the first stage, produces better results than does chloral, is more easily controlled, and, according to the opinion of all the world outside of Boston, not at all dangerous.

Dr. GRANGER spoke of the value of pressure upon the aorta through the uterine wall for post-partum hemorrhage. He mentioned a case of post-

partum hæmorrhage where ice, ergot, and the hand in the uterus, had been tried, but the hæmorrhage continued. He then applied pressure to the abdominal aorta, through the posterior uterine wall, causing the hæmorrhage to cease at once, and his hand acting as an irritant excited the uterus to contract around it. Version after the evacuation of the liquor amnii had been attendant with no bad results in his practice, but he had sometimes had difficulty in inserting his hand into the uterus. He mentioned a case that he had seen in which the liquor amnii had escaped thirty-two hours previously, and an arm was prolapsed, the hand showing externally. Version was performed with difficulty, and the woman was delivered of a live child. He favored version when the head was above the superior strait whether the membranes were intact or not. He considers opium of great value in post-partum hæmorrhage given in two thirds of a teaspoonful dose, from its acting to resuscitate the patient by stimulating the heart.

Dr. BROWN, in closing the discussion, said that it is not Listerism but cleanliness that produces beneficial results in the practice of midwifery, and from cleanliness the good results are due. Any one familiar with the filthy state of British and Continental hospitals thirty years ago, and their present improved condition will be likely to admit that one factor in the lessened death-rate is cleanliness; and this improvement dates from the time that Sir Joseph Lister commenced his antiseptic crusade in Glasgow. Another item in midwifery success is the greater frequency with which forceps are applied or version effected. Dr. Robert Collins, in over sixteen thousand cases at the Dublin Lying-in Hospital, only used the forceps eleven times, while during the same period—1826 to 1833—craniotomy was performed seventy-nine times! We have made progress since that time.

Dr. M. A. MORRIS, of Charlestown, read a paper entitled

### THREE CASES OF PELVIC HÆMATOCELE. — ONE DEATH.

Dr. MARCY remarked that he had had several exceptional cases of hæmatocele similar to those mentioned by the reader. Two histories he gave in brief outline. One was a woman who, on the fourth day after being delivered of twins, developed suddenly all the symptoms of collapse. An ovoid tumor appeared, nearly as large as the uterus before delivery. The uterus was crowded down into Douglas's fossa. Later, it was clearly determined to be a subperitoneal hæmatocele. After many months it diminished in size, and convalescence came on. Another remarkable case was that of a woman who had never been pregnant, who was suddenly seized with severe pelvic pain, followed by collapse. For days her life was despaired of, and weeks later a large amount of broken-down blood was evacuated by the rectum. She is now well. He also mentioned a case of hæmatocele which was pressing on the uterus. The insertion of an aspirating needle was soon followed by septic symptoms. A large opening was then made, the broken-down contents evacuated, and carefully cleansed with carbolic acid, and the woman recovered. Dr. Marcy raised the question if, in cases of pelvic hæmor-

rhage, like one reported by the reader, where the diagnosis was reasonably assured, it was not a justifiable procedure to perform laparotomy and search for and secure the bleeding vessel.

Dr. SINCLAIR said that, having made a differential diagnosis, the question then arose as to the best method of treatment. Some cases of hæmatocele he had opened, others he had let alone. If a hæmatocele is opened there is then risk of septic trouble, and great care is necessary in keeping the parts clean. He believes, on the whole, in the non-operative treatment.

Dr. CHADWICK recalled two cases in which he had great difficulty in making a diagnosis. One was that of a woman who, for six weeks before he had seen her, had considerable pain in the lower part of the abdomen. Upon examination, a tumor was found between the vagina and the rectum. Fluid could be felt, apparently pus, pointing toward the rectum, and blood followed the insertion of a trocar through the posterior vaginal wall. Great difficulty was then experienced, for two or three days, in checking the flow of blood, which came into the cavity of the hæmatocele as fast as it ran out below. It was finally checked by plugging the vagina. This, then, is one danger of operating, and another is that of septic poisoning. He has never seen a physician who has had a case of encysted hæmatocele or pelvic abscess that had ruptured into the peritoneal cavity.

Dr. GALVIN asked why, if one was sure of his diagnosis, he could not press on the aorta with good results when severe hæmorrhage followed the opening of a hæmatocele.

Dr. CHADWICK replied that in his case it would have been necessary to have compressed the aorta for several days, a much longer period than was feasible.

Dr. DOE mentioned a case that he had had in his hospital practice, in which the question of abscess or hæmatocele arose. He inserted a fine aspirating needle, and drew off a small amount of blood. Septicæmia followed, and three weeks later the contents of the sac had become purulent. A drainage-tube was inserted, and recovery ensued.

Dr. CHADWICK remarked that septicæmia generally follows puncture of the sac in extra-uterine pregnancy. In two of Dr. Morris's cases he thought there was a possibility of extra-uterine pregnancy being present.

Dr. MORRIS said that in his cases the symptoms of pregnancy were absent. One of the cases he at first thought was a miscarriage, but later he decided that it was not.

Dr. GEORGE W. GALVIN reported a case of

### ANENCEPHALIC FETUS,

and exhibited the specimen.

Mrs. T., aged twenty-six years, became pregnant about seven months ago, and succeeded in having an abortion performed. At the time I first saw her she had been delivered of an anencephalic fetus, but the afterbirth had been retained in utero. The woman at this time was in a state of collapse, but after the removal of the placenta and the administration of stimulants, she rallied and was soon out of danger. She stated that the fetal move-

ments ceased about one month before the birth of the fetus, but there was nothing about the appearance of the child to indicate that it died in utero, and, as there was bleeding of the cord after division, there is a strong probability that life was not extinct at birth. The number of names given to monstrosities lacking cranial development is something enormous. It is evident from the external appearance of this particular specimen that the cervical vertebrae fall short in number, but there is an atlas and axis. The base of the skull is undoubtedly occupied by a partially developed cerebellum. The cerebrum is wholly absent. The age of the fetus is probably between seven and eight months.

DR. DAVENPORT explained the uses and advantages of the douche pan and pail of Dr. W. H. Baker.

DR. CHADWICK exhibited a douche-pan devised by the late Dr. T. B. Curtis, which consisted of a large, flat, round pan of tin, the edges of which turned up and back toward its centre, so as to support a common annular inflated rubber cushion. The tin pan had an overflow-pipe. This contrivance raised the hips as much as does that of Dr. Baker, without necessitating the building up of the bed with pillows, etc., which his patients had complained of as very difficult and laborious.

DR. FORSTER showed a new form of douche-pan, of his invention, which is now on trial at the City Hospital.

DR. R. B. DIXON explained the advantages of a douche-pan invented by Dr. W. M. Searby, of San Francisco, the rights to which are owned by Mr. F. W. Dudley, of Lakin's Pharmacy. The pan is of large size, and its shape is such that it can be easily placed in position for use, and the patient can remain undisturbed in a recumbent position as long as may be necessary to inject a large volume of water, no discomfort from wet or any other cause being experienced. The pan is used largely in hospital practice and is highly spoken of. One great advantage it possesses over the other pans exhibited is that it is by far the least expensive of them all.

DR. C. P. PUTNAM showed on the blackboard that a large sheet of thin rubber could be doubled up and fastened in lines with rubber cement in such a way as to secure a to-and-fro current of hot and cold water, thereby accomplishing the same result as from more expensive apparatuses.

## THE NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH.

### SCIENTIFIC MEETING.

HELD at the Clarendon Hotel, Brooklyn, on Wednesday, February 25, 1885.

The President, DR. JOSEPH C. HUTCHINSON, of Brooklyn, called the meeting to order and delivered an

### ADDRESS OF WELCOME.

The desire of the friends of medicine, represented by the Fifth District Branch, he said, was ultimately to arrange for frequent meetings in King's and other

counties of the district. It was entirely easy for physicians to enter the fellowship of the Association. All who became members of the State Association were, by virtue of that relation, members of the Branch Association of this district, and there were more than five hundred members who joined the former during the first year of its existence. Still, mere members are not the object; the aim was to get the best material for effective and congenial work on behalf of the best interests of the profession and of the public. One of the great features was freedom from legal control or complications. The Association wanted nothing to do with the Legislature or any other political body. It desired to be free to admit or reject whom it pleased. At all times ready to give information, when requested, to the civil authorities, executive, legislative, or judicial, it still wished no official connection with them; for medicine was a voluntary, self-independent profession, governed by its own rules.

At the same time, toward all brethren of a like faith, but of a different policy, all present, he knew, would have only the kindest feeling. Men of culture and honor could differ without anger or loss of mutual self-respect. He felt persuaded that as this Branch Association completed the initial work of organization and dealt with the objects germane to the profession, their union would be found pleasant and profitable, and one crowned with the approbation of their consciences, and with beneficial results to humanity, to science, and to themselves.

DR. J. W. S. GOULEY, of New York, read a paper entitled

### NOTES ON CONTRACTURE OF THE BLADDER, CONSEQUENT ON CYSTITIS.

The existence of this condition of contracture, which might be general or limited in extent, was often not discovered until the difficulty had become irremediable; but if taken in hand early it was usually quite amenable to treatment. Having mentioned a large number of exciting causes which might give rise to cystitis and contracture, he proceeded to speak of some of them in detail. Hysterical women and men of nervous temperament are particularly liable to such trouble, and polyuria, which was frequently met with in this class of subjects, was a very common cause of cystitis. The quantity of urine passed would soon become diminished with each act of urination, while the desire to urinate would constantly increase, until violent contractions of the bladder would result, and permanent contracture be threatened. On the other hand, a condition of the urine in which the specific gravity was very high, as in diabetes mellitus, instead of being low, was also liable to give rise to cystitis and contracture of the bladder. The explanation of the same effect being produced by urine of opposite character was that when the specific gravity was low the epithelial cells of the vesical mucous membrane by an endosmotic process became swollen, died, and were cast away, while, when the specific gravity was high, the epithelial cells, by an exosmotic process, shriveled, and then died, and were cast away. In either case the divided mucous membrane suffered constant irritation from the urine in contact with it.

In speaking of uterine displacements as a cause of contracture, he referred to a very severe case of the kind which he saw some years ago in consultation with the late Dr. George T. Elliott, where the anteverted uterus was held firmly in its malposition by adhesions and could not be replaced. Acute urethritis in the male sometimes resulted in permanent contracture with sclerosis of the connective tissue of the bladder; and the same was true of chronic urethritis, as well as of neglected stricture. Having described the *modus operandi* by which prostatic obstruction gave rise to a similar condition, he remarked that hypertrophy of the bladder was the almost universal rule in enlarged prostate, and that he had yet to see the first instance of atrophy and atony, which was claimed by some authorities as the usual result. Certain diseases and injuries of the nervous centres were among the causes of contracture; and if the bladder was paralyzed incontinence, and not retention, of urine would be the consequence.

He then called attention to the use of ether given as an anæsthetic as an exciting cause; referring to it, he said, as a special warning to surgeons. The action of this agent was twofold: first on the kidneys, producing polyuria, and second on the urine, which it rendered irritable in character. To avoid the unpleasant results that were liable to follow, he advised that patients about to undergo an operation should be required to urinate immediately before taking the ether and immediately after recovering from its influence.

In speaking of the treatment, he referred first to the remedies having an effect upon the general system, which are of two kinds: first, those tending to diminish pain by their influence on the nervous system, and second, those affecting favorably the character of the urine. Opium in a few full doses was often of great service at first; but, except when there was polyuria, it had an injurious effect if kept up for any length of time; while in polyuria it was undesirable to maintain its use on account of the danger of the patients getting the habit of taking it. Belladonna was very useful, but unfortunately it could not be administered for more than two or three days in succession, on account of its toxic effects; and the same was true of hyoscyamus and its alkaloid hyoscyamin, which Dr. Squibb had advised should always be given hypodermically on account of its liability to become decomposed from the acid condition of the stomach. He also spoke favorably of the use of gallic acid, ergot, and citrate of soda, as well of the tincture of the chloride of iron and of salicin combined with bromides. No good result could be obtained from any agent, he claimed, unless the rectum were kept empty.

He spoke next of the local treatment. The application of leeches to the hypogastrium or perineum, or both, was only permissible in young and robust patients. For the relief of cystitis and contracture at the same time, one of the best measures was the slow and gradual hydraulic dilatation of the bladder. Sudden dilatation under an æsthetic was apt to be followed by bad consequences. In any given case the surgeon would be able to tell after a few days about how much good was to be expected from the use of gradual dilatation. For instance, if at the

first sitting the capacity of the bladder was found to be only one ounce, and at the next that this had been increased half an ounce, and if at the third sitting it was still another half-ounce greater, there would be a good prospect of speedy relief and perhaps cure. If the urine remained purulent, it was recommended that nitrate of silver should be employed, beginning with a solution of the strength of only one tenth of a grain to the ounce. It was seldom necessary to use a solution of greater strength than one grain to the ounce. After a stone or foreign body which had given rise to cystitis had been removed, it was of the utmost importance that the condition of the bladder should be carefully attended to: a point which was often neglected by surgeons. After lithotomy and lithotrity it was not uncommon to see vesical contracture resulting, which with proper care might have been avoided.

Dr. E. R. SQUIBB, of Brooklyn, alluded to the change which had been made of late in the preparation of official tincture of the chloride of iron, which, by depriving it of the nitric acid which was formerly present, prevented the formation of muriatic ether, which he believed had been of great service in the treatment of urinary diseases. He spoke of hyoscyamin as being a very delicate alkaloid, which was liable to be split up and destroyed as soon as it reached the stomach. Hence he advised that it should usually be employed hypodermically, as was now the almost universal practice in insane asylums.

Dr. ISAAC E. TAYLOR, of New York, spoke of one source of cystitis and contracture which had not been alluded to, namely, ulceration of the urethra. This was generally so small in extent that it was more like a fissure, and hence it was very liable to escape observation. Vaginitis and fissure of the anus, he believed, had often been treated for it.

Dr. ROBERT NEWMAN, of New York, spoke particularly of the good effects of cannabis indica internally and of belladonna and warm water locally, the belladonna being used in the form of vaginal suppositories in females and rectal suppositories in males.

Dr. VAN WYCK said that last summer he had had in his practice three cases of cystitis which were clearly of malarial origin, and which were treated successfully with quinine and other remedies appropriate to malarial trouble.

Dr. RUSMORE spoke of the effects of polyuria in producing cystitis, particularly in young children.

Dr. GORLEY closed the discussion. Referring to ulceration of the urethra, he stated that in a paper on cystitis, which he read in Brooklyn ten years ago, he had mentioned certain lesions of the female genito-urinary, of which this was one, to which attention had never been previously called. As to ulceration of the bladder itself, he said he would defy any one to show him a case of it. He believed that it might perhaps occur once in a vast number of cases, but he had looked in vain for years for an instance of it among the autopsies that he had seen. Practically, true ulceration did not exist, and the only case in which there was anything like an approach to it which he had ever seen was one in which there was a mass of granulations around a

button that had got into the bladder. He was glad that Dr. Van Wyck had referred to malaria in connection with cystitis. The explanation of their relationship was easy, for in the trouble which we called malarial fever there was invariably found lithuria to a most pronounced extent. The uric acid in the urine irritated the bladder mechanically, and sometimes it was in such excess that uric-acid calculi were formed in the kidney itself.

Dr. Austin Flint narrated a

CASE OF ANEURISM OF THE ARCH OF THE AORTA,  
PRESENTING UNUSUAL DIFFICULTIES IN DIAGNOSIS.

and presented the specimen showing the seat and extent of the aneurism. The patient was a gentleman forty-three years of age, whom he had seen in consultation with Drs. Speir and Little, of Brooklyn. He had some difficulty of respiration, but this was not very great at that time. There was, however, distinct stridor; though a careful examination with the laryngoscope, made by the late Dr. Elsberg, had failed to detect any abnormal condition within the range of that instrument. On examining the chest it was found that the respiratory murmur was notably feeble on both sides, being a little weaker on the left side than on the right. Nothing else was discovered to show that there was any affection of the lungs. A careful examination was made for the presence of an aneurismal tumor, but without success, and there was no pulsation disconnected with the apex-beat of the heart. There was no abnormal sound about the heart and there was no aphonia.

The stridor and feeble respiratory murmur, without other cause to explain them, pointed toward the existence of an aneurism, and this diagnosis was rendered the more probable from the fact that, during certain paroxysms of dyspnoea to which the patient was subject, the radial pulse and the pulsation of the carotid artery on the left side were found to entirely disappear. While Dr. Flint and the other physicians were still in consultation over the case they were summoned to the next room to see the patient, who was then suffering from one of these paroxysms so that it seemed as if he must inevitably expire. As a matter of fact he did die in a similar paroxysm within the next thirty-six hours. During the paroxysms the respiration was exceedingly embarrassed; the obstruction to inspiration being more marked than that to expiration. From the nature of these paroxysms it seemed altogether probable that the trouble present involved the transverse portion of the arch of the aorta with the recurrent laryngeal nerve. Coming to consider the morbid appearances in connection with the symptoms which had been noticed during life, it was found that the whole of the ascending, transverse, and descending portions of the arch were markedly enlarged; while there was athromia present, with distinct calcareous flakes. Yet, what was quite remarkable, there had never been any bruit heard by any physician who had ever made an examination of the case, although it would have seemed that there were just the conditions present for the production of a loud bellows murmur. For the absence of the radial and carotid pulse during the paroxysms, the unusual distension of the aorta and the consequent

pressure on the left subclavian and carotid arteries were sufficient to account.

After having described a pocket half an inch in diameter, which protruded directly into the trachea, and must, of course, have caused more or less obstruction to respiration, Dr. Flint said that an interesting point in connection with the case was the probable causation of the paroxysms of intense dyspnoea, during one of which the patient died. There was no question, he thought, that they were due to the effect of pressure on the recurrent laryngeal nerve; but it might perhaps be difficult to decide whether the urgent dyspnoea was the result of paralysis of this nerve or of spasm of the glottis. With our present light on such matters, he did not hesitate to say that he believed the condition to be one of paralysis, rather than spasm. A question of interest in connection with paralysis of the abductor muscles of the glottis was, Is such a paralysis on one side sufficient to cause death? It seemed probable to him that such was not the case; but where one side was affected, there was a strong liability, through some sort of sympathetic or reflex action, the nature of which was not clearly understood, of the paralysis becoming bilateral. The case was discussed by Drs. A. Flint, Jr., Leah, Little, and others.

Dr. E. R. Squibb, of Brooklyn, read a paper on

OLEATE OF COCAINE.

The results of the application of the aqueous solution of cocaine to the skin for the purpose of producing local anaesthesia had, he said, proved very unfavorable. The chief difficulty in its successful application had appeared to be the difference between the epidermis and the epithelium of mucous membrane, and the impermeability of the former. Now there was no possibility of finding a liquid which would pass the epidermis with the same rapidity that the watery solution passed the epithelium; but it had occurred to him that if a preparation could be made which would pass one seventh as fast, and if it were made seven times as strong, the conditions would seem to be met for making as successful applications of cocaine to the skin as to the mucous membrane, as at present practised.

He next gave a *résumé* of the history of the preparations known as oleates and their various applications since they were first mentioned in a lecture by John Marshall, F.R.S., in a lecture in 1872; after which he said that ever since the discovery of the powerful anæsthetic action of cocaine on mucous membrane he had desired to make an oleate of the drug, but on account of its scarcity he had not been able to make any experiments with this in view until the first of February, 1885. He then gave an account of the various steps by which he had arrived at what he believed to be the best preparation for use, namely: one containing twenty-five per cent. of cocaine in an excess of oleic acid; which was just about seven times the strength of the ordinary four per cent. aqueous solution sold in the shops. It was a very expensive article, costing six dollars a fluid-drachm, but there was no necessity for using more than a drop or two of it at a time. Next, having narrated a considerable number of experiments which he had performed for the purpose of

testing the anæsthetic power of the oleate when applied to the skin, he stated that the coælesion thus reached was that the hope which had been entertained that cocaine employed in this way might prove a useful anæsthetic for the skin had been completely disappointed. Except for certain special applications, as for instance, to the glans penis, anus, etc., and possibly for the relief of trigeminal neuralgia, in which it had not yet been tried, the oleate of cocaine had to be pronounced a useless preparation.

When the association adjourned, a collation was partaken of in an adjoining room.

### Recent Literature.

*Insanity and Allied Neuroses.* By GEORGE H. SAVAGE, M.D., M.R.C.P., Physician and Superintendent of Bethlem Royal Hospital, etc. Philadelphia: Henry C. Lea's Son & Co. 1884. Pp. 544.

The works on insanity which have appeared recently, although numerous and, as regards several of them, of great merit in special directions, have, nevertheless, left a gap for further information and practical assistance to students and general practitioners. We were encouraged to find this want met in some degree in Dr. Savage's book from our knowledge of his scientific attainments and his opportunities for the observation and treatment of the insane, but while it contains much to attract the alienist, it is far from complete as a guide to students and younger members of the profession for whom it is avowedly written.

While this is true, the work has nevertheless certain merits for purposes of instruction which should in justice be stated. The author gives, for example, an ideal and practical or working classification, in both of which he has wisely refrained from introducing new groups, and also from overhauling any further the nomenclature of this department with new terms—a most judicious step considering the present state of our knowledge of the subject, and one which can but be helpful to both student and instructor.

But it strikes us as a defect in this manual that the directions for the care and treatment of cases of insanity (except their mere disposal) should be so meagre. We can only explain this on the ground that many physicians will only ask to be enabled to recognize the various forms of mental disease in order to intelligently commit suitable cases as soon as possible to the asylum, or to the care of the specialist in private practice in those cases which the author thinks may be best treated at home; namely, such as are due to fevers or follow childbirth. The unusual prominence given to the prodromal features of the different varieties seem to bear out this view. Nevertheless, even provided we are right in our assumption, we are confident that Dr. Savage's advice concerning the management of cases of insanity in their own homes would be exceedingly useful to many general physicians. Moreover, it would seem that under any circumstances, statements as to the value of hypnotics and other drugs in mental disorders, under various con-

ditions both general and special, would hardly have been out of place, and that some allusion might properly have been made to the requirements for and methods of forced alimentation. The probable duration of presumably curative cases of insanity ought also to have been emphasized. We are told nothing about the detection of feigned insanity, and the author's directions for the examination of insane patients, which are always of practical interest to the certifying physician, are of the most limited kind. The book is further impaired, for purposes of reference, by a most imperfect index.

On the other hand, to those of the profession whose work lies exclusively among the insane and whose experience can readily supply such omissions, these defects will pass for minor ones, while the writer's comprehensive views on insanity in its varied aspects will be welcomed by all. The relation of mental disturbance to physical and, if the distinction may properly be made, to nervous disease, particularly the close connection existing between hysteria and mania and hypochondriasis and melancholia, we have never seen so adequately and clearly presented.

The chapter on causation is a particularly satisfactory one, the author's treatment of the innumerable popular beliefs and scientific theories on the subject being, for vigorous and judicious statement, exceptionally interesting. He is unsparing in relegating the numerous so-called agencies to their proper places as results of the mental disorder. His descriptions and views of melancholia, moral insanity, puerperal insanity, general paralysis, and paralytic insanity are full of new thought and matter for reflection. His belief in the occurrence of general paralysis without mental disorder is strong, and must be accepted as well grounded in view of his exceptional opportunities for observing the disease in the wards of a general hospital, as well as in the asylum. He has also appropriately given the designation of *acute* general paralysis to rapidly fatal, uncomplicated cases of that disorder, termed by Spitzka "galloping paralytic dementia."

On the whole, while this work may possibly fail to meet the requirements of a textbook, it is so rich in advanced views and sensible suggestions as to make profitable reading to alienists, both in asylums and private practice.

*Helps to Health: The Habitation, the Nursery, the Schoolroom, and the Person.* By HENRY C. BERDETT. Nineteen illustrations. London. Kegan Paul, French & Co. 1885.

The aim of the author has been to present "with sufficient amplitude, but in the fewest possible words, precise information concerning matters which affect the health and comfort of every class from childhood to old age. . . . To be useful, interesting, and reliable is the mission which this volume is intended to fulfil."

The style is concise, clear, and free from technicalities. The chapters on the Nursery, and also on the choice, structure, interior arrangements, the warming, lighting, and ventilation of the house, are especially good.

# Medical and Surgical Journal.

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## ANNUAL REPORT OF THE PRESIDENT AND TREASURER OF HARVARD UNIVERSITY, 1883-1884. THE MEDICAL SCHOOL.

The annual report of the President and Treasurer of Harvard University is a document which is always awaited with interest and read with care. This is especially true since the standard was raised and the courses lengthened in the special professional schools; since the post-graduate teaching has been enlarged in scope; since the adoption of elective studies and the substitution, in a large degree, of examinations for recitations in the undergraduate department; since, in a word, the College began to give place to the University.

All these changes have excited, and will continue to excite, discussion. Some of them are definitely accepted; quite a few may be still regarded as on trial; others, of quite as radical a nature,—such as the abolition of Greek as a requisite—are just proposed. Whether all these changes are progressive in the best sense, whether all are judicious, whether some may not be premature, are questions in regard to which there may easily be differences of opinion, questions which are very properly debatable. But, at least, the corollary follows that the University is not dead, is not living in the past, moss and ivy are not its glories. On the contrary, there is life, energy, and activity everywhere, and Harvard has her face set as never before toward the future. This it is which makes these reports of what has been done in each year that is past, and statements of what is aimed at and required for the coming year, of unusual consequence and interest to all concerned with educational questions throughout the country.

Our own concern is more strictly with the Medical School, and the year covered by this report has been for it an eventful one, inasmuch as in the occupation of its new building the school may be said to have fairly entered upon a new career. "This," in the language of the Dean, "has given to the Faculty the opportunity so long desired of arranging its course of instruction in the full possession of all those facilities for work which modern

educational methods imperatively demand. The graded course of systematic instruction adopted may now be carried out to the best advantage."

The new building has given very great satisfaction as regards arrangement of the laboratories and lecture-rooms, but a year's occupation has, as was to be expected, led to certain slight changes in details of construction, and, at the same time, has shown the necessity for more important changes in the method of heating and ventilation which did not answer expectations.

The amount and character of the regular instruction given to students during the year is, as usual, fully set forth in tables which unfortunately are not "appended," but are awkwardly thrust in between pages of reading-matter. A good deal of laboratory work has been done in connection with the anatomical, the physiological, pathological, and chemical departments, and the Warren Anatomical Museum which is not thus tabulated, and the hope and expectations are that the amount of this kind of work will increase every year. Much time has been occupied in the physiological department in the arrangement of the new laboratory and in providing facilities for future work. The investigations previously begun on the action of the vaso-motor nerves have been continued and a preliminary report has been published. A similar study on the action of these nerves in cold-blooded animals has been made under the auspices of the laboratory by Dr. F. W. Ellis, the results of which will soon be published.

In the chemical laboratory the work for the State Board of Health in analyzing the food and part of the milk supply of the State has been carried on.

In addition to the regular instruction in general chemistry, qualitative analysis, and medical chemistry (including urinary chemistry), with special reference to the diagnosis of urinary and renal diseases, and toxicology, special investigations have been made during the year upon the following subjects:—

(1) The distribution of arsenic in the body in cases of poisoning by that substance. This investigation is still in progress, the material being chiefly obtained from cases of suicide by arsenic or Paris green occurring in Boston.

(2) The sources of domestic arsenical poisoning.

(3) The milk and food supply of the State, the material being obtained from the State Board of Health, Lunacy, and Charity.

(4) The water-supply of Boston, specimens from the various sources of supply being obtained from the Boston Water Board.

(5) The sanitary condition of the public schools of Lynn with reference to the contamination of the air in the schoolrooms. This investigation was made at the request of a special committee appointed to inquire into the subject, and the

results appear in their printed report presented to the School Board of Lynn, December, 1883.

Dr. H. C. Ernst has been pursuing special investigations in the physiological laboratory on general bacteriology, and Dr. W. W. Gannett has given special instruction in the methods of examining sputa for the bacillus tuberculosis. Over thirty persons have availed themselves of the facilities offered by the laboratory for histology and embryology, and a large amount of material for future work in these branches has been collected. Dr. C. S. Minot has made considerable progress with a treatise on human embryology which he has under way, specimens illustrative of which are earnestly and continuously solicited from practising physicians.

The Anatomical Museum has profited greatly by the removal to the new building. With proper provision against fire, the whole collection has been brought under one roof, and Dr. J. Collins Warren has added the anatomical collection of his father, the late Dr. J. Mason Warren. The professor of anatomy and his assistants have added, among other things, some very beautiful corroded wax injections of the bloodvessels of various organs, and fusible metal injections of various organs and cavities of the body.

The whole number of students in attendance during the year was 259; during the first term, 248; during the second term, 245. Of these 134 had literary or scientific degrees. There were 64 applicants for the degree of Doctor of Medicine in the three years' course, of whom 14 were rejected. There were 11 applicants for the degree of Doctor of Medicine in the four years' course, of whom two were rejected. Of the nine students who received the degree, two received it *cum laude* and with it the degree of A.M. The Fourth Class was composed of 12 students, five of whom postponed graduation in order to become candidates for hospital appointments.

The following table shows for the last ten years the number of terms spent at the school by graduates.

	1875	1876	1877	1878	1879	1880	1881	1882	1883	1884
Spent six terms.	14 47	25 69	40 65½	41 85½	62 88½	39 84½	49 81½	79 91½	67 88½	57 96½
Spent five terms.	7 23	5 15	9 15½	4 8	2 2½	4 2½	6 10½	2 2½	4 5½	0
Spent four terms.	6 20½	4 11	8 14½	3 13	4 4½	8 8½	6 6½	4 4½	5 5½	2 3½
Spent three terms.	0	2 5	1 1½	0	2 2½	0	1 1½	0	1 1½	0
Spent two terms.	3 10	0	3 5	0	1 1½	1 2½	0	1 1½	0	0
Total graduated.	30	36	61	48	70	45	60	86½	76½	59½

\* Includes nine students of the Fourth Class.

† Includes six students of the Fourth Class.

‡ Includes nine students of the Fourth Class.

There are two fundamental, though by no means insuperable, difficulties with which the Harvard Medical School has to contend in adhering to its higher standard and lengthened course. A high standard means small classes and consequently high fees in the absence of considerable endowments for the professorial chairs. A rejection of seventeen per cent. of the applicants for a degree means that the examinations are not a farce; it increases the value of the degree for these who succeed, but it deters many others from entering the school. Under these circumstances the only way to lessen the fees is to secure an endowment, and we believe rich men, having the welfare of their fellow-men at heart, could not spend or leave money in a better way.

A four years' course means that a young man who takes a B.A. or a B.S. degree is not ready to begin to try to earn something by his work, instead of spending for training, before he is about twenty-seven years of age. The same difficulty, we believe, makes itself felt in the Law School. There is no doubt that the tendency in this country is wisely toward a more gradual maturing of the young and especially of young men. At the same time a larger proportion of the people are in a position to give their sons a longer time for preparation for their lifework. But the number of young men who find themselves in a position to take four years of college life, beginning at eighteen, and then four or five years of special training is, we believe, still too small to give support to a system. If the time spent upon a sound education is to be less than eight or nine years from the date of entering college, the academical, rather than the strictly professional, period should be abbreviated in most cases, and facilities are already provided at Harvard by which earnest, industrious men can obtain the B.A. degree in three instead of four years.

Fifty-seven persons are now connected with the Medical School. President Eliot tells us, as teachers and assistants, of whom only five were connected with it fifteen years ago. Of the professorships only three have any endowment, and these are very inadequately endowed. There is no professorship of the important subject of public health. About \$6,000 a year is now paid to demonstrators, laboratory instructors, and assistants, in order that the laboratory work of the students may be properly supervised. The annual expenses of the various collections and laboratories, including servants' wages, amount to nearly \$8,000 a year, without counting the cost of heat and light. The school would have had a small surplus at the end of the fiscal year had it not been necessary to take about \$18,000 from its savings to pay the excess of the building, furniture, etc., over and above the amount so generously subscribed at various times for that purpose.

## THE SURGERY OF DYNAMITE.

THE injuries from dynamite explosions have not been very numerous as yet, though if promises hold good we may expect an abundance in the future. Those already wounded show that certain general characteristics may be looked for in the unfortunate victims of such disasters. The only account we have seen of the injured policemen is exceedingly meagre, but it says that the fracture of the ribs which Cole sustained has not been followed by any complication. "but the terrible shock has caused an amount of nervous exhaustion from which he will probably recover but slowly."

Among the persons most injured at the explosion at the Tower of London on January 24th were two young women, aged respectively nineteen and twenty. They were walking arm in arm, and had just entered the Armory when the explosion occurred, the site of the explosion being to their right. They saw a slight flame and heard a report, but the noise did not seem very great. They were thrown down and partially buried by the falling material, and some slight lacerations were inflicted, but they did not become unconscious. The injuries were very nearly the same in both. The younger patient was assisted to her feet after the accident, and had to be helped from the Armory. She felt faint and weak, and unable to walk, but retained her consciousness. She vomited twice during the time she remained at the Tower, and twice after admission into the wards of London Hospital. She complained of no pain. She was somewhat deaf in both ears. In the right meatus there was much dust and *débris*, but she heard no better when this had been removed. She did not recover her hearing for four days. The membranes were not visibly injured; the membrane was ruptured in the elder. They both had dimness of vision, which led them to think the gas turned down when the ward was brightly lighted. Dust had entered the right, but not the left, eye. The younger slept badly, and for the first three nights was so restless as to require morphia. Her temperature in the morning was normal, but it rose a degree each night for the first three nights. Neither she nor her fellow-patient ever complained of headache.

Her chief complaint was of a severe pain along the right inferior dental and auriculo-temporal nerves. She said that this pain kept her awake; it persisted for more than a week, and then gradually subsided. She had never had a like pain before. There was no bruising about the painful regions. The pain was probably referred to these parts from the fibres of the third division of the fifth nerve that had been damaged in the meatus. That the meatus had suffered to some extent was rendered apparent by a somewhat profuse catarrh that set in within a few days of her admission.

It was thought that the vomiting in this case was

due to some disturbance of the branch of the vagus (Arnold's nerve) that reaches the meatus. The patient had well recovered by the time of her discharge.

Mr. Frederick Treves, under whose care these two cases were, makes some very interesting remarks upon them. The general injuries are not to be separated from the injuries produced by similar means. According to Mr. Treves, the point of greatest interest concerns the general effect of the injury upon the nervous system. It is evident that the body must be concussioned or shaken by the explosion, but it would be expected that the effect produced upon the nerve centres could not be identical with the so-called concussion that may follow a blow upon the head or the shock of a railway-collision. The concussion resulting from such accidents as the two last named is produced by a comparatively well-localized and gross form of violence, while the shock from a dynamite explosion would act rather as a force that was diffused and finely divided. In the latter instance, it must be assumed that the individual is not so hurled to the ground as to become the subject of such an injury as may cause concussion in the ordinary clinical sense. The two women whose cases are herewith detailed were not thrown violently to the ground; one of them, indeed, observed that "she was not knocked down, but pushed back." They were both burnt, and both the subjects of some lacerations, but all the injuries were of the slightest character. What symptoms they presented may be ascribed solely to the general shock caused by the explosive, with, perhaps, some superadded emotional influence. It will be seen that neither of them suffered from the clinical condition known as concussion. They were not stunned. Their chief symptoms seemed to have been the outcome of a general enfeebling of nerve-function, whereby the action of the heart was depressed, the vision dimmed, and the hearing—apart from local changes—dulled. It is interesting to note that, in one case, the accident was followed by repeated vomiting. So far as local effects are concerned, it will be seen that the part that suffered most definitely was the *membrana tympani*.

## A QUESTION OF TORTURE.

SOME one, whose protoplasm appears to be in a very explosive state, has been unduly excited by the matter-of-fact report of the Massachusetts Board of Health, Lunacy, and Charity upon the poisonous qualities of water-gas, to which reference was made in our last issue, and has entered his "protest" in one of the daily papers. Remonstrance is not directed, however, as it might well be, against the threatened repeal of the very wholesome law controlling at present the amount of

carbonic oxide in illuminating gas. On the contrary, the writer ignores this source of genuine solicitude, and branches the novel idea that the whole investigation was a "scientific horror"; that the several experiments were "barbarities," and that the rooms in which the experiments were made — built, we believe, expressly to imitate human abodes, and thus to throw light on the insidious dangers of gas to human life — were blood-curdling "torture-chambers."

It is a severe strain upon one's patience to read such nonsense as this in his morning paper. And it is disheartening to feel that no achievement, however worthy in aim, consequences in execution, or successful in results, tending to promote the general welfare, is safe from mud-splattering by some madly-riden hobbyhorse or other. The investigation in question is a particularly unhappy one for attack on the score of "cruelty": for not only was the sole object humane and so understood on all sides from the start (having been ordered by the Legislature and directed by the Board of Health), but also, as it happens, of such a nature that, as every physician knows, the question of pain was mostly excluded. It is one of the great dangers of illuminating gas that it offers so easy a death and is so easy to inhale that suicides must often avail themselves of it.

A library janitor, a few days since, in Middletown, Connecticut, whilst attempting to stop a leak in a water-gas pipe, nearly lost his life. He became insensible, and was resuscitated by friends who arrived opportunely on the scene. This is merely the latest of a series of similar mishaps, but it is at once illustrative of the painless character of the lethal process and the insidious dangers of the water-gas.

Again, it has been expressly recommended of late<sup>1</sup> as a painless agent for destroying the lower animals. In short, any one who has looked into the matter knows that death by illuminating gas is not even ordinarily painful. On the mere question of fact, therefore, it ill becomes any one to describe these or any similar experiments as "tortures," "barbarities," "agony," etc. True barbarism is to be found in this case only in that state of mind and that point of view which give mere sentiment full play and allow it to torture most unmercifully the truth, humanity, and sound common-sense.

On the other hand, is it of more concern to a true philanthropy that a few animals should perish, or that a deadly agent should be introduced into the homes of human beings, and a wise legal provision be repealed without due warning given?

We trust that those who can keep a level head and who have influence will do all in their power to educate and inform the public in these

matters, in order that ignorant sentimentalists may not work mischief, and eventually make the possibility of scientific experiments in physiology and pathology as difficult in the United States as it is to-day in England, where, thanks to a reckless agitation, research has been so hampered that resort must be had to the Continent for the merest facilities.

For our own part we believe that similar unreasonable agitations in our own country will be only sporadic, especially if everything done is done with the utmost openness and for some definite purpose. It should never be forgotten that for all teaching purposes and for most researches anaesthetics are invariably employed during what would otherwise be painful experiments. The cases are very few indeed, in which a suffering animal can be made useful: most of the ordinary experiments absolutely demanding the repose of unconsciousness as an essential condition. Knowledge of this fact should be more widely disseminated; and it should also be more generally known than it is that the ordinary appearances of a painful condition may exist when pain is absolutely out of the question. Perhaps along with the proposed compulsory education in the physiological effects of alcohol it might be well to inform the rising generation as to the effects of anaesthetics so that it would be possible for some, at least in adult life, to witness groans and struggles without jumping to the false conclusions that these of necessity prove the existence of "pain," "torture," "agony," etc., or that one who can witness them, and still remain calm, is necessarily inhuman or brutish.

#### MEDICAL NOTES.

—A somewhat unique agent for suicide is mentioned in *L'Union Médicale*. A workman placed a cartridge of dynamite between his teeth and exploded it. The effectiveness of the method was all that could be desired. We respectfully suggest it to Mr. Rossa's consideration.

—A test is suggested by Dr. Dulles, in *The Polyclinic* (February 15), for determining the character of the fluid discharged from a suspected salivary fistula. It consists in bringing a drop of the discharge into contact with a drop of the tincture of chloride of iron on a white surface—a piece of white paper will do—when, if the discharge contains saliva, it will give the pink color which indicates the presence of the sulphocyanide of potassium a normal ingredient of saliva.

—The *British Medical Journal*, in an editorial on the attempt on the life of O'Donovan Rossa, quotes the opinion of Dr. S. W. D. Williams, the eminent superintendent of the asylum at Hayward's Heath, where Mrs. Dudley was detained after her attempt on her own life in 1883. He describes Mrs. Dudley's

<sup>1</sup> By Drs. Richardson and Carpenter.

ease as one of moral congenital insanity. She was not a woman subject to delusions; but it was owing to this perverted moral nature that she never evinced the slightest contrition for her attempts upon herself; nor is it likely—in the judgment of the medical men who have studied her case—that she will be in the least degree able to understand that in seeking the life of another she has been guilty of any wrong. In Dr. Williams's opinion, she would always be liable to a recurrence of the suicidal mania; and this, at any time, would be equally liable to be transformed into homicidal mania. Indeed, during the earlier period of her detention, she was both homicidal and suicidal.

—The Chancellor of the Diocese of York has written to the *London Times* that he has been asked to grant a faculty for a chancel, of which the specification prepared by an architect calls for the washing of the floor joists in a solution of arsenic out of a watering-pot, for the purpose of preventing "dry rot." That the architect appreciated the dangerous character of the substance used is shown by his instructions to the builder to wear a veil and gloves while performing the operation. The chancellor has refused the faculty until this item is withdrawn from the specification. It is said that, besides arsenical solutions, corrosive sublimate is also used for the purpose of preserving timber.

—That Paris is regaining somewhat of its former prestige as a centre of medical instruction, is shown by the figures published in the *Journal Officiel* of the number of enrolled students of medicine. In 1876 the number of such students in Paris was 1,927, and in 1883–84, 1,547, while the total numbers in France for the same years were respectively, 2,371 and 5,386. From the latter number should be deducted those who had taken all their courses and were waiting to complete their final examinations and theses, who were not enumerated under the former *régime*, amounting to about 1,500. This would make the actual increase in the students of medicine in these eight years some 1,515.

—A curious accident, the nature of which casts some light on certain explosions that have occurred in flouring-mills and similar places, and the cause of which was once looked upon as mysterious, occurred in a pharmacy in Strassburg. Whilst an apprentice was engaged in removing lycopodium from one vessel to another some of the powder became diffused through the atmosphere and igniting at a gas flame gave rise to a slight explosion. This so alarmed the young man that he dropped the vessel containing the lycopodium and a thick cloud of it spreading through the shop, a second and more violent explosion followed, which shattered the windows and blew the closed shutters into the street. The apprentice escaped with a few slight burns on the face.

—It is impossible, according to Mr. James Cantlie, in a lecture at the Parkes Museum, to find a pure Londoner of the third generation, that is to say, an individual whose two parents and four grandparents were all born and bred and continuously dwelt in London. It is rare to find an individual whose two parents, and three out of four grandparents fulfil the above condition; and such an individual is a very miserable, ill-developed specimen of the human race, of stunted growth, low stature, small head, and feeble intellect, destitute of any faculty of enthusiasm or humor, and very liable to scrofulous disease. England, Mr. Cantlie tells us, is constantly pouring into London a stream of healthy folk, whose offspring degenerate, so that the race quickly ceases to be. The upper middle classes, the professional classes, who take a long annual holiday, and whose children are generally educated at public schools in the country, are, of course, to be excluded from this generalization.

—The Paris correspondent of the *British Medical Journal* gives an account of an interesting suit of malpractice in which an action was brought by an *officier de santé* against M. Trélat, Professor at the Ecole de Médecine, and M. Delens, of the St. Antoine Hospital. M. Bouyer, the plaintiff, stated his case as follows: In the act of nailing down a box in May, 1883, he slightly injured the left forefinger. He sent for M. Pioget, his neighbor. M. Delens and M. Trélat were called in by M. Pioget; and the plaintiff complains that a number of operations were performed on him; that he was conducted to a *maison de santé*, and that M. Delens applied undiluted alcohol to his bleeding wound; that drainage-tubes were applied, and camphor-dressings bandaged on. After six weeks of daily agony, he left the *maison de santé* with a deformed hand. M. Bouyer accuses MM. Delens, Trélat, and Pioget of having treated and tortured him against his will, of having injured him by unskillful treatment, and names his damages at 20,000 francs (£800). M. Pioget declares that the plaintiff had a deep wound in the left forefinger, which required constant care day and night; symptoms of septicaemia soon appeared, and it was necessary to call in surgical assistance; very serious lymphangitis had set in, and several collections of pus had formed. The patient expressed gratitude for the care taken of him, and never opposed any part of the treatment, otherwise his wishes would have been considered. M. Trélat accepted the responsibility of having M. Bouyer removed to a *maison de santé*; his condition required it; he was in an almost hopeless condition, and could not otherwise have had the necessary attention given to him. M. Bouyer, the plaintiff, was condemned to pay damages of 3,000 francs (\$120) to each of the three defendants.

## Correspondence.

## OLD MEDICAL ANNOUNCEMENTS.

LEXINGTON, Mass., February 27, 1885.

MR. EDITOR,—In looking over some files of old journals recently I came across some items which may interest some of your readers. I therefore copied them and now enclose them herewith.

Yours respectfully,

ROBERT M. LAWRENCE.

[From the *Boston Gazette and Country Journal*, Monday, November 20, 1769.]

Doctor Anthony Duracque Takes this Method to acquaint the Public, That he hath got an infallible Remedy and safe Manner of curing the following Disorders, viz: A When, the Fever and Ague, the Jaundice, the Scurvy, the Bloody-Flux, the Consumption if taken in time, the Pleuresy, the Dropsy, the Palsy, the Cancer and all manner of Sores and Ulcers: He also understands perfectly the operation of Fistula in anus (*sic*) and Fistula Lacrimalis. He has also an excellent Balsam for the Pain in the Stomach and is very expert in curing all sorts of secret or Venereal Disorders, with the greatest secrecy and without any Confinement of the Patient. He also has an excellent Eye-water, which takes off all the Spots on the Eye-Balls. He hath met with great success both in England and France, being brought up and educated at Montpelier, and passed Examination before the best Physicians in France.

Any Person that will favor his Employ may hear of him at his Lodgings at Mr Piemont's, in King Street, opposite the Town-House.

[From the *Massachusetts Gazette and Boston News-Letter*, Thursday, January 28, 1768.]

We hear that a gentleman of a sedentary life, who has been long indisposed with indigestion and the hypochondriac passion, tried riding and several other sorts of exercises, but with little effect, was at last prevailed upon, by the advice of an eminent physician, to try being tossed in a blanket, which was accordingly performed every other morning for a fortnight and has been attended with the greatest success, the gentleman being now much better than he has been for two years past.

## Miscellany.

## ANTISEPTIC RECIPES.

The *Northwestern Lancet* has collected the following recipes for preparing catgut and animal drainage-tubes for the convenience of readers who may wish to prepare their own antiseptic materials:—

Lister now prepares catgut by immersion in a watery solution of chromic acid of the strength of one-tenth of one per cent. for twelve hours, and then in the solution of sulphurous acid of the British Pharmacopœia for twelve hours. The gut head is dried and immersed in a bichloride solution prior to being used.

Kocher's method is to soak the catgut for forty-  
1 By Days in a watery solution of corrosive subli-

mate, 1-1,000, and then keep in an alcoholic solution of same strength till used.

In the two methods above, the gut must be tightly wound on glass bottles weighted with lead before immersion in the watery solution, otherwise too much water will be taken up and the gut become soft and useless. Kocher's plan avoids the necessity of winding and is perhaps the best of all. He immerses the gut in oil of juniper for twenty-four hours, and then keeps it in alcohol till required for use.

In selecting gut two sizes are sufficient for most purposes: guitar E strings and violin E strings.

To prepare animal drainage-tubes, boil the long bones of a chicken or turkey well, then steep in a mixture of one part hydrochloric acid to two of water for ten hours, then wash them and trim with scissors. Finally, boil them in a five per cent. solution of carbolic acid and keep for use in the bichloride solution. Tubes prepared in this way will dissolve in a wound in from four to five days.

A convenient way of keeping a bichloride solution for use is to make an alcoholic solution of the strength of a drachm to the ounce. One drachm of this solution in a pint of water will give a 1-1,000 solution of the bichloride.

## RHEUMATIC GLOSSITIS.

AN interesting case of this disease is noted in *The London Medical Record* (January 15, 1885), as follows:—

J. L., aged forty, farmer, presented himself with symptoms of acute glossitis. The swelling of the tongue took place very rapidly, and in a few hours had become so great that the tongue protruded beyond the lips, which could not be closed. He breathed with great difficulty, and his face was cyanotic and pulse small. The saliva was abundant, and ran from his mouth, but the exposed surface of the tongue was dry and rough. Speech was impossible and deglutition nearly so. There were none of the usual causes to account for the inflammation, but the patient had suffered from rheumatism, and at present complained of pain in the shoulder and muscles of the neck. Six leeches were applied behind the angle of the jaw to give immediate relief. Before resorting to deep incisions, in the absence of the usual causes of this affection, and taking into consideration its abrupt onset and the rheumatic history, Dr. Carvallo prescribed four grammes of jaborandi leaves in infusion to provoke free salivation and perspiration, to be followed by six grammes of salicylate of soda, to be taken in three doses during the night. The effect of these remedies was remarkable, and in two days the patient was well.

## INCREASE OF CANCER IN GREAT BRITAIN.

MR. H. PERCY DUNN, writing in the *Pall Mall Budget* regarding English experience with cancer, gives figures from the forty-third annual report of the Registrar-General, showing the increase in the

mortality from this disease in Great Britain during the past thirty years. According to the report, 80,049 deaths from cancer occurred during the ten years from 1860-69 inclusive, and the annual average increase was 248. During the years 1870-79 the total number of deaths from cancer was 111,301, and the annual average increase was 320. As far, therefore, as numbers are capable of showing, we have here conclusive evidence of the incre-

ment in the mortality from cancer. It is observable also that the rate of increase is much higher in the latter than in the first ten years. It is, moreover, the case that the annual rate of increase is higher in the years 1860-69 than in the preceding decennium—namely, in the years 1850-59. In short, in the years 1850-59 the increment was about 2,000; in 1860-69, 2,400; in 1870-79, 3,200.

## REPORTED MORTALITY FOR THE WEEK ENDING FEBRUARY 28, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York	1,340,114	823	333	17.81	25.61	6.11	3.11	3.77
Philadelphia	927,995	470	154	11.34	18.27	4.41	1.68	.63
Brooklyn	644,526	310	117	18.24	27.84	6.08	2.56	1.92
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	198	60	13.50	20.00	9.00	1.50	.50
Baltimore	408,520	—	—	—	—	—	—	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	372,400	160	77	17.01	25.00	3.15	2.52	1.89
New Orleans	234,000	127	29	18.56	8.69	5.53	.79	—
Buffalo	201,000	70	32	25.74	10.01	12.87	2.86	1.43
District of Columbia	194,310	116	40	7.74	15.48	2.58	1.72	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	42	11	7.14	19.04	—	4.76	—
New Haven	92,882	36	14	2.78	16.68	—	—	—
Nashville	54,400	19	7	10.52	26.30	—	—	—
Charleston	52,286	33	10	6.06	18.18	3.03	—	—
Lowell	71,447	37	9	16.40	8.10	8.10	5.40	—
Worcester	69,442	32	12	18.72	28.68	21.00	—	—
Fall River	62,674	21	7	9.52	23.80	—	—	—
Cambridge	60,995	26	9	15.40	11.55	7.70	3.84	—
Lawrence	45,516	—	—	—	—	—	—	—
Lynn	44,855	14	3	—	14.28	—	—	—
Springfield	38,000	15	7	13.33	33.33	6.66	—	—
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	9	6	44.44	11.11	11.11	—	—
New Bedford	30,144	17	3	—	23.52	—	—	—
Salem	29,503	12	4	8.33	—	—	—	—
Chelsea	24,347	10	3	—	20.00	—	—	—
Taunton	22,683	13	4	38.45	7.69	15.38	—	—
Gloucester	21,400	5	4	—	—	—	—	—
Haverhill	20,965	7	1	—	28.56	—	—	—
Newton	19,421	2	0	—	—	—	—	—
Brookton	18,323	9	3	11.11	33.33	11.11	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	7	0	—	57.12	—	—	—
Fitchburg	13,433	5	3	—	20.00	—	—	—
Waltham	13,568	3	0	—	—	—	—	—
Northampton	13,165	—	—	—	—	—	—	—
89 Massachusetts towns.	—	96	12	10.41	17.68	1.04	3.12	—

Deaths reported 2,644; under five years of age 974; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 336, lung diseases 531, consumption 408, diphtheria and croup 146, scarlet fever 60, measles 43, diarrheal diseases 43, erysipelas 23, malarial fever 23, typhoid fever 22, cerebro-spinal meningitis 15, whooping-cough 13, puerperal fever 8. From diarrheal diseases, New York 19, Brooklyn 9, New Orleans 5, Cincinnati and Buffalo four each, Philadelphia and Boston two each, District of Columbia, Lowell, and Holyoke one each. From erysipelas, Philadelphia 9, Brooklyn 7, New York 4, Nashville, Cambridge, and Springfield one each. From malarial fever, New York 9, New Orleans 8, Brooklyn 4, District of Columbia 8, and Charleston one each. From typhoid fever, Philadelphia 8, Cincinnati 4, Boston and Buffalo two each, New York, Fall River, Salem, Lancaster, Middleboro', and Longmeadow one each. From cerebro-spinal meningitis New York and Taunton three each, Philadelphia, Cincinnati, New Orleans, Providence, Nashville, Worcester, Fall River, and Holyoke one each. From whooping-cough, New York 6, Brooklyn and District of Columbia two each, Philadelphia, New Haven, and Holyoke one each. From puerperal fever, Brooklyn and New Orleans two each, Philadelphia, Boston, Huntington, and Dalton one each.

In 108 cities and towns in Massachusetts, with an estimated population of 1,345,152 (estimated population of the State 1,955,104), the total death-rate for the week was 20.76 against 18.25 and 20.57 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending February 14th the total death-rate was 20.9. Deaths reported 3,571; infants under one year of age 806; acute diseases of the respiratory organs (London) 383, whooping-cough 112, measles 91, scarlet fever 53, fever 41, diphtheria 35, diarrheal diseases 26, small-pox (London 34, Birmingham 3, Sheffield two, Liverpool one) 10. The death-rates ranged from 32.5 in Sunderland to 13.5 in Birmingham; Bradford 19.0; Hull 22.7; Leeds 19.4; Leicester 19.5; Liverpool 24.8; London 19.5; Manchester 24.9; Nottingham 21.7; Sheffield 22.0. In Edinburgh 15.8; Glasgow 20.7; Dublin 34.9.

In the Swiss towns for the week ending February 14th there were 54 deaths from lung diseases, consumption 21, diarrheal diseases 10, diphtheria and croup 8, measles 7, small-pox 5, whooping-cough, erysipelas, and typhoid fever one each. The death-rates were: at Geneva 20.2; Zurich 9.7; Basle 26.5; Berne 42.6.

The meteorological record for the week ending February 28th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barom- eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.		
February, 1885,																			
Sunday, 22	30.026	22.3	25.0	14.0	75	58	73	68.7	W	W	N W	12	12	18	C	O	O	—	
Monday, 23	30.110	19.6	26.0	14.9	63	49	67	56.7	W	N W	N W	11	8	12	C	C	O	—	
Tuesday, 24	30.212	24.1	33.0	11.4	63	62	51	58.7	W	W	N	11	8	12	C	C	O	—	
Wednesday, 25	30.110	23.7	31.0	22.5	100	59	73	77.3	S W	N E	N	7	7	8	Snow	C	C	C	
Thurs., 26	30.119	26.7	32.1	16.7	68	55	73	68.7	N W	N	S E	12	6	6	C	C	O	—	
Friday, 27	29.965	32.1	34.2	28.3	69	67	67	67.9	N E	N E	N	12	8	12	C	C	O	—	
Saturday, 28	30.039	33.2	42.2	28.0	75	49	64	62.7	N W	W	S W	5	5	4	O	H	O	—	
Mean, the Week.	30.110	26.5	32.3	19.4				66.2										6.00	0.04

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening.

# OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM FEBRUARY 28, 1885, TO MARCH 6, 1885.

BYRNE, CHARLES C., major and surgeon. Ordered to Department of the East on expiration of his present leave of absence, S. O. 50, A. G. O., March 3, 1885.

WOODRUFF, EZRA, captain and assistant surgeon. Ordered for duty at Fort Maginnis, Mont. T. S. O. 23, Department of Dakota, February 25, 1885.

EWING, C. B., first lieutenant and assistant surgeon. Having relinquished unfinished portion of leave of absence, ordered for temporary duty in the field. S. O. 29, Department of Missouri, March 2, 1885.

RAYMOND, HENRY I., first lieutenant and assistant surgeon (recently appointed). Ordered for duty in Department of California. S. O. 50, A. G. O., March 3, 1885.

## THE LATE SAMUEL A. FISK, M.D.

RESOLUTIONS upon the death of Dr. Samuel A. Fisk, of Northampton, adopted by the Hampshire District Medical Society:—

*Whereas*, This Society, having recently lost by death one of its oldest and most honored members, who has held the offices of trust of the local Society, and that of President of the parent Society, we deem it just and fitting that official notice be taken of the departure of our esteemed associate. Therefore

*Resolved*, That in the decease of our most respected brother, Dr. Samuel A. Fisk, we mourn the loss of a colleague of high intellectual qualities, of broad and general culture, a skilful physician and surgeon, whose heart was always in his work, of steadfast loyalty to the profession and untainted fidelity to his patients, an honored citizen, and a cordial friend in all the relations of life.

*Resolved*, That we hold him in pleasant remembrance as one who was an ornament and an honor to the profession to which he was devoted, and was so earnest to uphold, strengthen, and make subservient to the best interests of his fellow-men, as well as one to whom the Massachusetts Medical Society is indebted for his persistent efforts to preserve that Association from all encroachment by pretenders.

*Resolved*, That we extend our sympathy to his widow and family connections in their bereavement, and that a copy of these resolutions be sent to the family, by the Secretary, and that they be placed upon the records of this Society, and published in the local papers, and in the *Boston Medical and Surgical Journal*.

FRANKLIN HERSHEY,  
C. L. KNOWLTON.

## SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. *Obstetric and Gynecological Section*. There will be a meeting of this Section in the large hall of the Medical Library Association, 19 Boylston Place, on Wednesday evening, March 18th, at 7.15 o'clock. The following papers will be presented: Dr. John L. Sullivan, "Treatment of Abortion, with Cases." Dr. J. R. Chad-

wick, "Seven Cases of Pregnancy and Labor complicated with Fibroids." Among those who will take part in the discussions are Drs. Sinclair, John Homans, Reynolds, Francis Minot, Boardman, Doe, Garland, Field, and J. W. Elliot.

JAMES R. CHADWICK, M.D., *Chairman*.  
ROBERT B. DIXON, M.D., *Secretary*.

RHODE ISLAND MEDICAL SOCIETY.—A quarterly meeting of the Rhode Island Medical Society will be held at Lyceum Hall, 62 Westminster Street, Providence, at ten o'clock, A.M., on Thursday, March 19, 1885. Dr. G. D. Hersey will read a paper on "Rachiotomy, with special reference to after-treatment." Dr. R. F. Noyes will open a discussion on "Typhoid Fever occurring during Pregnancy."

Candidates for fellowship are requested to meet the Board of Censors in the Medical Library at ten o'clock, A.M., on Tuesday, the 17th instant.

G. D. HERSEY, M.D., *Secretary*.

## AMERICAN MEDICAL ASSOCIATION.

ARRANGEMENTS have been made to run a special train of parlor cars from Boston to New Orleans and return without change, for the accommodation of physicians and their friends who desire to visit that city during the session of the Association. The train will leave the Boston and Albany depot on Friday, April 24th, at 3 P.M.; Worcester at 4.20 P.M.; Springfield at 6.15 P.M.; Providence at 2 P.M., arriving in New Orleans, Monday, 27th, at 9 A.M. Arrangements will be made in advance for meals *en route*.

The fare for the round trip will be: From Boston, \$41.50; from Worcester, \$40.00; from Providence, \$41.50; from Springfield \$38. As the number of tickets will be limited, it is requested that all who intend to go should communicate with Dr. W. E. Anthony, of Providence, R. I., who will furnish tickets and any further information that may be desired. In order that requisite accommodations may be provided, applications to join the party should be made before April 20th.

## CORRECTION.

MR. EDITOR.—Will you kindly allow me to correct an error in my report of the proceedings of the Obstetrical Society of Boston, which appeared in the *JOURNAL* of February 26th, page 203?

In the discussion on Dr. E. J. Forster's paper on "Pelvic Abscess following child-birth," Dr. Baker's remarks should read as follows: Dr. Baker said that the effusion was first inspired to establish the diagnosis; then, using the aspirating needle as a director, Dr. Forster opened the abscess with a long, narrow-bladed bistoury sufficiently to admit the finger.

Yours truly, C. M. GREEN.

## RESIGNATIONS.

DR. FRANK W. PAGE, who has been resident physician at the Adams Nervine Asylum since the opening of that institution five years ago, has resigned, to engage in private practice.

MASSACHUSETTS GENERAL HOSPITAL.—Dr. F. Gordon Morrill has resigned the position of physician to out-patients.

## Lecture.

THE TUBERCLE BACILLUS: ITS MORPHOLOGY, MODE OF DETECTION; ITS LIFE HISTORY. ITS RESULTS IN THE HUMAN ORGANISM. THE CULTURE OF THE TUBERCLE BACILLUS.<sup>1</sup>

BY PROFESSOR GERMAIN SÉE,

Physician to the Hôtel Dieu, Paris, France.

AMONG the microphytes the one which interests us the most, because, although hardly discovered more than two years, it is now the best shown, the most clearly characterized, is the tubercle bacillus.

## HISTORY.

Several years before the discovery of the bacillus, Klebs had already announced that he had succeeded in isolating the bacterium of tuberculosis, in cultivating this microbe in an albuminous liquid, and in producing, both by inoculation and intra-peritoneal injection, the same lesions as the primordial tubercle containing the same bacteria.

The researches of Klebs were verified in 1879; the same inoculations were performed by Schnuller and Reinstadler in Germany, by Toussaint in France, and in 1881 by Deutschmann, who, however, did not succeed in reproducing phthisis, except by taking the precaution to add to the culture-liquid solid particles of tubercle; in reality all that these experiments really accomplished was the inoculation of common bacteria and the production of ordinary non-specific lesions having the appearance of tubercle. The bacteria with micrococci, indicated by Aufrecht, were not attended with any better success.

*Zoöglæa*.—At the same epoch Rindfleisch and the same Aufrecht believed that they had found, in the centre of tubercle, in the well-known segments known as giant cells, the microphytic masses which we have indicated under the name of *zoöglæa*. Renault, of Lyons, attributed to them a certain importance in the composition of tubercle, and more recently Malassez and Vignal have cultivated and inoculated these *zoöglæa*. It was found that in the third generation of microphytes resulting from this injection of *zoöglæa*-liquids the living products of culture returned to the bacillus-state; they would then seem to be only a transitory form of the bacillus.

*Bacilli*.—Bacilli were indicated as caused by Baumgarten; he, however, did not know how to render them evident. It was Koch who first, by a special process of staining, succeeded in demonstrating these microphytes. In the month of April, 1882, he communicated to the Medical Society of Berlin the results of these researches, and proved in an unmistakable manner that in the tuberculous organs of man there exist certain rod-shaped corpuscles which, by their chemical and morphological properties, differ totally from all other known forms of microphytes; these are the bacilli of tuberculosis.

## DESCRIPTIVE CHARACTERISTICS.

These bacilli are very thin rods, whose length scarcely equals the quarter or the half of that of a

red blood corpuscle; they resemble, principally by their form, the bacilli of lepra, which are rather finer and more pointed.

Among the bacilli spores are sometimes found; that is to say, fine, round, and refractive corpuscles. Along with them, moreover, you will sometimes see the gelatiniform masses known under the name of *zoöglæa*.<sup>2</sup>

## TECHNIQUES.

1. *Koch's Method*.—The bacillus cannot be detected except by the methods of staining invented by Weigert and perfected by Koch, who has demonstrated that the bacillus, once colored by methylene blue, resists coloration by vesuvine, while other microphytes contained in the preparation lose their blue color to take on the brown tint of the second coloring agent.<sup>3</sup>

2. *Ehrlich's Method*.—Ehrlich proceeds quite differently. He has remarked that Koch's bacillus when impregnated with an aniline color resists the action of dilute nitric acid, while all the other elements, microbes, and cells are speedily decolorized. Ehrlich employs Weigert's solution, of which the composition is as follows: "Take of saturated aqueous solution of aniline oil 100 cc.; saturated alcoholic solution of fuchsine 11 cc. Mix for the coloring solution." "The tissue or sputum to be examined is spread in a very thin layer over a thin glass cover, and is then dried in the air. It is then passed a few times through the flame of a spirit-lamp to coagulate the albumen. The glass cover, thus prepared, is placed for twenty-four hours in a watch-glass containing the staining liquid. It is then washed with distilled water, then with a thirty per cent. solution of nitric acid till all the color comes away. Then it is again washed in distilled water, then dipped in an aqueous solution of methyl blue. The preparation is then dried and mounted in Canada balsam. It shows the bacilli of a brilliant red color, the cells with their nuclei, and the other microbes being stained blue." — (Talamon.)

This procedure, modified by Rindfleisch, who slightly heats the staining liquid to hasten the coloring of the bacilli, has received the approbation of Koch himself.<sup>4</sup>

Numerous variations have been introduced into the techniques of the preparation, which concern especially one of the elements of the staining liquid. Thus, sulphates and chlorides of rosaniline have been proposed, and divers methyl violets, alone or

<sup>1</sup> Rindfleisch, Malassez, Renault.<sup>2</sup> Koch's method is as follows: Dry a small piece of sputum on a glass slide, place it in a weak alkaline methylene-blue solution for twenty-four hours, and then wash the preparation with vesuvine.<sup>3</sup> TRASSLATOR.<sup>4</sup> Gibbs, in the London Lancet, May 5, 1883, page 771, gives the following ready method, the great advantage of which consists in doing away with the use of nitric acid. The stain is made as follows: Take of rosanilin hydrochloride two grammes, methyl blue one gramme; rub them up in a glass mortar. Then dissolve aniline oil 3 cc. in alcohol 15 cc.; add the mixture 15 cc. to the stain till all is dissolved, then add distilled water 15 cc. keep in a stoppered bottle. To use the stain: The sputum having been dried on the cover-glass in the usual manner, a few drops of the stain are poured evenly to the edge and warmed, as soon as steam rises pour into a watch-glass and place the cover-glass in the staining fluid. Allow it to remain four or five minutes, then wash in methylated spirit till no more color comes away, drain thoroughly and dry, either in the air or over a spirit-lamp. Mount in Canada balsam. The whole process after the sputum is dried need not take more than six or seven minutes. This process is also valuable for sections of tissue containing bacilli, as they can be doubly stained without the least trouble. In this way beautiful specimens have been made without the shrinkage which occurs in the nitric acid process. (Brathwaite's Retrospect, Part 88, page 221.) — TRASSLATOR.

mixed, always diluted in an alcoholic solution of aniline. Frankel has just added certain improvements; he stains a second time to render the coloring stronger and more durable.<sup>5</sup> I have always adhered to the method of Ehrlich, which is the most employed and the most sure.

#### BIOLOGY OF THE BACILLUS. ITS PARASITE LIFE.

Under the name of tuberculous organisms I shall include only the specific bacilli; no other parasites produce the characteristic lesions.

Now the bacillus is found not only in true phthisis, but also in individuals called scrofulous, affected with divers bony, glandular, cutaneous diseases. It is also met with in a great number of tumors heretofore undetermined, which occupy the peripheral organs or even the viscera, in individuals to all appearance perfectly well and exempt from every scrofulous or tuberculous taint. It remains to mention the bacilli in connection with the disease which rages among cattle under the name of bovine phthisis.<sup>6</sup> I shall return to this subject when I come to speak of the flesh and milk of these animals.

**I. Tuberculosis. Divers Lesions.**—The bacilli are found in the divers forms of the tuberculous process, whether this be localized in the lungs, or whether it be at the same time disseminated throughout other organs. When the principal if not only seat is the lungs, the bacillus characterizes the first as well as the more advanced periods of the disease. It is also found in the lesions called granulations, milary tubercles, as well as in the destructive caseous and ulcerous stage. In all cases it has its seat of predilection, though not its exclusive seat, in the tubercular elements called epithelioid cells and giant cells, where, too, the necropsy reveals it.

**Products of Secretion, Sputa.**—During the life of the patient the microphyte is recognized with the same facility and with the same certainty in the products of expectoration as in the dead elements. The presence of the bacilli in the sputa constitutes, from the most insidious beginnings of the disease, from the first excretion of a formed sputum, the certain, irrefutable sign of the disease, as I shall show at some length when I come to treat of the signs and of the diagnosis of that form of phthisis which I shall call *latent* because it has no certain sign, and of that form which I shall designate under the name of *lurated* because it takes the mask (Latin, *larva*) of another disease.

**Urine, Aline Matters, Blood.**—The sputa are the only excreted products which constantly contain the bacilli; the urine and faecal matters contain them only in exceptional cases, where there is tuberculous disease of the genito-urinary organs or intestines. As for the blood, it does not constitute a habitual or favorable receptacle for the bacillus.

**II. Tuberculosis; first Local, then General.**—The phthisiogenic microphytes are found in all organs which are invaded by disseminated tubercle. Suppose, for instance, a case of pulmonary tuberculosis at first distinctly circumscribed; from this central focus the bacilli, undergoing multiplication, may penetrate by irruption the blood vascular or

lymphatic system, and produce general, so-called, milary tuberculosis. Now in these milary tubercles, found so often in the meninges, pleura, peritoneum, liver, kidneys, etc., you will discover the bacillus, though in less quantity than in the tuberculous products—more or less advanced—of the lungs.

**III. Local Tuberculosis.**—It is the same with localized tubercles which remain localized like those of the genital organs; the bacillus exists there, though relatively in small quantity. It is in bacillomas of this kind that you often note spontaneous and thorough cure.

**IV. Scrofulas in General.**—In the organisms of patients who are called scrofulous—neither the disease, however, nor the predisposition nor the constitution being well defined—you will often find the bacillus, whose identity with the tubercle bacillus proves also the identity of scrofula and tuberculosis.

**Scrofulous Adenitis.**—Also in indurated scrofulous glands you frequently observe the caseous degeneration which we are soon to describe in connection with tuberculous, called caseous, pneumonia. In the caseous mass the bacillus exists constantly, so that its very presence enables you to affirm the localized degeneration to be of tuberculous nature.

**Scrofulous Osteitis.**—In bones affected with osteitis, with periostitis, with white swelling, with chronic fungoid arthritis, the dominant lesion is tubercle, and the presence of the bacillus is constant.

**Lupus.**—Cornil has met with bacilli, few in number it is true, but constantly, in lupus, which ought henceforth to enter into the category of scrofulo-tuberculous affections. In fact, Besnier has with great sagacity shown that, in the Hôpital Saint Louis, lupus compromises life by the tubercles which it develops in the viscera, and especially in the lungs.

**V. Circumscribed Tubercles of different Organs.**—It is not necessary that the lesions above indicated should be grafted on a "scrofulous" stock; we often see localized and curable tuberculosis of the genital organs in healthy men and women. The affections of certain mucous membranes, such as the pharynx, mouth, the larynx, often manifest themselves by the lesions whose exact nature is not obvious till microscopic examination is made of their products; the presence of bacilli shows clearly their tuberculous nature.

**VI. Local Tuberculosis becoming Infectant.**—Do not forget that the circumscribed tuberculous foci of bones, of the genital organs, etc., may, as well as those of the lungs, become all at once the point of departure of a real infection which spreads to the important vital organs. After a long series of years of quiescence the tuberculous foci may, without known cause, discharge into the blood colonies of bacilli which invade and ravage the entire organism. This is the familiar history of those acute phthisical maladies which take their start in a bacillary centre almost or quite forgotten.

#### THE CULTURE OF THE MICROPHYTES, AND ESPECIALLY THE TUBERCLE BACILLI.

**Culture-Liquids.**—The specific microphytes develop with difficulty in the atmosphere, more readily

<sup>5</sup> Society of Berlin, March, 1881.

<sup>6</sup> Pannicellere.

in inert substances, and still more readily in living organisms, their ordinary habitat. Where derived by the organism from without, it is by divers channels of absorption, especially by the respiratory mucous membrane and the alimentary canal, introduced by air and food, that they penetrate the economy. They then localize themselves and form a circumscribed focus, or multiply, carried along by the blood current in different parts of the organism. Now in these primitive foci, circumscribed or multiple, or in the blood itself, the microphytes can be obtained, transported to a nutrient liquid, and cultivated without losing their deleterious properties. It is only by a long series of cultures in nutrient liquids constantly renewed, or even by free access of air, that their pathogenic power diminishes.

*Composition of Culture Liquids.*—The most nutritive substances for the pathogenic parasites are not the albuminous groups, but the gelatinous compounds, glutine, chondrine, without doubt also mucine. You may advantageously use for cultures solutions of gelatine or decoctions of meat-containing gelatine. In other culture-fluids destined for the bacteria of putrefaction the pathogenic bacteria lose their properties and their forms.

These gelatinous media present themselves naturally, under suitable conditions, in the soil and in stagnant waters. But cadavers and organic matters undergoing putrefaction at the surface of the earth, form a bad culture medium for the specific microbes, because these soon lose by access of air their pathogenic power, and in the second place because they are soon replaced by the septic forms.

*Culture at a certain Temperature.*—This substitution takes place the more quickly the less the surrounding temperature is favorable to the pathogenic microbes, and the better it suits the septic forms. Thus it is demonstrated that the specific microbes can only develop in a temperature above 25° C., from this up to 41° C., while the fungi of putrefaction vegetate between 16° and 20° C., and multiply at 15° C.

#### CULTURE-LIQUIDS OF THE BACILLUS TUBERCULOSIS.

At first Koch tried gelatine (extract of meat, peptone, and gelatine) without success, and this for the good reason that the bacillus cannot thrive at a temperature of 20° C., above which gelatine melts. He bethought himself then of coagulated and sterilized blood serum, which may be made to furnish thin transparent layers. You heat the blood (of beef or mutton) for six days, every day one hour at 58° C., then several hours at 65° C., till the serum remains coagulated. On this culture-field you sow bacilliferous-tubercle fragments, which are then exposed in a suitable covered receptacle to a constant heat of 37° C. About the tenth day there form on the surface of the liquid minute scales and little points; after several weeks the growth of the bacillary colony, often appearing contorted like the letter S, is finished. The bacilli thus nurtured are often passed through eight or ten cultures before serving for infection, inoculation, or inhalation experiments.

## Original Articles.

### PREMATURE BIRTH FOLLOWING THE SUCCESSFUL TREATMENT OF MORPHIA-POISONING BY ATROPIA.<sup>1</sup>

BY EDWARD J. FORSTER, M.D.,  
Visiting Physician to the Boston City Hospital.

This case is of interest to the therapist on account of the amount of atropia used to antagonize the morphia and to the obstetrician (which is my reason for reading it to this Society) on account of the premature delivery which followed, and also that a *living* child was born after the mother's system had been so thoroughly affected by the morphia as to reduce the respirations to two a minute.

Sunday, September 7, 1884, having finished my morning visit, I was about leaving the hospital at 1.10 p.m., when a young married woman of twenty years was brought in by her husband in an unconscious condition, with the statement that she had swallowed thirty grains of acetate of morphia. The patient was in a state of collapse, the pupils contracted to the merest pinholes, and the respirations very slow. By my order half a grain of sulphate of atropia was immediately given subcutaneously. A physical examination was then made. The patient was unconscious, the pupils contracted, not reacting to light. The heart, lungs, and abdominal organs were found to be normal. The uterus was found to be extending above the umbilicus one third the distance to the ensiform cartilage.

Dr. W. L. Richardson, who had accompanied me on my visit, was present, and was able to hear the fetal heart faintly, above the left groin, beating eighty times to the minute. The temperature was 98.6°, pulse 72, respirations 7. Another injection of one fourth of a grain of sulphate of atropia was then given, which was followed by dilation of the pupils.

The following history was obtained from the husband: The patient had been married two years and three months; had a child eighteen months old; last menstruation ended March 10th; not in the habit of taking either opium or alcohol. General health good, except morning sickness during pregnancy. Has seemed somewhat spiritless for last few days, but was singing happily when he left in the morning. At eleven o'clock he was sent for to come home to dinner, as his wife did not feel well; being the only clerk in a drug-store, he could not leave, but sent home a Seidlitz powder. Going home at 12.15 he found his wife lying on the sofa; she had a peculiar look, said she had taken something wrong, and told him to look on the table; there he found a two-drachm bottle labeled morphia, acetate, and poison. He thinks there must have been nearly a drachm in the bottle, as that amount had been put in and but little had been used. Thinks his wife must have mistaken it for a bottle of quinine of similar size and shape. She complained greatly of thirst, and was anxious to lie down. He walked her about for seven minutes, then gave her wine of antimony, which caused her to vomit slightly, afterward mustard-water, which made her vomit freely. She soon became unconscious, did not respond to slapping.

<sup>1</sup> Read before the Obstetrical Society of Boston, November 8, 1884.

Dr. J. G. Blake was called, by whose order she was brought to the hospital.

It is supposed she took the morphia at 11 o'clock, A.M.

At 1.30 o'clock the stomach was washed out and a pint of hot black coffee was poured in through the stomach-tube, and artificial respiration resorted to. A subsequent examination of the fluid from the stomach showed no trace of morphia.

At 1.45 the pulse was 150, respirations 4, pupils dilated; flagellation was tried; this caused the patient to struggle, but did not arouse her to consciousness; this was continued constantly for half an hour, then interruptedly for another half-hour. The faradic current was applied to the phrenic nerve, but without much apparent effect.

At 2.15 pulse 144, respiration 7; some quivering of muscles of neck and chin noticed.

At 2.30 temperature 99, pulse failing; ten grains of carbonate of ammonia were given subcutaneously.

At 3, pulse 136, respirations 2; enema of three ounces of brandy were given.

Artificial respiration was kept up continuously for one and a half hours.

At 4, pulse 120, respiration 6; one fiftieth of a grain of sulphate of strychnia was given subcutaneously as a stimulant to the respiratory centres.

At 5, pulse 125, respiration 5; erics when slapped.

At 6, pulse 120, respiration 6; enema of brandy, three ounces.

At 8, pulse 128, respiration 10; had involuntary dejection, and asks for drink.

At 10, pulse 124, respiration 14; talks, and drinks milk.

At 2 A.M., Monday, pulse 122, respiration 18; some twitching of hands and arms.

At 6 A.M., pulse 116, respiration 28; she vomited. During the night she took four pints of milk.

At 9 A.M., she was quiet and comfortable, but very thirsty, legs tender, swollen, and discolored from the flagellations.

At 11 o'clock, while making the morning visit, an accumulation of fecal matter and liquid, which proved to be liquor amnii, was found in the bed. Before a vaginal examination could be made, she uttered a sharp cry and gave birth to a six months male foetus, breech presentation, the head being delivered without difficulty. The third stage was completed by Credé's method in about three minutes. The convalescence was nearly normal.

The secretion of milk in the breasts was checked by belladonna ointment locally and one-sixtieth grain doses of atropia internally.

The child breathed a few times immediately after birth; he was placed in hot water, then in hot cotton, and artificial respiration continued for half an hour. The respiration and pulse grew slower and feebler, until both ceased thirty minutes after birth.

The child was well-formed, fifteen inches long; one testicle could be felt in scrotum, pupillary membrane still present. Battledore placenta with cord attached to membranes for a distance of ten inches.

An abscess formed at the site of the subcutaneous injection of carbonate of ammonia.

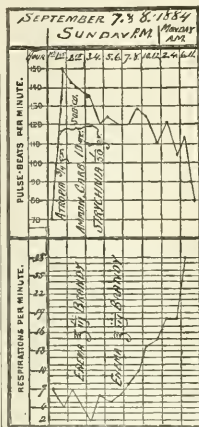
After suffering from a boil on each buttock, several small ones about the neck, and an abscess over the tibia which required opening, the patient was finally discharged well, on the 27th, twenty days after entrance. The foregoing account is abstracted

from the careful records kept by James B. Field and James A. Gage, house officers.

The accompanying chart shows at a glance the effects of the drugs upon the pulse and respiration.

I gave the large amount of atropia, having in mind a case which I had recently read, in which, by Dr. Fothergill's direction, a grain was injected and a woman's life saved who had taken a very large amount of landanum.

At the time I thought I was giving a lethal dose, but Wharton and Stillé, in their last edition, state that while one-sixth grain has caused alarming



symptoms, a grain has not caused death.

If labor had not occurred in this case after all the woman had undergone, I should have been surprised, but to which particular agent to attribute it I am at a loss.

## UNINTENTIONAL ARTIFICIAL RIPENING IN A CASE OF ZONULAR CATARACT.<sup>1</sup>

BY HASKET DERBY, M.D.

It is generally maintained that zonular or lamellar cataract cannot be made to extend over the whole area of the lens by either of the methods now in use for the artificial ripening of senile cataract. In a recent number of the *Boston Medical and Surgical Journal*, Dr. Wadsworth gives the following statement, as representing the views of the authorities he has reviewed: "For posterior polar cataract, and perhaps also for lamellar cataract, Foerster's method is not efficient."<sup>2</sup>

No less an authority than Jakobson has very recently published the following assertion. Speaking of the effect of an iridectomy alone on the formation of cataract, he says: "Distinct opacity is found neither in the case of the transparent lens, nor in zonular cataract, even when cortical striae are to be found between the opaque layer and the anterior capsule."<sup>3</sup>

An instructive commentary on the above statements is furnished by the patient before us. She is twenty years of age, and the subject of congenital zonular cataract, each eye being affected. No family history of trouble with the eyes exists, the parents having excellent sight, as also her several brothers and sisters. The mother states that, in

<sup>1</sup> Notes of a case exhibited to the New England Ophthalmological Society, February 3, 1885.

<sup>2</sup> Vol. cxli., No. 3, page 84.

<sup>3</sup> Archiv für Ophthalmologie, Bd 30, Abth. II, S. 268.

the third month of her pregnancy she was assaulted by a crazy woman whose eyes had been diseased and had a very peculiar appearance; and that the expression of these eyes made a powerful impression on her at the time. (This statement is of course given for what it is worth.) In a bright light the entire area of this patient's pupil was occupied by the opaque lens, and vision under these circumstances was so imperfect that the patient has, for six years past, been an inmate of a blind asylum. Under atropine the cataract was seen to be not sharply defined, but to be surrounded by little opaque prominences, these bearing the same relation to the lens that the corona, during an eclipse of the sun, does to the disc of the latter. The whole interior of the eye could now be seen, and appeared normal. With the pupil thus dilated vision greatly improved, rising to one tenth in the right eye, two tenths in the left. I had therefore no hesitation in earnestly advising an iridectomy on both eyes, but received permission to perform it only on the right or worst. This was done under ether December 22, 1884; a new pupil being formed downward and inward. Although the incision caused no hæmorrhage, the excision of the iris was followed by an unusual amount of bleeding into the anterior chamber, about a third of which was filled. I should say that there was no suspicion of a dialysis, the iris not even prolapsing at the time of the corneal incision, but remaining in place until gently grasped by the forceps. The blood thus left in the chamber was readily absorbed, the bandage was omitted after the third day, and the result has been satisfactory, vision being nearly doubled, and the patient now reading coarse print with this eye in all lights.

December 28th, a similar operation was performed on the left eye. Every step in it was taken without difficulty and in the usual manner, but profuse hæmorrhage followed the excision of the iris, completely filling the anterior chamber, and only ceasing on the application of ice. Attempts were then made to remove the blood by depressing the lip of the wound, and gently smoothing over the face of the cornea with a flat flexible rubber spatula, and were partially successful, a thin layer of blood remaining behind. On the 31st, the clot was confined to the area of the pupil, and atropine was now applied, but failed to bring about any dilatation for two days more. Finally all the blood absorbed, the pupil enlarged, and the cataract was now discovered to have invaded the entire lens, extending to its periphery. View of the fundus was entirely cut off, and vision reduced to one twenty-fifth.

That this cataract has been ripened, either by the iridectomy or the attempts to remove the blood from the anterior chamber, cannot be doubted. I propose to operate on it by discission this coming spring.

— By a new treaty between Great Britain and China, the control heretofore exercised by the former government over the internal tariff of the Chinese Empire, with reference to the importation of opium, is abrogated, and China is to have complete freedom of taxation of the drug.

## REPORT ON PUBLIC HYGIENE.

BY S. W. ABBOTT, M.D.

### SEWERAGE AND SEWAGE DISPOSAL.

PROF. HENRY ROBINSON, in a recent paper on sewage disposal, deduces the following conclusions:—

(1) That chemical precipitation is not so necessary now as it was considered to be a few years ago in cases where land for irrigation is not procurable.

(2) That the efforts to profitably remove the manurial elements from sewage by chemicals not having been successful, the system should be adopted *per se* only when a filtration-area cannot be obtained.

(3) That the success which has attended the construction of filtration-areas where the land is clayey, and the results which have been obtained from a combined straining of sewage and of subsequent filtration through small areas of artificial filters, point to the adoption of one or other of these systems in many cases, when chemical treatment would previously have been advised.

(4) That the injurious effects of passing untreated sewage into a river depend not merely upon the relative volumes of the sewage, and the river, but chiefly upon the power of the river to oxidize the sewage, which power is in proportion to the extent of oxidization of the river itself.<sup>1</sup>

The Parliamentary Commission who were directed to report upon the present system of sewerage of London, "whether any evil effects result therefrom, and in that case what measures can be applied for remedying or preventing the same," have rendered their second and final report, which is especially valuable, as giving in concise and terse form their summary of opinions as to the comparative value of the various modes of sewage disposal, in their general application, as well as to the special needs of the Metropolitan Board of London.

A brief historical *résumé* is given of the various reports and investigations upon this subject from 1856 to 1881. Special reference is made to important decisions with reference to the discharge of sewage into the river Lee by the corporation of Hertford, and also as to the scheme of the Lower Thames Valley Sewerage Board, a plan involving partly the system of broad irrigation and partly that of intermittent filtration.

The subjects of the separation of the sewage from the rainfall, and also the prospect of profit by the utilization of sewage, are both treated in the preliminary portion of the report, and while the separate system is endorsed as worthy of consideration in future extensions of drainage, the commission are of the opinion that the "expense, trouble, and annoyance would make it impracticable now to apply to the Metropolitan drainage generally the system which was rejected when the present arrangements were made."

As to the profits of utilization of sewage, they also affirm that "there can be no doubt that the preponderance of the evidence is against the idea that the sewage of the metropolis can, at present,

<sup>1</sup> Paper read at the Dublin meeting of the Sanitary Institute of Great Britain, October 2, 1881.

be applied by irrigation so as to be a source of profit to the rate-payers."

Looking now to the whole of the evidence we have obtained on the prospect of profit from the utilization of sewage, we are of opinion

(1) That the most likely mode to obtain a profit from the utilization of sewage is by irrigation; but that, in the present state of knowledge of the subject, there is no hope of any town doing so consistently with the due attainment of the more important object, the purification of the sewage. In some very favorable cases (as in Edinburgh), a profit may be made without purification, and very frequently the purification may be effected without profit, but the two cannot apparently be combined.

(2) There is still less hope of profit by attempting to extract manure from the sewage by depositing or precipitating processes; the available manurial value of the sewage is at present too small to admit of obtaining from it any product which can be sold at anything like the cost of its production. Considering the small theoretical value of the sewage, twopence per ton at the most, and seeing, moreover, that its chief manurial value lies in its soluble constituents, it is not probable that any mode of abstracting from it a marketable manure can be devised. The only possibility is that the precipitated matters might be made to yield some little return in diminution of the cost, and even this appears at present uncertain.

(3) But the question before us is not an abstract one, not whether in some places, with some land, and with some amount of sewage, a profit can be made. The question is whether London sewage can be so dealt with, and we consider the circumstances altogether unfavorable.

(4) Looking, however, to the fact that sewage does contain elements of value, and that the aggregate value of Metropolitan sewage is undoubtedly very large, we think the possibility of realizing some of the value should be borne in mind in devising plans for its disposal. And it is clear that our present knowledge points to the application to land as the most probable mode by which this can be done.

(5) But we are strongly of the opinion that it would be wrong to delay proceedings on this account, and that freeing the Thames from pollution must be undertaken as a work to be done and paid for, whatever the cost may be.

The various plans considered by the commission may be summed up as follows:—

(1) Broad irrigation.

(2) Filtration.

(3) Deposition or chemical precipitation.

(4) A combination of (3) with a subsequent complete purification of the classified sewage by applying it to land.

(5) Removal of the outfalls farther down the river.

(6) Removal of the outfalls to the sea.

*Broad irrigation* is considered with reference to its efficiency, its liability to objection, and its cost, and in summing up this method the opinion of the commission is thus given:—

(1) Generally speaking, it offers a satisfactory mode of disposal of town sewage, when circumstances admit of its application.

(2) It offers the most likely means of realizing some portion of the value of the sewage.

(3) When properly arranged, and carefully conducted, the effluent will be effectually purified, but that under careless management the purification may be incomplete.

(4) It need cause no danger to health.

(5) With proper care, when applied on a moderate scale, it need cause no serious nuisance to the surrounding neighborhood, but that if improperly managed nuisance may arise and may become considerable.

(6) There may be a danger of the pollution of subsoil waters.

(7) To apply broad irrigation to the Metropolitan sewage near the outfalls would be a matter of great difficulty, on account of the enormous quantity of land required, its great probable cost, and the powerful opposition that would be raised against such a proposal.

(8) For these reasons, we do not recommend any attempt to apply this system as a remedy for the evils of the Metropolitan sewage discharge. We say nothing of such an attempt if it could be made by private enterprise.

With regard to *Filtration* the following conclusions are given:—

(1) The process has great scientific merit, and offers valuable practical advantages for the disposal of sewage in situations where broad irrigation is impracticable, and where land suitable for filtration can be obtained.

(2) It appears desirable, when the area of land is considerably reduced, that the sewage should be previously treated by some efficient process for removing the sludge.

(3) An arrangement of this sort would be applicable to the metropolis.

As to *Chemical treatment*, the various modes are briefly reviewed, as also the treatment of the sludge, its quantity, and the cost of various processes, with the following conclusions:—

(1) The adoption of a process of this kind would effect an improvement on the present state of things. It would diminish the nuisance, and it would lessen the tendency to deposit foul banks and shoals.

(2) Precipitation alone would not effectually purify the river; some nuisance would probably still occur in dry seasons; and the injury to fish and danger to wells would in some degree still remain.

(3) The works might be carried on without sensible nuisance.

(4) The cost would be at least £200,000 a year, or about one shilling per head of the population.

(5) It would result in the loss practically of a large part of the manurial value of the sewage, offering no prospect of its future realization unless the clarified liquid was afterward applied to land.

(6) Several processes appear to be fairly effective, but there has been no evidence to satisfy us of the marked superiority of any one in particular.

(7) It could be brought into action much more quickly than any other remedy.

(8) In case of its being disused, it would entail but a comparatively small pecuniary loss.

Of the *combination of precipitation with the sub-*

sequent application of the impure liquid to the soil by filtration, as related to the treatment of the Metropolitan sewage, the commission conclude that this plan offers one of the most feasible means of solving the difficulty.

As to the two remaining plans, the *removal of the outfalls* to a lower point upon the river, and also the removal to the deep sea, the commission pronounce an unfavorable opinion, especially with reference to the latter.

On the other hand, the testimony of Mr. Baldwin Latham before the commission was as follows: "I am of opinion that it would be far cheaper to spend five or six millions of money in carrying an extended outfall into the deep sea, than to carry out any precipitation process."

In fine the general conclusions of the commission, and the recommendations offered, are:—

(1) The evils of the present system of sewage discharge imperatively demand a prompt remedy.

(2) It is neither necessary nor justifiable to discharge the sewage of the metropolis in its crude state into any part of the Thames.

(3) Some process of deposition or precipitation should be used to separate the solids from the liquid sewage.

(4) Such process may be conveniently and speedily applied at the two present main outfalls.

(5) The sludge can be used for the raising of low lands, or burned, or dug into the land, or carried out to sea.

(6) Any process adopted must be conducted as much as possible without nuisance.

(7) The liquid portion of the sewage may, as a temporary measure, be allowed to run into the river.

(8) Its discharge should be limited to the period between high water and half ebb of each tide.

(9) Much evil will thus be abated.

(10) The discharge of the liquid portion of the sewage should not be a permanent measure.

(11) Intermitting filtration is advised for the liquid portion, which should be pumped from the separating works to elevated land for further purification.

(12) The sewage of the south side of the river to be conducted across, if land cannot be found suitable for the purpose on the south side.

(13) If no land can be obtained near the present outfalls, it is further recommended that the liquid portion after separation be carried further down the river, as far as Hole Haven.

(14) In the latter case, the main conduit may be made sufficiently large to admit of the extension of the drainage system to the outer districts of London. In such districts the separate system to be adopted.<sup>2</sup>

#### OFFENSIVE TRADES.

The twentieth annual report of the chief inspector<sup>3</sup> under the British Alkali Works Acts states that there were, at the close of 1883, 920 works which properly came under the supervision of the inspector in England, Scotland, and Ireland. These

included works for the production of sulphuric and nitric acids, chemical manures, sulphate of ammonia, pottery, salt, and other products.

In the artificial-manure works the processes employed are quite efficient, the offensive gases being conducted through cooling shafts and tall water-towers, and are finally burned in the furnace fires.<sup>4</sup>

Certain improvements have been effected in the modes of preventing nuisance from sulphuretted hydrogen in the manufacture of sulphate of ammonia: first, by burning the gas and forming sulphur; second, by absorbing it by means of oxide of iron purifiers.

Dr. Smith recommended as a limitation of allowable acidity of the gases finally escaping from these two classes of works .2 of a grain per cubic foot of sulphuric anhydride for the former (manure works) and .5 of a grain for the latter (sulphate of ammonia works).

#### FOOD INSPECTION.

The latest report of the Local Government Board gives the following summary with reference to the Food and Drugs Act and its operation.

The number of samples analyzed has considerably increased, while the proportion found to be adulterated remained about the same during the past few years; but the adulterants employed were found to be far less dangerous to health.

The whole number of analyses made during the year was 19,648, and the cases in which adulteration was proved were 2,955. By far the greater number of samples were obtained by the local officers. The proportion of articles adulterated was much greater in those which were brought by private consumers for analysis, since few private individuals care to enter complaints, unless their suspicions have been quite strongly aroused. The articles selected for analysis were mainly milk, spirits, butter, coffee, and bread. Adulterations in all these articles except bread were quite common. Of the latter, 1,013 samples out of 1,043 were found to be pure. Of adulterated drugs 50 samples were found to be deficient out of 304.

The Local Government Board estimate that between \$70,000 and \$80,000 is annually paid in London for water sold under the name of milk. Beer and wine were less liable to fraud than milk. Of 970 samples of sugar analyzed all were found to be genuine. The Acts are working successfully wherever they are put in force. They are not enforced in the rural districts and the smaller boroughs.

The work of food inspection in the city of Paris has continued throughout the past year, the analyses having been conducted under the efficient direction of M. Ch. Girard, at the Municipal Laboratory of Paris. The inspection takes cognizance also of wall-papers, toys, cooking utensils, illuminating oils, etc.

The monthly reports received from the Laboratory state that the samples deposited by the public for analysis, and also those those seized by the inspectors, do not represent the average quality of goods

<sup>2</sup> Royal Commission on Metropolitan Sewage Discharge. Second and Final Report. London, 1881.

<sup>3</sup> Dr. R. Angus Smith, the efficient inspector under these Acts, died while his report was going through the press.

<sup>4</sup> It is much to be regretted that certain works in Massachusetts are still conducting their operations in an offensive manner with scarcely the slightest attempt to prevent nuisance to the neighborhood.

sold in the markets of Paris, since such samples are usually of a suspicious nature.

The public are invited to deposit samples for gratuitous analysis with the commissariats of police, milk-samples to be brought between the hours of 11 and 3.

As a specimen of the work accomplished by this excellent system, the following summary of the work of the months of January and November, 1884, are here presented, the latter being the last monthly report received.<sup>5</sup>

Establishments and markets visited: January, 1884, 3,267; November, 1884, 1,305.

Destructions of articles of food, including fruit, meat, fish, and poultry, syrups, confectionery, mushrooms, tomatoes, vinegar, and pickles: January, 1884, 129; November, 1884, 180.

Character of samples.	January.		November.		Classification of other samples.
	Total.	Good Quality.	Total.	Good Quality.	
Wines.	653	84	544	126	Bad quality, bitter, acid, musty, etc. Bad taste. Plastered to extent of two grains per litre. Addition of water. Artificial coloring matter. Salicylic acid, alum etc.
Vinegar.	25	9	16	10	Addition of water. Addition of lead. Substitution of white-wine vinegar.
Beer.	4	2	4	4	By addition of salicylic acid.
Older.	5	2	8	5	Addition of water. Addition of coloring matter.
Alcohols & liquors.	16	2	15	8	Use of alcohol having a bad taste. Use of salicylic acid.
Syrups.	8	2	14	3	Addition of glucose. Addition of coloring matter.
Waters.	19	7	47	9	Addition of salicylic acid. Not potable, in consequence of presence of mineral salts and organic matter.
Milk.	413	299	358	254	Addition of water. Substitution of cream.
Butter.	34	25	20	19	Addition of foreign fats.
Oils.	6	4	11	8	Addition of foreign oils.
Flour.	16	15	15	14	Damaged.
Bread and pastry.	1	1	11	9	Made of flour of a poor quality.
Confectionery.	9	3	2	1	Prohibited coloring matters.
Honey and sweetmeats.					
Coffee and tea.	10	9	11	11	Foreign matters.
Peppercorn and spices.	3	1	15	10	
Toys.	8	0	4	0	Prohibited coloring matter.
Colored paper.	18	4	7	0	Prohibited coloring matter.
Cooking utensils.	26	9	15	9	Presence of lead.
Drugs.	13	11	2	2	Below the pharmacopoeial standard.
Perfumery.	1	1	5	1	Presence of prohibited substances.
Essential oils.	11	6	15	12	Inflammable below the required temperature of 35 degrees C.

#### DISINFECTANTS.

A committee of the American Public Health Association authorized to report upon the subject of disinfectants<sup>6</sup> have defined them as agents capable of destroying the infective power of infectious material.

Dr. Robinet, in the first chapter of the report as published,<sup>6</sup> gives the following summary of con-

clusions as to the efficiency of haloid elements, chlorine, bromine, and iodine.

(1) Chlorine is an efficient disinfectant when present in the proportion of 1 part in 100; provided the air and the objects to be disinfected are in a moist state and the exposure continues for upward of one hour.

(2) Chlorine, when used in sufficient concentration to act as a trustworthy disinfectant, injures colored fabrics and wearing apparel.

(3) Bromine is an efficient disinfectant in the proportion of 1 part in 500; provided the air be in a moist state, and the exposure continues for upward of three hours.

(4) Iodine in solution is an efficient disinfectant in the proportion of 1 part in 500; the exposure continuing for two hours.

(5) The use of chlorine, and in a greater degree of bromine, requires considerable experience in management; when carelessly handled they may cause inconvenient or even dangerous symptoms in persons using them; for these reasons they are not suitable for popular use as disinfectants.

In the second chapter of the report,<sup>7</sup> Dr. Sternberg details the process employed in determining the comparative efficiency of commercial disinfectants.

The material employed as a test is "broken-down" beef-tea, in which the *bacillus subtilis* is invariably present, and in abundance. To this stock solution a culture of *bacillus anthracis* is also added on account of its noted power of resistance.

The time employed for experiment in each case is two hours. The amount of material employed is made equal to that of the disinfecting agent. The temperature of solutions is kept at 36° to 38° C. (96.8° to 100.4° F.).

The following table gives the results of experiments made. In four instances a failure occurred in the proportion of fifty per cent.; that is, when the undiluted solution was added to an equal quantity of the test-material:—

Name on Label.	Per cent. in which active.	Per cent. in which failed.
Little's Soluble Phenyle	2	1
Labarraque's solution (liquor sodæ chlorinatæ (F. S. P.))	7	5
Liquor Zinci Chloridi (Squibb's)	10	7
Feuchtwanger's Disinfectant	10	8
Labarraque's solution (Frère, Paris)	15	10
Phenol Solique	15	10
Platt's Chlorides	20	15
Glendon's Disinfectant	25	15
Williamson's Sanitary Fluid	25	20
Bromo-Chloratum	25	20
Blackman Disinfectant	30	20
Squibb's Solution, Impure carbolic acid	50	50
Hutchinson's Disinfectant	50	50
Phenol Solique (Paris)	50	50
Listerine	50	50

The relative value of the agents as here given does not establish their comparative practical value as disinfectants. Questions of cost, physical properties, etc., come into the account.

Dr. Sternberg attributes a high disinfecting power to the liquor sodæ chlorinatæ (Labarraque's) and thinks it worthy of more attention than it has yet

<sup>5</sup> Medical News, February 7, 1885.

received. Samples obtained at different places vary considerably in strength.

In a supplementary report Dr. Duggan confirms the experiments of Dr. Sternberg as to the value of the liq. sodæ chlorinate and also of the hypochlorites in general, which possess the advantage of not forming a coating of insoluble albuminoid matter around solid or semi-solid masses and thus protecting them from further action. On the contrary, in moderately strong solution, they oxidize and disintegrate these materials. They are, at the same time, destroyed themselves in the reaction, so that we are rid of the germs, organic matter, and disinfectant, all at the same time.

Dr. J. B. Russell, of Glasgow, in an article which many would deem heretical at the present stage of knowledge as to disinfection, makes the following pertinent statement: "Perfect disinfection means killing the contagium before getting rid of its material substance. To take a shovelful of smallpox crusts and throw them into the asphalt, or to shake the débris from the flannels of a scarlatina convalescent over the window-sill, are not processes of disinfection. In a sense you disinfect the room which has been swept and the flannel which has been shaken, but you start the contagia in a fresh career of mischief." Dr. Russell advises burning for the former and thorough washing with soap and water for the latter, and states his belief that the municipal disinfecting apparatus of the future will be a large washing and cleansing establishment.<sup>8</sup>

Prof. F. DeChaumont expressed a similar opinion with reference to cholera: "There is but one true disinfectant, namely, fire. The majority of so-called disinfectants are simply deodorants. A system of drains properly flushed and protected would obviate the necessity of disinfectants. Unfortunately, the use of disinfectants is often only an excuse for uncleanness and insanitation. The only way of resisting cholera is to render the soil on which it is propagated perfectly barren."<sup>9</sup>

On the other hand, the wholesale use of disinfectants at the London Sewage outfalls at Crossness and Barking Creek is notable. Twenty-two tons of chloride of lime were daily discharged into the Thames with the sewage until recently, when the Metropolitan Board of Works determined to substitute permanganate of potash for the chloride of lime. The price of the permanganate rose to £140 per ton, upon which the Board erected works near the outfalls for its manufacture, which they professed to be able to do at £25 or £30 per ton.<sup>10</sup>

<sup>8</sup> "On disinfection," by J. B. Russell, M.D., medical officer of health for Glasgow, Glasgow Medical Journal, December, 1884.

<sup>9</sup> Local Government Chronicle, August 2, 1884, London, p. 616.

<sup>10</sup> Local Government Chronicle, August 2, 1884, London, p. 611.

—Dr. Buchanan was again found guilty by a jury, at Philadelphia last week, of issuing bogus medical diplomas. A woman named Russell, who was tried at the same time with him, was acquitted on the criminal charge. She testified that, although she displayed a sign as a doctor, she had graduated from no medical school, and that the M.D. following her name meant "Money Down."

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

MARCH 10, 1885. The President, Dr. F. W. DRAPEL, in the chair.

Dr. S. G. WEBBER read an abstract of a paper on

#### SYPHILIS OF THE NERVOUS SYSTEM,

which is to appear in the coming volume of the Boston City Hospital Report. The following are some of the conclusions that he has reached:—

There is no pathognomonic symptom of syphilis of the nervous system; the diagnosis must be made by grouping the manifestations and viewing them and their history as a whole. Among the more frequent peculiarities is irregularity of the phenomena and their ephemeral nature, disappearing to come again.

Headache is the most common and the earliest symptom of syphilis of the central nervous system, and gives timely warning that the subsequent dangers may be avoided. Its characteristics are severity, with remissions or intermissions. The pain is persistent, or returns again and again. It is often, but by no means always, most severe in the latter part of the day or night. It may be limited or general, unilateral or bilateral. Nausea and dizziness are generally absent.

The ocular nerves are more frequently paralyzed than the other cranial nerves, and in general, paralysis is preceded by headache or trifacial neuralgia.

Hemiplegia is less likely to be sudden than to occur gradually, to be intermittent, to be preceded by headache, and to be accompanied by numbness of the same parts.

Syphilis of the spinal cord is less common than cerebral syphilis. Its prognosis is much less favorable, and it also has no pathognomonic symptom. Perhaps many of the cases of locomotor ataxia reported cured, were really cases of syphilitic myelitis. Syphilitic neuritis of peripheral nerves is not common, and is not easily recognized as such.

The time at which nervous symptoms appear after the primary sore varies in Dr. Webber's cases from two and a half months to twenty-five years; the majority coming, as is reported by other observers, within three years.

The reader hesitated to say much of prognosis. If headache exists alone, or if the symptoms are variable and intermittent, the prospect is fair. If there be organic change, recovery is doubtful, although the disease may be arrested. Some cases must be treated, at least intermittently, for many years, even after symptoms have disappeared. Slight cases may be treated with fifteen or twenty grains of iodide of potassium three times daily, continued many weeks after apparent recovery. In serious cases temporizing is dangerous, and iodide of potassium and mercury should be given in sufficient doses. Of the iodide, from seventy to two hundred and twenty-five grains have been given in the cases reported. Larger doses have been given by the reader, but without benefit and without harm. In some cases small doses have been badly borne,

but on increasing the dose the unpleasant symptoms have disappeared.

DR. F. B. GREENOUGH said that he had seen many cases of early nervous syphilis, some of them within a year from the time of infection. The case mentioned by Dr. Webber as having been sent to the hospital by him, had hemiplegia, when coming under his care, five months after the primary sore. He has seen him since, and he seems well. The speaker had seen an earlier case than that, in which a chancre appeared January 13, 1883, an eruption on the sixth of April, and right-sided hemiplegia on the twenty-fourth of May, about four months. This patient took iodide of potassium, and in a week was apparently well. There has been no relapse.

In syphilis, it is important to give iodide of potassium if there is headache, and there is nothing more wonderful in medicine than the action of this drug in these cases. Its effect is as marked as that of the subcutaneous injection of morphia in pain. A few doses, used at once, may give entire relief to a patient, who, if untreated, would undoubtedly have grave lesions. The speaker agrees with Dr. Webber in combining mercury with iodide of potassium, and looks on the iodide as valuable for holding symptoms in check, while mercury cures the disease.

DR. G. H. LYMAN reported a case which he remarked was somewhat different from those of the reader. I. T., aged thirty-five. Primary sore in November, 1882. Consulted him October 25, 1884, with a heavily loaded tongue, sense of prostration, headache, extreme vertigo, and slight numbness in left side and over the hepatic region. After a few office visits, the serious character of the affection became manifest; uncontrollable, intense vomiting, vertigo, and gradual loss of power over bladder and whole right lower extremity appeared. Pupils dilated, but no disturbance of vision. No aphasia. Catheter needed twice daily, and nutritive enemata. Under thirty to forty grain doses of iodide and inunction to the thighs, he was in six weeks much improved, and by the middle of December able to walk out. In February he appeared in vigorous health, although still conscious of slight impairment of power in the leg. While apparently well, his reluctance to a continuance of the medicine renders a recurrence not improbable. Dr. Lyman remarked upon the statement of Dr. Webber as to the rarity of vertigo, adding that most authors considered this symptom as a common one.

DR. WEBBER said that vomiting and vertigo do not usually accompany syphilitic headache, unless other head symptoms are present. In that case they are common.

DR. LYMAN inquired as to the exact pathological lesion.

DR. GREENOUGH said that Fournier, in his work published in 1879, goes into that thoroughly. The lesions come under three heads; inflammation of the meninges, of the arteries, and of the brain substance, and later neoplasms. He said, also, that early nervous cases have been reported as tertiary, which is probably incorrect. Zeissl supposes that precisely as the iris becomes inflamed as a secondary symptom, so does the arachnoid or the pia mater, without the dura mater or external periosteum being

diseased, and that early cerebral symptoms are a result of such inflammation, and not of neoplasms.

DR. W. W. GANNETT said that, so far as he knows, there is but one recorded autopsy with early cerebral symptoms. That was of a patient with syphilis less than six months old, who died of intercurrent disease of the lung. The pia mater was inflamed, and was half a line thick. As the patients generally recover in this stage, we do not often know the pathology.

In older cases there are one or two varieties of gumma, either a growth from the dura mater or periosteum, not affecting the central nervous system, or growths of connective tissue from the pia mater, extending from the periphery, which is composed of young connective-tissue cells, while the parts away from the border are cheesy, or are dense, and of old connective-tissue cells. Gumma in the brain are rare. Other changes reported by Heubner are thickening of the intima or media, causing the lumen of the arteries to be greatly lessened. Whether these changes are recoverable or not we do not know.

DR. LYMAN further remarked that whatever the postmortem may show, the trophic circle is not to be disregarded. The deterioration of the blood is of itself a most important factor in the production of the symptoms.

#### CHOREA AS AN HYSTERO-NEUROSIS.

DR. G. H. LYMAN read the following paper:—

I have frequently had occasion in former years to report cases of hystero-neurosis, such as laryngeal spasm, vomiting, dyspepsia, neuralgia of neck and temples, and among others two striking instances,<sup>1</sup> in May, 1880, one simulating gastric ulcer, and the other acute rheumatism, in both of which relief was obtained within a few hours by applications to the cervix uteri, the reflex troubles having their real origin in acute endo-cervicitis. Cases of hystero-neurosis of a mild form are now so commonly recognized as to be hardly worthy of report, but the following had been so long under treatment without recognition, and the relief was so strikingly instantaneous, that it seems worthy of record.

Jane B., a tall, nervous brunette from Nova Scotia, forty-three years of age and unmarried, entered the City Hospital November 4, 1884. With the exception of a pleuritic attack, fifteen years before, had always been in good health until June, 1881, that is, three years and a half ago, when she was subjected to a severe fright by a violent cyclone passing over the place in which she lived. It appears that she was standing upon a chair for some purpose, when the house was suddenly lifted and shaken by the storm. She was not thrown down, but to save herself made violent muscular effort. Either immediately or very soon after (June 29, 1881), she was seized with chorea, and has not been free from it since. For the past year the spasmodic movements have become worse, especially so before the menstrual periods, until now she is in a state of constant justification. She has been under treatment by different physicians, and by some of them told that she was incurable. She complains of pains over the body and limbs, which are most severe in the

<sup>1</sup> Boston Medical and Surgical Journal, vol. cli. p. 440.

sides and lower abdomen. For two years the catamenia have been irregular, occasionally suppressed for several months, as from June to October of this year. No positive history could be obtained of any pelvic disturbance. Had never suffered from dysuria. Never pregnant. Last menstruation six days before entrance. The menstrual history, in connection with her account of the original accident, led me to suspect some possible displacement or other pelvic trouble, and before commencing any medical treatment she was placed in position for a vaginal examination. The hymen, although intact, was easily dilatable, and the uterus found to be completely retroverted. It was no sooner replaced, and a small pessary inserted, than the choreic movements ceased entirely. She was retained in hospital to observe the effect of the next menstrual flow, which came on painlessly and naturally twelve days later, lasting five days. She left for her home in the Provines, November 24th, apparently perfectly well. The case is noteworthy from the almost magical relief afforded by a simple procedure, after three and a half years of physical suffering and the mental despondency naturally resulting from uncertainty of any possible medical relief.

Dr. WEBBER said that cases relating to the reflex nervous system are puzzling. Chorea is especially a disease of childhood, and that the age in this case would have led him to suspect something more. With the diagnosis unmade he would have thought of cerebro-spinal sclerosis.

Dr. J. COLLINS WARREN referred to the possible effect of nervous shock in the case. He had lately seen a man with pain and convulsions, and who could not walk. The case was medico-legal and the experts all agreed that it was hysterical, and many of them thought that recovery would be slow. Dr. Warren had thought it might not be very long, and has since learned that after the payment of a sum of money, recovery had been rapid. The man's honesty was not doubted.

Dr. LYMAN thought his case hardly hysterical, as it was not like hysteria, which he supposes to be a disease of the cerebro-spinal system.

Dr. A. H. NICHOLS mentioned a case of chorea in an adult, beginning with gastric derangements, bad nutrition, and flatulence, lasting a few weeks, and ending fatally. Movements were so violent that the patient's bed was made on the floor. He supposed that there was disease of the central nervous system.

#### URETHRAL SOUNDS.

Dr. POST showed a set of straight steel sounds with removable handle, for use in the anterior urethra. They were contained in a case of a proper size to be carried in the pocket.

#### DEATH FROM HEMORRHAGE INTO THE PANCREAS.

Dr. J. P. REYNOLDS reported the clinical history of a case. A man of sixty-six; was in Worcester, on Friday, when he felt pain in the epigastrium. He was able to come to Boston, however, and attempts were made to move the bowels. His color was good, and on Saturday he expressed his intention of being at his business on the following day. At 10 p.m. Dr. Reynolds was called to him

suddenly, and found him sinking and pulseless, and soon after midnight he died. During life, various theories were discussed and felt to be unsatisfactory. At the autopsy, Dr. Gannett, hearing now the history with the termination, at once suggested hemorrhage into the pancreas, and such proved to be the fact.

Dr. W. W. GANNETT exhibited the specimen, it being one of hemorrhage into the pancreas. As has been usually observed in such cases, the fat-tissue throughout the body was very abundant.

Apart from the pancreas, the organs showed no abnormal appearances.

The pancreas was imbedded in a large amount of fat-tissue. The organ itself was increased about one half in size, and showed on section a dark, reddish-black surface, due to the presence of much extravasated blood, nearly uniformly distributed.

The consistency of the organ was slightly diminished. Beyond the limits of the pancreas no evidence of hemorrhage was observed.

The bloodvessels and pancreatic duct were free.

Dr. Gannett gave a *résumé* of Balser's work, who reported cases two years ago in *Virchow's Archiv*. He believes that the abundant fat-tissue, seen in such cases, causes a sufficient pressure upon the bloodvessels to cut off nutrition, and so allow of a necrosis of the inter-lobular fat tissue of the pancreas. Following the necrosis a hemorrhage occurs into the substance of the pancreas.

The cause of death in cases of hemorrhage into the pancreas is best explained on the supposition of pressure on the solar plexus.

Dr. REYNOLDS observed that these cases had only had a place in literature during four or five years.

Dr. FRANCIS MIXOT said that all the cases do not die in this way, and spoke of one at the Massachusetts General Hospital that passed for obscure ascites. The skin was dark, although the patient was American and white.

The PRESIDENT said that it is particularly interesting, where we have the clinical history joined to the report of the autopsy. He has seen the bodies of some six or seven who have been found dead in bed; where there was no history, and although death was evidently due to natural causes, yet an autopsy was necessary. These persons have generally been intemperate, flabby, and fat. The amount of hemorrhage has been quite moderate, and that it has been sudden has probably been a factor in causing death. There has been no bleeding into the peritoneal cavity. The only case of which he has clinical notes is one observed by Dr. Rush. When called, the patient was lying on the floor of a saloon, painless but in great anxiety, and collapsed. He did not respond to stimulants, and died in a hack, on his way to the City Hospital, in thirty-five minutes. The explanation of the cause of death, as given by Dr. Gannett, is supported by the literature of the subject. In the absence of an autopsy, such cases have probably been at times reported as heart disease.

Dr. REYNOLDS said that in malignant disease there may be an equal pressure, but that it differs, as had been stated, in not being sudden.

Dr. NICHOLS, in support of the theory that the suddenness of the pressure is a factor in the death,

called attention to the different effects of cerebral hemorrhage as it is sudden or slow.

DR. WARREN spoke of possible changes in the vaso-motor system caused by pressure on the sympathetic, and said that a blow on the sympathetic (on the frog's belly) causes vaso-motor paralysis and engorgement, resulting in symptoms resembling those of shock.

#### SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

JANUARY 14, 1885. Meeting called to order at eight o'clock by DR. R. T. EDES, Chairman. The records of the last meeting were read and approved.

The first business of the meeting was the election of chairman for the ensuing year.

DR. ROBERT AMORY proposed the name of DR. R. T. Edes, the present chairman, for reelection; the motion was seconded by Dr. J. Ayer, and being put by the Secretary, was carried unanimously. Dr. Edes, in accepting the office for a second term, thanked the section for this mark of their esteem.

The paper of the evening was by Dr. B. O. Kinnear, entitled "Cholera, and its treatment by Dr. John Chapman's method, with twelve cases."

The author began with an account of Claude Bernard's well-known experiments with section of the pneumogastric and galvanization of the peripheral extremity, showing the vaso-motor function of that nerve. The view that glands are supplied with trophic nerves from the spinal axis, as well as with vaso-motor nerves from the sympathetic, was advanced, and it was claimed that excessive glandular action was caused by hyperæmia of the cerebro-spinal trophic centres.

The writer then went on to present the views of Dr. John Chapman on the nature and treatment of cholera based on the theory that this disease is "due to a superabundance of blood in, and excessively preternatural activity of, both the spinal cord and sympathetic centres," the former causing the active phenomena, and the latter the passive or negative ones. The symptoms of cholera were then enumerated and classified into one or other of these two groups.

The latter group included the symptoms of the algid stage, they being due to vaso-motor hyperæmia. Dr. Chapman, considering cholera as entirely of nervous origin, assigned as its causes solar heat, electricity, violent changes in temperature, lowness of site, prolonged marches, fear, and the effects of alcohol and opium on the nervous system. The non-contagious nature of the disease was then shown, and was held to be a proof that the cause was no toxic influence. The teachings of Koch regarding the comma-bacillus were objected to, and it was claimed that no microorganism was constant in, or peculiar to, this disease. This portion of the paper was founded largely on an article by Dr. Chapman in the *Westminster Review* for October, 1884.

A series of twelve cases was then reported which were treated by means of the spinal ice-bag at

l'Hôpital de la Charité, Paris, during the late epidemic, and of which only two proved fatal.

DR. ROBERT AMORY said that he had thus far never seen a case of cholera, but it seemed to him that a paper like the one of this meeting should not be allowed to pass without careful consideration and discussion. From many of the statements contained in the paper one is forced to believe that both Dr. Chapman and the reader are influenced by an hypothesis in regard to the causation of cholera which they endeavor to support by the theory of hyperæmia or anemia of the cerebro-spinal or of the sympathetic nervous system. The electrical power of magnets, the varying conditions of the atmosphere, and other cosmic influences and agents are easily explainable without reference to any specific disease. Again, most of the cases reported differ from cholera generally in the fact that they came very late under treatment and at a time when ordinarily patients with this disease are either dead or convalescent.

According to all accounts thus far received in relation to the recent epidemic in Paris, the disease was developed only in a very mild form, and, doubtless, many cases of a simple diarrhoeal character were included in the number as cases of true cholera. It is also somewhat striking that in the cases reported by the reader but little is noted concerning food or medicines, or any of the ordinary adjuvants of medicinal treatment. It would, therefore, seem that the mode of treatment here advocated is in no sense as yet worthy of being ranked above the formerly advocated and more generally employed methods of external and internal treatment. No one would venture to say that the spinal and sympathetic centres may not be the seat of congestion in cholera, usually in the algid stage, but the mode of argument advanced in the paper is in no way conclusive, nor its deduction satisfactory on this point.

DR. AYER said: It has been my fortune to witness the two last epidemics of cholera that visited Boston. The fear and dread—not to say panic—which the scourge inspired are fresh in my memory. I treated many patients. The onset of the attacks was usually violent, and its progress to a fatal termination rapid—usually within twenty-four to forty-eight hours. The early symptoms were vomiting and cramps, succeeded by diarrhoea; then the algid stage, rice-water discharges, suspension of urine, collapse, and death. The patient retained his mental faculties, and could speak, but extremely hoarsely, to the last. After the vomiting subsided the evacuations were odorless and the sick-room cleanly.

We had no distinct theory of treatment, but combated symptoms as they arose. For vomiting I employed alkaline solutions, tincture of opium, brandy, and sinapisms. The diarrhoea was met by opiates and astringents, and enemata of starch and kumdanum and astringents. Ice was given to allay thirst and nausea. From the cold stage, and almost from the beginning, hot applications, dry frictions, and hot stimulants were freely given.

The disease affected the filthy localities and was specially fatal in the intemperate. Ice was never used externally.

Dr. G. N. THOMPSON said: During the two last epidemics of cholera in Boston I was called to treat quite a number of patients, suffering from that disease.

I tried the various remedies and modes of treatment that were recommended, for some time without satisfactory results. I found from experience that the stomach rejected all liquids, whether medicinal or nutritious, in about every case.

The painful cramps, rice-water discharges, vomiting, thirst most intense, and great prostration were palpable and prominent symptoms and characterized the disease, as I witnessed it from day to day. There was an entire suspension of the usual secretions of the digestive organs, liver, etc. There was intense pain and great prostration from the cramps and the deranged functions of the system, and the question arose how could these various destructive conditions be met and overcome by the attending physician.

The stomach would not tolerate liquids of any kind in most cases.

In the first place it was important to restore the functions of the liver and digestive organs; to relieve the cramps and pains which accompanied them; to restore and maintain the tone and vigor of the system through the trying ordeal. I argued that remedies in such a form as the stomach would tolerate must be used. I found that pills were retained if no liquids of any kind were taken.

After some thought and reflection upon the subject, I concluded that hydrarg. submur., opium, and quinine were the most potent remedies we had to meet these desperate emergencies.

I therefore used pills of each of the foregoing ingredients of two grains, as often as from half an hour to an hour, alternately in rotation, varying the dose somewhat, making it larger or smaller to meet the varying symptoms. Usually within from five to ten hours the patient would be relieved and the functions of the system restored.

Of course it would require time to regain the former strength and vigor.

Other means, such as applications of warmth with friction by rubbing, were used in all cases to promote the comfort of the patient.

Two of the cases deserve brief mention:—

CASE I. A man, aged forty years, had previously been in good health; had a family; was taken in the afternoon with vomiting, great thirst, cramps with much pain, profuse rice-water discharges, great prostration, could retain no fluids in the stomach.

Ordered the remedies as above suggested. Told his wife to give him no liquids of any kind, and to give the pills as directed, if she wished her husband to live. This was said to enforce directions.

Called in the morning and found the patient relieved from all his grave symptoms. Two others had been taken with the disease during the night. One of them was in the last stages of the disease and soon breathed his last. The other recovered under treatment.

Time was lost in the night by sending for the priest instead of for the physician.

CASE II. A man about forty-five years old, usually enjoying good health, was attacked late in

the afternoon. The late Dr. Gould, an eminent member of the profession in the city, was called in attendance. He was with him till past midnight. A member of his family being unwell, he sent for me to take charge of the case. The symptoms were very grave. I immediately gave him the pills as I have stated in the previous case. He was relieved of his painful symptoms by morning and recovered.

In almost all cases of intemperate habits, the chances of saving the patient were very slight. As I saw the disease, it was very violent and rapid in its progress, and liable to prove fatal in from twenty-four to forty-eight hours in many cases.

In the twelve cases treated by Dr. John Chapman's method, in Paris, in the paper read by Dr. Kinnear, some of them were not brought to the hospital until two or three days after the disease had commenced. I feel confident, therefore, that the epidemic there was far less malignant and rapid in its progress than it was here, as early, prompt treatment of the disease, as it prevailed here, afforded nearly or quite the only chance of saving life.

Dr. R. M. HODGES stated that from a considerable experience in two epidemics of cholera which have appeared in this city he is convinced of the truth of the assertion made by Dr. Amory that the disease as it has prevailed in France during the last five months does not represent the average severity of cholera. At the times when the disease was present in Boston, Dr. Hodges was accustomed to a much more rapid progress of symptoms and a much earlier termination of the case, in the recovery or death of the patient, than is here indicated. The cases described in the paper certainly present a duration of disease quite inconsistent with any preconceived opinions of cholera, which has generally the characteristics of extreme rapidity of succession in symptoms and speedy collapse or the commencement of convalescence. During the prevalence of any epidemic disease there are, doubtless, large numbers of cases wrongly included among its victims from errors in diagnosis, by which some other form of illness is mistaken for the dreaded epidemic disorder. In the presence of actual cholera there are usually many cases of a similar but milder disease, which are called "*cholérine*." The feeling of anxiety during an epidemic also, no doubt, causes an appearance of increased gravity in many cases which would not be considered to be of a serious nature at other times. Another important point in relation to the cases reported in the paper which forms the subject of discussion is the statement that one case of cholera was cured by the treatment described, but the patient soon afterward died from some other independent cause. A large number of cases of cholera yield to the immediate treatment, but succumb later to the secondary fever, which is a recognized feature in the convalescence of cholera. An ardent follower of any special mode of treatment may be deceived by the enthusiasm with which he is inspired, and the stronger conviction of an enthusiast is liable to lead to a more positive judgment than the facts warrant. It is not easy to know what to say in regard to cholera, because very little absolute knowledge exists upon this disease. The recent investigations of renowned

scientific men, extending over several epidemics and culminating in the discovery of a coincident, if not a causative, bacillary organism, have not aided the therapeutics of this disease. Dr. Hodges stated that he enjoyed especial opportunities for studying the disease at two separate periods: first as resident officer in the cholera hospital established on Fort Hill in Boston during the epidemic of 1856, and again as physician to the same hospital during the last visitation of cholera in Boston. He could not say that during these epidemics anything material was learned in regard to the successful treatment of the disease.

The employment of intravenous saline injections is neither new nor recent. This method was advocated many years ago in India. It was employed in the treatment of cholera here during the periods above mentioned, but in only one instance was there apparent benefit from this procedure. This fortunate patient was retained for some time in the hospital as a therapeutical curiosity, but finally ran away. Within twenty-four hours he was brought back again sick, and in a few hours was dead from cholera.

Dr. BLODGETT spoke of the recent epidemic in Paris, of which he had gained some knowledge by personal experience. The disease was certainly there regarded as of very mild type, and the rate of mortality was exceptionally low. The patients were almost entirely from the lowest, most improvident, and dissipated classes; and were considered to be especially vulnerable to any unwholesome influence.

The same error in diagnosis by which cases resembling cholera to a greater or lesser degree were mistaken for it was also noticeable in this epidemic, in which cases of so-called "cholérine" were reported, as well as cases of undisputed cholera. All the more common methods of treatment were employed, but the subsidence and final disappearance of the disease is associated with the occurrence of lower temperature and especially with the advent of frost. So far as it is possible to judge, the knowledge of the disease or of its successful treatment has not been materially advanced by the opportunities for observation and research in clinical and pathological directions afforded by the limited epidemic just ended.

Dr. EVES said that there were too many steps between the application of ice to the back and the cessation of vomiting to enable us to speak accurately as to what goes on in the spinal cord and ganglia, and assume that these are the paths of influence. It has been pretty conclusively shown that cold to the head does not cool the blood in the brain, and the spinal cord or the sympathetic is even further from the surface.

The tendency to formulate attractive theories of treatment in very obscure diseases is always liable to lead to erroneous deductions, and all investigations of this character should be conducted with more freedom of judgment and absence of prejudice than an enthusiastic advocate of a new idea is liable to possess.

Adjourned at ten o'clock, P.M.

A two per cent. solution of hydrochlorate of cocaine has been used by Dr. Weiss, of Vienna, to control the pain from severe burns.

## MEETING OF THE MASSACHUSETTS MEDICO-LEGAL SOCIETY.<sup>1</sup>

W. H. TAYLOR, M.D., SECRETARY.

FEBRUARY 4, 1885. The meeting was called to order at 1.05 P.M. by President Presbrey, eighteen members being present. Records of the last meeting were read and accepted.

On recommendation of the Executive Committee, Medical Examiners E. G. Hott, M.D., of Marlborough, and Z. B. Adams, M.D., of Framingham, were unanimously elected to regular membership.

Medical Examiner Tower, for the committee to whom the proposed amendments to the State law of medical examiners were committed with plenary power, made a statement that the matter would soon come before a committee of the General Court for consideration and hearing.

Voted, on motion of Medical Examiner Draper, that the vote of October 3, 1883, appropriating a sum of money for purchase and circulation of periodicals treating of legal medicine, be rescinded.

Medical Examiner Taylor read a report of a case of infanticide.

Medical Examiner Hartwell reported a case of infanticide.

Medical Examiner Gleason referred to the evidence of suffocation afforded by the presence of subpleural and other ecchymoses.

Medical Examiner Snow reported a case of attempted infanticide, the child sustaining life through an exposure of at least two hours in a privy vault, at a temperature below freezing.

Medical Examiner Tower reported a case of infanticide, showing rupture of the cord by the weight and fall of the child.

Dr. S. W. Abbott reported a case of attempted infanticide, where a child was buried in a manure heap for five or six hours, and subsequently resuscitated.

Medical Examiner Holt reported a case, showing liability of rupture of the funis from the weight and fall of the child.

Medical Examiner Fish reported a case of rescue of a neonatus after exposure of two hours in a privy vault, with a temperature at freezing point.

Medical Examiner Winsor suggested that in certain cases the contents of privy vaults may be warmer than the surrounding air, by the admission of sink-water and other sewage at an elevated temperature.

Medical Examiner Presbrey exhibited a very skillfully made rope, the material being cotton sheeting used by a suicide to hang himself.

Peculiar cases of death by hanging were reported by Medical Examiners Holt, Presbrey, and Holmes.

Voted, on motion of Medical Examiner Draper, that a subject for discussion for the annual meeting in June be chosen, and that members be requested to submit their discussions and reports in writing, that they may be available for subsequent use.

Voted, on motion of Medical Examiner Draper, that the subject for discussion at the next meeting be Death by Drowning.

<sup>1</sup> At the rooms of the Boston Medical Library Association.

## THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, March 5, 1885.

## ELECTION OF HONORARY FELLOWS.

Resident Fellows Alfred C. Post, M.D., LL.D., and John T. Metcalfe, M.D., were elected Honorary Fellows.

Dr. Wm. C. Jarvis read a paper on

## THE ETIOLOGY AND TREATMENT OF NASAL CATARRH, WITH SPECIAL REFERENCE TO DEVIATED SEPTUM.

In every case of nasal catarrh, he said, the essential point was to discover and remove the cause, and deviated septum he believed to be a very important factor in the causation of this trouble.

*Character.* It might be either osseous, cartilaginous, osteo-cartilaginous, or hypertrophic. The deviation might be localized or involve the entire septum. Osseous deviation was very rarely seen alone, but it not infrequently associated with the cartilaginous; the cartilaginous being by far the most common of all. The factors in the causation of chronic nasal catarrh were: first, pressure-irritation; second, defective nasal drainage.

*Etiology.* Having enlarged upon these points, Dr. Jarvis stated that deviated septum was sometimes due to heredity, sometimes to traumatism, and was sometimes acquired. Malformation of the hard palate was frequently transmitted from one generation to another, and with this was very apt to be associated deviated septum. It was when there was an abrupt elevation along the line of the median raphe that this trouble was generally seen; and with a palate of this conformation the individual was almost positively certain to have chronic rhinitis. He dissented from the proposition, so often maintained, that nasal catarrh was transmitted through the agency of a diathesis. Early acquired catarrh, instead of being the result of scrofulosis or diluted syphilis, was frequently an indication of unusual cranial development; the nares being correspondingly contracted. Remarkable mental capacity was thus apt to be associated with chronic nasal catarrh. In speaking of traumatism as a cause of deviated septum, he said that he had yet to see the first professional sparrer or prize-fighter who was not the subject of catarrh in consequence of deviation resulting from injury to the nose. Acquired deviated septum might be due to any prolonged intranasal pressure, such as came from hypertrophied tissue, the presence of polyp or other tumors, the constant insertion of the fingers into the nostrils, etc.

*Treatment.* No single method was applicable to all cases of deviated septum, the correction of which was essential to the cure of any case of chronic catarrh in which the condition existed. As a rule, he had found the most applicable and successful those procedures of his own to which he had referred in his paper before the American Laryngological Association in 1880. The instrument most useful in these cases was the *céraseur* with exceedingly fine piano-wire, which was always to be combined with his transfixion needles. The latter were from one to four inches in length, and

varied from straight to a marked curvature. When it was advisable to economize time, he employed his fenestrated cartilage-forceps and beaked scissors, which were of such a shape as to facilitate both operating and dressing. As bone blunted the trim edges of these instruments, when osseous tissue was to be removed, it was better to employ the *rougeur* forceps. When the deflection of the septum was extreme, there was great danger of its perforation by the operator, and under these circumstances the stellated punch was advisable. The cutting was the simplest part of the operation; the chief difficulty being in the proper approximation and adjustment of the raw surfaces.

*Relief of pain during operation.* The use of the *céraseur*, as a rule, was not attended with much pain, but he had found cocaine of great service in relieving the suffering of the patient, and was in the habit of using Foucard's ten per cent. solution. If the sensitiveness was extreme, however, there was nothing so good as the local use of rhigolene with the spray, which completely abolished all possibility of pain. The only objection to it was that it was liable to explode by the vapors coming in contact with the light used in the operation; and to obviate this he had devised an electric light, enclosed in a glass bulb, which he now exhibited. This was maintained by a Foster battery, which, he said, was a combined battery and accumulator. The great advantage of this apparatus was the long-continued current, and Mr. Foster, its inventor, claimed that it was necessary to refill it only once a year. Having recapitulated the prominent points of the paper, Dr. Jarvis concluded by showing his rhinometer, or nose-measurer.

Dr. Bosworth, in opening the discussion, said that he thought it was about time to drop the use of the word catarrh, which simply meant a discharge. As commonly employed it covered the whole area of nasal diseases, while it was in reality merely one of the results of various pathological conditions. In his paper in the *American Journal of Medical Science* for January, 1876, Dr. Harrison Allen had called attention to the importance of pressure-irritation; but his views had not been received with favor. Every one, he thought, had now plenty of instances of two mucous surfaces coming into contact with each other without giving rise to any truth, and he did not believe that pressure-irritation was of any weight whatever until quite late in the disease. As to defective nasal drainage, the nasal fluid was as benign and unirritating as one could well imagine.

The paper of Dr. Jarvis, it seemed to him, therefore, did not get down to the ultimate source of trouble. It was in its atmospheric features that deviated septum assumed importance, and it was on account of the effect produced by it on the air in the nasal-passages that in nine cases out of ten deviated septum there was chronic nasal catarrh. The local effect of cocaine on swollen mucous membrane enabled us to make much more satisfactory examinations of the nasal cavities than was possible without its use, and the result of his observations was to establish the point that a primary factor in the etiology of catarrh, resulting from deviated septum, was an interference with the

normal respiratory function in the nose; the rarefaction of the air in the nasal-passages leading to dilatation of the neighboring venous sinuses. As regards hereditary elevation of the palatine arch, he believed this was due to *molliities ossium*, in which there was certainly a strumous element. The indication in the treatment was to remove the obstruction causing nasal stenosis, and, of course, a great variety of instruments and methods might be employed for this purpose. For the removal of some Dr. Bosworth preferred a very fine saw. In performing these operations he was in the habit of using cocaine as a local anæsthetic, and almost invariably with complete success in abolishing pain. On account of the expense of the drug he employed only the two per cent. solution, but he claimed that when this was applied to the parts for twelve or fifteen minutes before the operation it was just as effective as stronger preparations.

DR. S. O. VANDERPOEL, JR., said that some time since he had been struck by an article by Dr. Roberts, of Philadelphia, published in the *Boston Medical and Surgical Journal*, in which he described an operation for deviated septum which consisted of the division of the septum with a bistoury and the subsequent retention of the parts by means of a pin. He had resolved to try it himself, and had now employed it in five cases. In four the success was good, but in the fifth, a small child, the pin was inadvertently pulled out by the attendant. In one of the cases the nostril was so occluded that he found it necessary to employ Adams's forceps to break up the septum before resorting to the pin. The pin, he thought, possessed a great advantage in the fact that when it was used it was not necessary to keep any large foreign body in the nares, such as the nasal splint usually employed.

DR. DELAVAN said that he felt compelled to take issue with the author of the paper on some points. He believed that deflection of the septum was, as a rule, due to a deviation of the osseous structure, and many skulls which he had examined showed an extreme degree of deflection of the septum. There were other changes also involved, such as enlargement of the turbinated bone on the side of the nose where the cavity was the wider; and he had observed that patients with deviated septum often breathed better through the narrower nostril than through the wider one. The bony structures being thus involved, it was not enough, he thought, to remove merely the soft tissue; it was also necessary to take away a portion of bone. It was impossible to replace a deviated septum when there was an enlarged turbinated bone on the narrow side.

DR. JARVIS, in closing the discussion, said that he quite agreed with Dr. Bosworth that the name catarrh was objectionable; but, as he himself had said some time ago, he thought it well to employ it on account of its commonly accepted use. In his paper, however, instead of always speaking of chronic nasal catarrh, he had alluded to hypertrophic rhinitis as a frequent condition. As to the fact of pressure-irritation resulting from prolonged contact of the parts, he was fully convinced of its existence and importance, not only from pathological researches but from the physiological action of the

turbinated bone which he had repeatedly observed in the living subject. He believed with Dr. Bosworth that normal mucus was non-irritating; but thought that thickened mucus of an increased specific gravity would invariably cause irritation by toppling into the larynx and closing up the nostrils. He acknowledged that the osseous turbinated enlargement, referred to by Dr. Delavan, did occasionally occur; but believed it was the rare exception, not the rule, and he had personally seen only two instances of it.

DR. GEORGE G. HOPKINS, of Brooklyn, read a paper on a case of

#### FIBROMA OF THE BREAST, OCCURRING AT SEVEN AND ELEVEN YEARS,

which we shall publish in full in the next issue of the JOURNAL.

#### CHICAGO MEDICAL SOCIETY.

LISTON H. MONTGOMERY, M.D., SECRETARY.

STATED meeting, February 16, 1885. DR. D. A. K. STEELE, President, in the chair.

#### MALIGNANT DISEASE OF THE THYROID GLAND.

DR. C. E. WEBSTER read a report of a case of this rare form of disease. The patient was a woman about sixty years of age. Her general health was quite good. The enlargement in the neck was first noticed about one year before the first consultation. It commenced in one lobe of the thyroid, and extended to the adjacent glands and tissues of the neck. Rubbing with liniments appeared to relieve this swelling, but it never entirely disappeared, and at the time he first saw the patient the gland had begun again to enlarge. Swallowing was difficult. The voice was husky, although respiration was not impeded. The thyroid gland, larynx, trachea, and neighboring cervical glands formed an irregular doughy mass. In the diagnosis of this case there were two possibilities to be considered: tertiary syphilis and cancer of the thyroid. The history of progression of the disease from an enlargement of the thyroid, and the fact that such an enlargement of this gland in people past middle life is almost invariably malignant, rendered the diagnosis easy.

A short course of specific treatment and an observation of the steady progress of the disease confirmed the early diagnosis. The patient passed on to a gradual exacerbation of her difficulty, and died recently of exhaustion.

The microscopic appearance of this growth is sometimes peculiar, hardly differing from that of a benign tumor of the same organ, so that oftentimes in these cases a positive diagnosis is difficult from a microscopic examination alone. The reader then recited an instance in the service of the Massachusetts General Hospital where such a doubtful tumor proved itself to be malignant by its recurrence after excision.

At the time of first consultation the disease in his case had progressed to such a stage that it would have been impossible to perform an operation successfully, as the deep tissues of the neck, including the œsophagus, were involved in the growth. The

time for an operation, therefore, would have been at the time the growth was first noticed. The size of the growth on the thyroid was as large as a hen's egg, or half of a hen's egg, and it extended in different directions, so that the tissue felt like a doughy mass, although the submaxillary glands were not involved in it.

#### TENIA SOLIUM IN A CHILD TWO YEARS OF AGE.

Dr. C. G. Davis read a report of a case of tenia solium occurring in a child two years old, and exhibited about four inches of the worm, including the head.

He was first called to see the child December 10th last, when it had not entirely recovered from an attack of enterocolitis, which it suffered from throughout the summer and autumn. The child was given a number of simple remedies, with raw beef. This treatment seemed to act properly. In a little while portions of tenia began to appear in the discharges. The child was then given half a teaspoonful of the French preparation pelletierine, followed in an hour with twenty drops of tincture of jalap and a table-spoonful of castor oil. This was followed by the expulsion of three or four yards of the worm, but the head was missing. The child was then carefully nursed, and its general health looked after, when segments of the worm again appeared in the evacuations. A double dose of the quantity of pelletierine, tincture of jalap, and castor oil, as above stated, was then administered, when several (seven or eight) more feet of the worm were dislodged, including the head.

Dr. DOERING stated that he had treated three children having tenia, one of whom was nine years old, another four years of age, and a baby who was but six months old. The last case had been fed on raw beef whilst it was sick with cholera infantum. He was surprised to hear of Dr. Davis's success with the remedies he had used, given in such small quantities, as he himself had practised the same method of treatment, and with larger doses of pelletierine, with but partial success only.

#### HYGROMA LINGUE.

Dr. JOSEF ZEISLER reported a congenital case of this rare disease. The patient, about nine years old, has been afflicted with it since her birth. The child is well nourished, but her complexion is pale and her face is asymmetrical to a considerable degree. The right half of her face is much more developed in its muscular and osseous formation than the opposite side. No swollen submaxillary or cervical glands are present. Her tongue was described as having the following appearance: It is much thickened; the surface appears to consist of small vesicles or cysts, varying in size from that of a pinhead to a pea, lying by the side of each other in the form of mosaic pieces of work, or in a tessellated shape. These cysts seem to contain a colloid mass, and this condition affects the entire visible portion of the tongue, so that no intact mucous membrane can be seen. Over the middle of the tongue there extends a kind of cockscorn, or carunculated excrescence. The same appearance is found on the mucous membrane of the right cheek, near the angle of the mouth. In handling or touching the tongue the surface imparts a sensation as if

it consisted of oil-globules or of boiled sago. The movements of the organ, as well as speech, are not impeded, nor is the sense of taste in the least impaired. There are no spontaneous pains proceeding from it, and pain arises only when strong compression is made upon her tongue, or, as the child says, when acid substances are taken. Relatives of the child report that its tongue was formerly much larger, although it sometimes now appears to become oedematous and then grow smaller again. Her parents and her five brothers and sisters have always enjoyed good health.

The speaker regards this disease from a pathological standpoint as a colloid degeneration of the mucous membrane of the tongue, but he could not classify it clinically, having never seen a similar case previously. A microscopical examination was not permitted to be made of any of the cysts or their contents. Regarding treatment, all that was suggested as a remedy was galvanopuncture, which the parents also objected to having done. It is probable that the child will be presented before the Society at a future meeting.

Dr. E. Andrews, Dr. C. T. Parkes, Dr. J. N. Hyde, and several other well-known physicians had seen this case, but could add nothing further of interest to it, nor to the treatment.

Dr. DOERING had seen this case two years ago. The tongue then presented a "sago-pudding" appearance, and he presumed it still retained the same features: he also stated that only two cases thus far have been reported in literature.

Exhibition of the "Koch's Comma-bacillus of Asiatic Cholera," by Dr. L. L. McArthur, after which the Society adjourned.

### Recent Literature.

*Practical Anatomy: a Manual of Dissections.* By CHRISTOPHER HEATH, F.R.C.S. Sixth edition. Revised by Rickman J. Godlee, F.R.C.S. Philadelphia: P. Blakiston, Son & Co. 1885.

When a work has reached its sixth edition, its character may be supposed to be pretty well established and unless decidedly new features have been introduced it calls for no extended notice. The present edition is very nearly identical with the one before it. There are the same colored plates from Macleise and but few changes among the woodcuts or in the text. We believe that we have already expressed our opinion that minute anatomy should have no place in a work of this kind. There is evidently not space for it to be thoroughly treated and we see no reason why it should be treated at all. If any kind of microscopic work forms a part of practical anatomy it is that which requires little more than a simple lens, enough to make out details that just escape the naked eye. The arrangement of cells is as foreign to the dissecting-room as a discussion of the atom. As the work is said to have been revised by Mr. Godlee, we must own that we are surprised to find that the lesser curvature is in the upper border of the stomach and that no attention has been paid to Professor His's studies on the shape of the large abdominal viscera, though they are accepted in the last edition of Quain's Anatomy.

T. D.

# Medical and Surgical Journal.

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## GASTROTOMY WITH DILATATION OF THE ORIFICES OF THE STOMACH.

AN operation which bids fair to prove a valuable addition to the series of brilliant achievements of recent abdominal surgery has been devised, performed, and described by Professor Loreta, of the University of Bologna. The plan consists essentially of a gastrotomy with mechanical dilatation of obstructed orifices, the fingers being used for stricture of the pylorus and a steel dilator being employed when the obstruction is at the cardia. The author's original pamphlets contained a description of the operation and an account of the earlier cases, and were reproduced in English in some journals at that time. His subsequent experience, as shown by notes hitherto unpublished, is given by Mr. Holmes in an article in the *British Medical Journal* (February 21, 1885). The first operation, digital dilatation of the pylorus, has now, in the two years since its first performance, been done by him, in all six times. The success, according to Mr. Holmes's paper, has been perfect, although a sketch by Dr. Robert T. Harris in the *Medical News*, some two years ago, records two fatal cases among the earliest operations—an important discrepancy, it must be admitted.

The pyloric operation is designed solely for cases of non-malignant stricture when sufficient mechanical obstruction exists to cause marked dilatation of the stomach, and is intended as a substitute for pylorotomy. As will at once be seen, this involves a nice point of diagnosis in excluding, on the one hand, dilatation from chronic gastric catarrh, and, on the other, various organic maladies. Where the dilatation is idiopathic, therapeutic measures, notably irrigation of the stomach, are indicated. In cases of malignant disease, pylorotomy offers the only chance of relief. But where the dilatation is due merely to mechanical obstruction, this milder operation of digital dilatation affords a good promise of success. That the latter condition is more common than is generally believed is shown by the fact that, since these investigations were begun, the

revelations of the autopsy have, in a number of cases, shown that what was at first taken for cancer was merely a sclerosed and contracting cicatrix resulting from old inflammatory conditions.

For this diagnosis, so important to be made, Professor Loreta relies largely upon the chemical and microscopical examination of the vomitus or of the washings from the stomach. These matters, on being allowed to stand in a glass vessel, divide into three strata, the upper consisting of mucus containing gas-bubbles, the middle of limpid serum, and the lowest of "a granular humor, grayish in color, or mixed with fine detritus of food imperfectly digested." If the dilatation be of mechanical origin, this lowest layer consists of chyme, well elaborated; there is little mucus and plenty of serous fluid. The reaction is acid and the microscope gives negative results. The patient will express himself as being quite relieved from his discomfort by the act of vomiting, after which he is at once hungry. There is an absence of fetid eructations, colicky pains, and alternating diarrhea and constipation. On the other hand, when the dilatation is idiopathic there are the symptoms of indigestion, nauseous eructations, and pain, which, as well as the loathing for food, is not relieved by vomiting. The extracts from the stomach are neutral or alkaline and, on separating into layers, have a bad odor; but little chyme is found; the middle or serous layer is turbid with particles of undigested food. There is much ill-smelling mucus in the upper stratum. Chemically, the albuminoid substances are found unchanged, and microscopically the evidences of incomplete digestion are perceived. These signs of failure in the chymificative process are naturally not confined to the idiopathic forms of dilatation, but are also to be seen in those secondary forms which depend upon general infection of the system and accompany cachectic conditions.

The method of the operation may be sufficiently understood from the description of the plan followed in the first case.

The stomach having been washed out with an alkaline solution, the incision was made on the right of the median line for fifteen centimetres, the upper and inner end being about four centimetres below the xiphoid cartilage, the lower and outer end three centimetres from the cartilage of the ninth rib. The hemorrhage was stopped before the peritoneum was opened. Some adhesions of the thickened omentum to the parietal peritoneum and the anterior surface of the stomach having been separated, the stomach was set free, and was then drawn out of the wound as far as necessary. The pylorus was felt to be thickened, and of a fibrous hardness. The coats of the stomach were then lifted up into a transverse fold, and a cut made through them with strong scissors midway between the two curvatures, about three centimetres from the pylorus; and it was found necessary to enlarge

this cut to six centimetres, on account of the contraction and hypertrophy of the muscular coat. The hæmorrhage, which was free, was repressed by means of hæmostatic forceps of a T-shape. Then the right forefinger was introduced, and the pylorus examined. It was found very hard and prominent, and its orifice appeared closed. No force that could be safely used succeeded in dilating it, till the left index-finger was also introduced and employed to steady the pylorus. When this was done, the end of the right forefinger was gradually squeezed through the aperture. Then the finger was used to hook down the pylorus toward the abdominal wound, a manœuvre which enabled the operator to get the left index also through the pylorus. But it was still exceedingly difficult to effect any separation of one finger from the other, so great was the resistance, not only of the sphincter itself, but also of the coats of the stomach and duodenum. The attempt at dilatation threw the muscular fibres into spasmodic action, which quite overcame all the force that could be exerted. Three such attempts were made in vain, but then the pylorus began slowly to yield to the force employed, which was very considerable. At length a sensation was experienced "showing that the tissue was so far distended that it could not obey the dilating finger further without being torn." The fingers were now kept apart for a short time, and the spectators noted that one finger was about eight centimetres (more than three inches) distant from the other. The dilatation was effected with difficulty by separating the fingers, and a feeling was imparted to the operator of a yielding of the tissues which if carried further would cause laceration.

The wound in the stomach was then sewn up, the viscus returned into position, and the abdominal wound united. "The whole proceeding lasted thirty-three minutes. The patient felt no inconvenience on waking, except a little burning sensation in the region of the wound, and thirst, which was relieved by giving him small pieces of ice. In the evening he was allowed the yolk of an egg beaten up with wine, of which a teaspoonful was given every half-hour. The temperature remained all day at 37° Cent. (=98.6° Fahr.); pulse 72; respirations 26. He felt comfortable, and had a natural appetite. He was fed for the next few days on liquids, and on the fifth day was allowed to eat some chicken. On the eighth day the abdominal wound was found united by the first intention, and some of the sutures were removed. From this time a meat-diet was allowed. Sixteen days after the operation (September 30th) he got up for a couple of hours, and began rapidly to recover strength and gain flesh. On September 12th (two days before operation) he was weak, lean, wretched-looking, and weighed 112 pounds. On October 30th he weighed over 134 pounds, and his face was cheerful and composed.

The first operation for dilatation of the cardia was performed in October, 1883, for a stricture resulting from the cicatrization following the injection of caustic alkali. The stricture was situated at the level of the fourth dorsal vertebra. Attempts at dilatation by bougies had been unsuccessful, and deglutition had gradually become more difficult, till it was no longer possible. An incision was made from the xiphoid cartilage downward and somewhat to the left, five inches in length. On drawing out the stomach and making the incision, the orifice of the œsophagus was reached with some little difficulty, and a dilator (similar in form to that used by Dupuytren for lithotomy) introduced. This instrument had blades of twenty-four cm. in length, and capable of separation to five cm. It was run up and down the œsophagus four times, the wound was then sewed up, and the stomach returned to the abdomen. Six hours after the operation the patient swallowed soup and egg without difficulty. Recovery was complete in eighteen days, interrupted only by an attack of dyspnoea, with increased bronchial secretion, lasting a few days and thought to be possibly due to mechanical irritation of the sympathetic or vagus nerves. It is noteworthy that a similar attack occurred in another case. This operation has now been done six times, four times by Professor Loreta, and in all the cases, according to Mr. Holmes, with perfect success. It is offered as a substitute for the always unsatisfactory gastrostomy.

In reading the account of these certainly remarkable cases, one is led to query whether there is not danger, as with other strictures, of recontraction following, there being no means of maintaining the dilatation by subsequent use of instruments. On this point the author says that he relies on his experience of digital dilatation of cicatricial strictures of the anus, in which a permanent cure always results if the operation be performed under anaesthesia, very slowly, and the force gradually exercised until the sphincter is dilated to the extreme, by forcing the two fingers either to each tuber ischii or to the pubes and coccyx. After such slow dilatation, the sphincter will recover its functions and, Professor Loreta believes, will not recontract—a more sanguine view, perhaps, than most surgeons would be willing to take; while, after too rapid dilatation, its fibres will probably be torn or contused here and there, and the injured part will inflame, causing fresh cicatrization, as is the case also in urethral stricture after mechanical dilatation.

In the operation upon the œsophagus where the advantage gained by the sense of touch is wanting, and where there is consequently more risk of laceration of the muscular coats, there seems still more cause for apprehension that the stricture may be reproduced. It should be said, however, that in none of the cases operated upon, in some of which seven months have elapsed, has any return of the symptoms appeared.

One of the difficulties in the way of the success of this operation is likely to be found in the matter of diagnosis. Despite the reliance placed by the author on the physical characters of the vomitus, nothing less than the most careful and minute study of all other attending circumstances will sometimes avail to solve the problem. One cannot fail to admire the ingenuity displayed in diagnosing some of the cases, notably the first operated upon, where the presence of a tumor of the pylorus was discovered by palpation and its non-malignant character asserted. Some of the most striking achievements of recent surgery have been gained only by the skilful coöperation of medicine, and have demonstrated the essential unity and mutual interdependence of the sister sciences.

#### STATE REGULATION OF MEDICAL PRACTICE.

THE Legislatures of quite a number of States are to be called on during their present sessions to consider various proposals for regulating the practice of medicine. The latest draft we have received of a bill for this purpose comes from Texas. New York, Ohio, Massachusetts, and Kansas are also among the States who begin to awake to the necessity of doing something in this direction. Each State which adopts and enforces efficient legislation puts a pressure upon other States to do the same as a protection against the dislodged hordes of quacks and nostrum venders. So that the movement is one likely to gain in velocity in a constantly increasing ratio, especially as the people begin to find out that the discouragement of medical ignorance and the encouragement of medical education is in their own interest and not in that of "the doctors."

In a State like Massachusetts, for instance, a member of the Massachusetts Medical Society already has all the privileges and advantages which the State can or will confer, and those privileges and advantages may be summed up in the one word—recognition. Whether or not the State shall see fit to put a penalty upon practising medicine without State recognition really concerns him very little, except in so far as he may be interested in the welfare of his fellow-citizens, whom it should concern very much.

The bill presented to the Texas Legislature is very similar to that recommended to the Committee on Public Health of the Massachusetts Legislature by a Committee of the Massachusetts Medical Society. It provides for a uniform mode of examination by a single board of examiners, and for official registration; all expense to be covered by the charges.

Another form of bill, suggested in Massachusetts, provided that each medical body chartered by the

State should examine its own candidates and recommend them to the State for recognition. At present there is a homoeopathic and there is an eclectic Medical Society, with State charters, in addition to the Massachusetts Medical Society; and there is no reason, if pathies and dogmas and specialisms are chartered at all, why there should not be a dozen or twenty other chartered societies.

For our own part, we are inclined to think it a mistake to multiply boards and petty offices if it can be avoided. A State which has a well-organized Board of Health has ready to hand the necessary machinery for putting into operation the provisions of a bill whose main features are a uniform standard of requirements and official registration.

The regulation of medical practice in Illinois and West Virginia, as carried out through their respective Boards of Health, has produced very satisfactory results, and this seems to be practically the most efficient and successful method of administering such laws as have yet been tried in this country. If a State has not a suitably organized Board of Health, if such work is to be done, it were well to provide one.

#### THE CASE OF GENERAL GRANT.

WE have no special information to give of the character of the disease of the distinguished ex-President or of its progress toward the inevitable conclusion of epithelioma so situated. The daily bulletins of the non-medical press contain all the available information, and that seems to us far too much; the extreme publicity given to the minutest details of the daily physical and mental changes can hardly be acceptable to the distinguished sufferer himself or his friends, and do not commend themselves on the score of good taste. Nor is it necessary to say anything in a periodical addressed to the medical public of the characteristics of his malady.

Few physicians have escaped the sad duty of watching the steady decline of some victim of malignant disease of some portion of the mouth or pharynx. Few cases make a greater demand upon the sympathy of the medical attendant; and who, that has watched the course of a single case of the kind, can fail to feel an admiration for the quiet endurance of the sufferer? All the obstinacy and the patience, the bull-dog tenacity, which is attributed to him as a General finds now ample scope. Undoubtedly the local anæsthesia to be obtained from cocaine may greatly mitigate his sufferings, but not the utmost resources of modern surgery can entirely dispel them or rob the disease of its characteristics.

The spectacle of patient endurance of unavoidable suffering, of calmness in the face of steadily approaching death, always awakens the admiration of a physician, and we can say without reserve that at this time, when the whole nation feels a reawaken-

ing of regard for its victorious General and its former President, he has no deeper sympathy from any than from those who can best appreciate the nature of his sufferings—the physicians. This sympathy is not lessened by a brave acceptance of inevitable laws as based upon the best experience and knowledge of the day, and a rejection of the false hopes—so often yielded to by men of weaker fibre—which are offered by quackery and empiricism. It was long ago discovered that “he who ruleth himself is better than he who taketh a city.” A man, who, amidst all the chances and changes of a very varied and active life, and when at last a shining mark for the slings and arrows of a most outrageous fortune, is still able to calmly meet and dominate the situation, has those qualities which entitle him to command others, the essentials of a great man.

The unfortunate fall which General Grant met with more than a year ago was a far more serious matter than at first thought probable. In view of the character of the fall, the seat and nature of the injury, and the very slow and imperfect recovery,—the patient still walking with a cane,—the medical mind—even in the absence of an easily appreciable shortening and eversion—reverts to the possibilities of an impacted fracture of the neck of the thigh-bone.

That injury, whatever its precise nature, enforced an irksome inactivity, thereby causing a lowered general vitality, with which the mental depression attendant upon the subsequent financial disappointments had to be encountered. When one adds to all these disasters the epithelial cancer, it forms a total of misfortunes before which the stoutest heart might quail.

#### MEDICAL NOTES.

—The relative numbers engaged in some of the professional callings in the United States, as shown by the census returns of 1870 and 1880, were as follows:—

The number of clergymen in 1880 was 64,698 against 43,894 in 1870; the number of lawyers was about the same—in 1880, 61,147; 1870, 40,736; the number of physicians in 1880 was 86,000; in 1870, 62,000; the number of teachers and scientific men in 1880 was 228,000; in 1860, 110,000; the number of dentists in 1880 was 12,311; in 1870, 7,839. These figures are to be interpreted in the light of an increase in the total population during the decade of thirty per cent.

—The *Medical Times* notes the remarkable re-implantation of a tooth, originally described by Dr. Bestion in the *Gazette des Hôpitaux* of January 17th, a case which is probably unique as regards the length of time in which a tooth remained without replacement, after being forced out of its socket. A sailor while engaged in securing a vessel placed the rope in his mouth in order to have a hand free. A comrade inadvertently tightening this rope forced

out upon the deck the lower left median incisor tooth. After some searching the tooth was found, but it was not until seventeen hours after the accident that the sailor related his adventure to Dr. Bestion, producing his tooth in a state of absolute dryness. After soaking it in water for a few minutes and then drying it, Dr. Bestion replaced it, the operation causing pain and some hæmorrhage. The tooth keeping in pretty straight, no bandage was applied, the only precaution taken being to substitute for the biscuit, soft bread, which, for the early days, was moistened with water or wine. At the date of the report, that is to say, three months after its replacement, the tooth was found to be quite solidly in place, the only change observable being a diminution of the brilliancy of the surface. Dr. Bestion cannot find any case on record in which a tooth had been successfully replaced after a later period than four hours had elapsed. This is related by Magitot as occurring in a child ten years of age. This author also relates several examples of this time having elapsed in his operations in which the tooth has been intentionally drawn and replaced after the diseased parts had been excised. He also relates the case of a laborious removal of a wisdom tooth, that necessitated the preliminary extraction of the second molar, which was reimplanted about four hours after the operation.

—The physicians of General Grant are being flooded with applications from cranks, quacks, astrologers, and soothsayers, who offer to cure the distinguished patient in various periods of time.

#### NEW YORK.

—The commencement exercises of Bellevue Hospital Medical College were held at the new Metropolitan Opera House Monday evening, March 9th, when the degree of M.D. was conferred upon 131 graduates. The successful candidates for appointment in the Bellevue Hospital, named in the order of merit, were: Sollace Mitchell, of Florida; Lewis M. Silver, of New York; Thomas J. Charlton, Jr., of Georgia, and George G. Larcombe, of Georgia. The Hon. William Dorsheimer made some remarks in reference to the recent gift of \$50,000 by Mr. Andrew Carnegie, for the erection of a pathological laboratory, and Mr. Carnegie himself, who was received with much enthusiasm, delivered the address to the graduating class. The college announces that in the spring session the opening of the Carnegie Laboratory, fully equipped with scientific apparatus, will take place. The laboratories will be open to any one who desires to make original investigations, or who may wish to pursue any special line of experimental work under the direction of those officially connected with the college; and it is expected that culture-apparatus imported from Germany will arrive in time for the cultivation of bacteria during

the present season. The teaching in the laboratories will be under the direction of Professors Janeway and Dennis, assisted by three instructors.

—The forty-fourth annual commencement of the Medical Department of the University of the City of New York took place at the Academy of Music Tuesday evening, March 10th. The graduates numbered 178, and the degrees were conferred by the Rev. John Hall, D.D., chancellor of the University *ad interim*, who also delivered the address to the class. Four hospital appointments and other prizes were awarded, and the valedictory was given by Frederick Osborn Lord.

—The commencement exercises of the American Veterinary College were held at Chickering Hall on Wednesday evening, March 4th, when in a class of thirty-one the highest honors were taken by Haru Taka Yokura, a native of Japan. The degrees were conferred by Mr. Samuel Marsh, president of the Board of Trustees, and Prof. Charles H. Doremus awarded the prizes.

#### PHILADELPHIA.

—Dr. Formad, of the University of Pennsylvania, has also recently delivered two public lectures at the Franklin Institute, on the germ theory of disease, which were well illustrated and largely attended.

—Harrison Allen, M.D., has resigned from the chair of Physiology in the Faculty of the University of Pennsylvania.

—Ellerslie Wallace, M.D., Emeritus Professor of Obstetrics in the Jefferson Medical College, died at his home in Philadelphia, on March 9th, of facial erysipelas.

—Dr. Osler, of Philadelphia, has recently delivered the Gulstonian lectures, three in number, at the Royal College of Physicians, in London, on "Ulcerative endocarditis." They are highly spoken of in the English medical journals.

### Correspondence.

#### CHOLERA—"AUDI ALTERAM PARTEM."

*Mr. Editor.*—The *London Lancet* of February 28th last gives a somewhat lengthy notice of the Official Report of Surgeon-General J. M. Cunningham, head of the Indian Medical Service and Government Sanitary Commissioner, on completing his public career of thirty-three years in India.

It will be interesting, in connection with the discussions on the subject which have appeared lately in this journal, to note the results of the "long experience and exceptional opportunities" of one whom the *Lancet* says is "well known to be a most capable public servant, and has had unsurpassed opportunities of forming an opinion of the matter with which he is dealing"; especially interesting also as confirming, in no small degree, the less sensational but more common-sense views occasionally advanced in this journal but generally ignored by inexperienced theorists.

The article in the *Lancet* is too long to copy in full, but a few abbreviated quotations will be useful, and

may suffice to induce a reference to it as well as to the work itself when it shall have become accessible.

As regards the endemic area of the disease, which is known to have existed in India at least four hundred years ago, Dr. Cunningham points out that "the districts which suffer most are by no means those which are in most direct or constant communication with the endemic area, nor is the reverse true that those districts which escape are comparatively isolated and removed from intercourse with the endemic area." Again, "the great drainage channels, into which much of the choleraic matter must eventually find its way, run in the reverse direction of the epidemic. Railways have now placed the whole country within a few days of the endemic area, but the frequency of epidemics has by no means increased, nor is their movement more rapid, while their direction is wholly unaltered."

"Dr. Cunningham tells us," says the *Lancet*, "that all attempts to keep out cholera from places in India have signally failed, and so satisfied has the government become of the futility of quarantine, that it has been altogether prohibited. All experience in India, he says, goes to show that 'to impose quarantine or cordons in order to keep out cholera is a proceeding no more logical or effectual than it would be to post a line of sentries to stop the monsoon.' As regards troops and prisoners . . . removal has proved successful even when the parties moved have carried their sick to the new place, and have drawn their supplies, including their water-supply, from the affected place which they had left. . . . Nor need any fear be entertained that the removal of bodies of men, even when suffering from cholera, will prove a source of danger to the community at large, and especially to the community to whose neighborhood they have gone. Among the many moves made in this country there is no instance of this kind on record."

Regarding the visitation of cholera to Europe and America during the last fifty years, "in Dr. Cunningham's opinion the upshot of all the evidence goes to show that during the fifty years passed under review the places which are in the most direct and constant communication with India have suffered least; that since direct and constant communication was established between India and Europe, Europe has suffered from cholera invasions less frequently than it did before; and that in spite of railways the recent European epidemic traveled no faster than did that of 1832."

Dr. Cunningham considers "the system of medical inspection to be useful in itself but not to be depended on as a means of preventing cholera invasions. Ships coming from cholera-stricken places may be expected to have cholera sick on board; 'the sick have suffered because of the influence of the place from which they have come, and the best evidence of the groundlessness of the fear attaching to them is to be found in the fact that in nearly every instance they are isolated cases, and the rest of the ship's crew have not been attacked. There is great difference between the arrival of persons suffering from cholera and the arrival of the influence or causes which produce cholera.'"

Isolated cases occur in all countries every year, and are misnamed, he says, when not followed by an epidemic.

As to the duties of the state in connection with the prevention of the disease, Dr. Cunningham, according to the *Lancet*, says: "Each country should have its own sanitary administration, which should be occupied entirely with carrying out sanitary improvements within its own boundaries, and with collecting information to show where these are most wanted, and what results they have produced. If it is to be of any value, the whole practical action must be based on the great truth that the measures which will confer protection from cholera are measures directed, not against the freedom of the person, but against the insanitary

condition of the *place* in which he lives." To this the *Lancet* significantly adds: "Such measures will not only diminish cholera, but they will also diminish the many other diseases which, though less alarming, are by their constant drain on the population in reality much more destructive than cholera."

These statements and opinions sound very like what has occasionally appeared in the *JOURNAL* from less experienced observers. They, however, cannot be expected to be scientific enough for theorists in organisms, or sensational enough for those who place absolute reliance on official interference. Fashion is now with the sensationalist. An influential medical periodical recently averred: "If the present National Board of Health were clothed with adequate power it could prevent the introduction of foreign pestilences into our seaports. . . . The qualified health officer can intercept the cholera contagion." "Adequate" is good; "qualified" is good; by all means let us have such at once if possible; but do not let us lose our heads in unproved theories or impracticable schemes.

M. M. S. S.

### COCAINE FOR SLEEPLESSNESS.

PORTLAND, MAINE, March 12, 1885.

*Mr. Editor*,—An original application of a well-known property of cocaine may be worthy of a few lines in the columns of the *JOURNAL*.

A short time since I lost almost nightly for two weeks nearly all my sleep. At the end of that time

it seemed almost impossible to keep awake, and one night, when I found that I should be obliged to pass another wholly sleepless night, it happily occurred to me to try a hypodermic injection of cocaine. I used five minims of McKesson & Robbins's four per cent. solution—a good preparation, by the way—with the most pleasing results. I felt wide awake in a moment and was able to read understandingly a very abstruse book. This was about 9 P.M., and at 1.30 A.M. I took five minims more with the same good result. There were no disagreeable after-effects and with the exception of a slight sense of oppression after the second injection there were no effects either immediate or remote to remind me that I had taken any drug. The pulse, I think, was slowed somewhat, but of this I cannot feel sure because my duties as nurse necessitated frequent exercise on my part. I have repeated the experiment twice with the same result.

A small dose of morphia has the same stimulating effect upon me, but the congested state of the brain makes any sustained intellectual effort all but impossible. This congestive feeling cocaine will almost wholly remove.

Metcalf's fluid extract of coca I have found a useful tonic. As a spray its effect on singers' throats is something wonderful, and it is always useful. The wife of a medical *confere* here relieved the pain of an ulcerated tooth with some of the extract after laudanum had failed. The surprise was of course great. The study is interesting but costly, too costly for thorough investigation.

Yours truly,

WALTER WOODMAN, M.D.

### REPORTED MORTALITY FOR THE WEEK ENDING MARCH 7, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	776	303	16.51	27.56	5.72	1.95	4.03
Philadelphia . . . . .	927,995	429	153	14.72	9.89	6.90	3.68	—
Brooklyn . . . . .	644,526	309	124	15.36	15.84	4.62	4.62	1.65
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	196	58	11.22	23.97	4.50	—	.51
Baltimore . . . . .	408,520	155	56	9.75	1.95	3.25	1.30	—
St. Louis . . . . .	400,000	147	—	13.60	20.40	5.44	2.04	.68
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	146	35	7.77	14.40	1.40	.70	—
Buffalo . . . . .	201,000	78	29	16.64	16.64	8.66	2.56	1.28
District of Columbia . . . . .	194,310	114	36	8.28	17.64	2.07	.69	—
Pittsburgh . . . . .	180,000	42	17	30.94	14.28	9.52	2.38	—
Milwaukee . . . . .	142,400	42	7	—	12.80	—	—	—
Providence . . . . .	119,465	42	7	4.76	38.08	4.76	—	—
New Haven . . . . .	62,882	21	7	8.70	13.05	4.35	—	—
Nashville . . . . .	54,400	23	9	—	17.25	—	—	—
Charleston . . . . .	52,286	29	11	15.00	20.00	—	—	—
Lowell . . . . .	71,447	20	7	7.70	19.25	—	—	—
Worcester . . . . .	69,442	26	6	6.25	12.50	—	—	—
Fall River . . . . .	62,674	16	6	11.11	27.77	11.11	11.11	—
Cambridge . . . . .	60,965	18	4	7.14	7.14	—	7.14	—
Lawrence . . . . .	45,516	14	3	—	18.18	—	—	—
Lynn . . . . .	44,895	11	1	15.38	38.45	7.69	7.69	—
Springfield . . . . .	38,690	13	6	11.11	22.22	—	—	11.11
Somerville . . . . .	31,350	9	3	—	25.00	—	—	—
Holyoke . . . . .	30,515	4	0	6.66	13.33	—	—	—
New Bedford . . . . .	30,114	15	5	—	31.25	—	—	—
Salem . . . . .	29,503	16	4	—	37.50	—	—	—
Chelsea . . . . .	24,317	8	3	—	—	—	—	—
Taunton . . . . .	22,693	15	1	—	—	—	—	—
Gloucester . . . . .	21,400	7	5	—	57.12	—	—	—
Haverhill . . . . .	20,905	4	0	—	25.00	—	—	—
Newton . . . . .	19,421	2	0	—	—	—	—	—
Brookton . . . . .	18,322	10	1	—	10.00	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,917	7	0	—	—	—	—	—
Fitchburg . . . . .	13,433	0	0	—	—	—	—	—
Waltham . . . . .	13,688	4	0	—	25.00	—	—	—
Northampton . . . . .	12,165	—	—	—	—	—	—	—
88 Massachusetts towns . . . . .	357,787	76	11	—	—	—	—	—

Deaths reported 2,802; under five years of age 911; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 963; lung diseases 561, consumption 391, diphtheria and croup 130, measles 41, scarlet fever 32, typhoid fever 32, diarrheal diseases 30, malarial fevers 24, erysipelas 24, whooping-cough 14, puerperal fever 14, cerebro-spinal meningitis 11. From typhoid fever, Philadelphia 11, Baltimore 5, Boston 4, New York and Lowell three each, District of Columbia and Worcester two each, St. Louis and Milwaukee one each. From diarrheal diseases, New York 14, Brooklyn and Boston 4 each, St. Louis three, Providence two, District of Columbia, Milwaukee, and Nashville one each. From malarial fevers, New York 9, New Orleans 6, Brooklyn 5, St. Louis 3, District of Columbia one. From erysipelas, Brooklyn 5, New York 4, Philadelphia, Boston, and New Orleans two each, St. Louis and Milwaukee one each. From puerperal fever, Brooklyn 4, District of Columbia 3, New York and Milwaukee two each, Philadelphia, Baltimore, and Buffalo one each. From whooping-cough, Brooklyn 4, New York and Philadelphia three each, Buffalo, District of Columbia, and Milwaukee one each. From cerebro-spinal meningitis, Milwaukee 3, New York and Boston two each.

Cases reported in Boston: scarlet fever 41, measles 26, diphtheria 24, and typhoid fever 8.

Three cases of small-pox were reported in St. Louis.

In 108 cities and towns in Massachusetts, with an estimated population of 1,417,813 (estimated population of the State 1,355,104), the total death-rate for the week was 17.75 against 29.76 and 18.25 for the preceding two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending February 21st the death-rate was 20.5. Deaths reported 3,508; infants under one year of age 804; deaths in London 1,497; acute diseases of the respiratory organs (London) 343; whooping-cough 117, measles 92, scarlet fever 45, fever 36, diarrheal diseases 35, small-pox (London) 32, Liverpool and Manchester one each 34. The death-rates ranged from 11.8 in Brighton to 37.9 in Sunderland; Birkenhead 15.7; Birmingham 21.0; Blackburn 23.2; Hull 17.4; Leeds 19.4; Leicester 20.3; Liverpool 22.7; London 19.1; Manchester 23.8; Nottingham 20.0; Sheffield 20.3. In Edinburgh 19.4; Glasgow 28.4; Dublin 30.4.

In the Swiss towns for the week ending February 21st there were 36 deaths from consumption, lung diseases 24, diphtheria and croup 11, diarrheal diseases 10, small-pox 5, whooping-cough 3, erysipelas 3, typhoid fever 3, puerperal fever 2, measles 2. The death-rates were: at Geneva 23.3; Zurich 11.3; Basle 21.2; Berne 33.8.

The meteorological record for the week ending March 7th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barometer.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
March, 1885.																				
Sunday, 1	29.661	40.5	51.2	30.9	82	69	90	80.3	S	S	W	12	30	8	O	O	O	—	—	
Monday, 2	29.522	35.0	44.2	29.0	80	38	63	64.3	W	W	W	11	32	16	O	C	C	—	—	
Tuesday, 3	29.880	30.1	35.0	24.0	70	67	56	64.3	W	W	S W	14	12	5	C	O	C	—	—	
Wednes., 4	29.916	40.7	50.4	23.4	73	43	56	57.3	S	W	W	6	10	5	O	C	C	—	—	
Thurs., 5	30.094	38.6	47.0	33.5	68	45	58	57.0	W	W	N W	4	12	15	O	C	C	—	—	
Friday, 6	30.142	30.8	38.2	24.5	67	64	68	69.3	W	N W	N	11	11	5	W	C	C	—	—	
Saturday, 7	30.012	26.8	33.1	22.5	74	77	73	74.7	N W	N E	N E	8	11	7	C	O	O	—	—	
Mean, the Week.	29.877	34.5	42.8	26.8				66.5											10.0	0.26

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 7, 1885, TO MARCH 13, 1885.

Army Medical Board to meet in New York City, April 6, 1885, detail for Board: Lieut.-Col. JOS. B. BROWN, surgeon; Major ANTHONY HEGGER, surgeon; Major JOHN H. JANEWAY, surgeon.

Surgeon HEGGER to be relieved from duty in Department of the East, and Surgeon JANEWAY to perform duties on the Board in addition to his present duties. S. O. 36, A. G. O., March 11, 1885.

BROWN, H. E., major and surgeon. Granted leave of absence for one month, with permission to apply for two months' extension. S. O. 18, Department of the East, March 6, 1885.

TAYLOR, BLAIR D., captain and assistant surgeon. Leave of absence extended two months. S. O. 54, A. G. O., March 9, 1885.

POFFER, J. Y., captain and assistant surgeon. Sick leave of absence further extended fourteen days on account of sickness. S. O. 51, A. G. O., March 5, 1885.

#### APPOINTMENTS.

MASSACHUSETTS GENERAL HOSPITAL.—Dr. Charles P. Strong has been elected Physician to Out-Patients at the Massachusetts General Hospital in place of Dr. D. H. Hayden, resigned.

Dr. Herman F. Vickery has been elected Physician to Out-Patients at the Massachusetts General Hospital in place of Dr. F. Gordon Morrill, resigned.

ADAMS NERVINE ASYLUM. Dr. Frank W. Page having resigned, Dr. Samuel G. Webber has been elected Superintendent.

ent of the Adams Nervine Asylum. Dr. Webber will retain office hours in Boston, as heretofore, for consultation and office practice.

#### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY.—There will be a special meeting of the Society at 19 Boylston Place, on Saturday, March 21, 1885, at 8 P. M., to provide for the appointment of delegates to the meeting of the American Medical Association, and to receive the report of the committee to nominate officers for the ensuing year.

CHARLES M. GREEN, Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

Should Experiments on Animals be Restricted or Abolished? A Compilation of Facts bearing on the Vivisection Question. By Robert Meade Smith, M.D. (Reprint.)

A Code of Rules for the Prevention of Infectious and Contagious Diseases in Schools. Being a Series of Resolutions passed by the Medical Officers of Schools Association, January 7, 1885. London: J. & A. Churchill, 11 New Burlington St. 1885. Price, one shilling.

Meddelelse om Skarlagensfeber Klinisk-Anatomiske Studier. Af Aug. Kørn Korpslægt. Christiania. Th. Steens Forlags-Expedition. 1884.

Seventh Annual Report of the Trustees of the Danvers Lunatic Hospital for the Year ending September 30, 1884. Boston. Public Document No. 20.

The Inhalation Treatment of Diseases of the Organs of Respiration, including Consumption. By Arthur Hill Harsall, M.D., Lond. With numerous illustrations. London: Longmans, Green & Co. 1885.

## Original Articles.

GRADUAL REPOSITION OF AN INVERTED UTERUS BY A NEW CONTRIVANCE.<sup>1</sup>

BY JAMES R. CHADWICK, M.D.

ON June 1, 1884, I admitted a patient to my private hospital with an inverted uterus. She was a sparse woman of frail appearance who had been delivered of her first child by forceps after a tedious labor in September, 1883. There had been excessive hemorrhage in childbed, and the uterus was said "to have come down" at that time. There was, however, no indication of any untoward result of the confinement except general feebleness, which kept her in bed for two or three months. Twice, at intervals of several months, she had had severe flooding, by which she had been considerably but not dangerously reduced. She brought a letter from Dr. John L. Sullivan stating that she had recently come under his care and that he had tried unsuccessfully for two hours to reduce the inverted uterus, with the patient under ether. The uterus was of normal size and inverted nearly up to the external os which could be felt firmly encircling the inverted cervix.

A few days later the patient was etherized by Dr. F. H. Lombard, when I made an attempt, with the assistance of Dr. G. H. Lyman and Dr. C. M. Green, to reduce the inversion with various instruments for applying upward pressure upon the fundus, moulding the organ with my finger in the intervals, but not being able, owing to the smallness of the vagina and rigidity of the perineum, to introduce my whole hand into the vagina. When the organ was drawn partially out of the vulva I could push a finger in the rectum into the cavity made on the peritoneal side by the inverted organ, and even tried to dilate the rigid conical constriction in that way (Court's method), but was deterred from exerting sufficient force by the fear of tearing the peritoneum. After two hours of effort without apparent gain the congested appearance of the uterine body and the feebleness of the patient led me to abstain. A considerable rent in the perineum was closed by two sutures. No bad symptoms supervened, but it was two weeks before the tenderness of the fundus and the cicatrization of the perineum justified further interference.

I determined that my next attempt should be by the gradual process. Accordingly, I next sought to exert steady, moderate pressure upon the fundus in the direction of the vaginal axis by inserting into the vagina two, and, finally, three, superimposed inflated rubber rings (doughnut pessaries) of three successive sizes, the smallest being at the top and partially encircling the fundus, the largest resting upon the perineum; this worked well when first adjusted, but became speedily disarranged and inefficient. I had satisfied myself, however, that the largest ring was well retained by the perineum, and made a good basis for the erection of a superstructure with which to push up the fundus. The ring was reinserted, and through its central aperture was passed a spherical-rubber pessary collapsed; the latter was then inflated by means of the rubber-

tube attachment, which, passing through the opening in the ring, hung out of the vagina. The patient experienced some slight pain during the following night, requiring for its relief but an eighth of a grain of morphine. The pain ceased suddenly about thirty hours after the instruments were arranged, and the next morning I found that reposition had been accomplished. The os was still very patulous and remained so for several days, but what was more important, the uterus was in complete retroflexion. It was replaced by means of the repositer, and the cervix kept well back by means of a wool tampon; the organ, notwithstanding, retroflected again, owing to the extreme laxity of its tissues. This displacement recurred again and again in spite of any vaginal pessary that I could fit, until I prevented the flexion by means of my light intra-uterine stem in addition to an Albert H. Smith pessary, wearing which she returned to her home in good health on the fourteenth day after reposition. This probable consequence of reposition should be borne in mind, especially as no writer on the subject, so far as I know, gives any data of the condition subsequent to reposition.

This is the only case of chronic inversion of the uterus that has come under my care, but I cannot readily blot out of memory the spectacle to which I was summoned at four o'clock one morning about two years ago. A practitioner of this city, of considerable obstetric experience, roused me from my slumbers to aid him in the reduction of an acute inversion under the following circumstances as related by him. He had delivered a woman at four o'clock in the previous afternoon without instruments and the placenta had soon after been expelled spontaneously. He had left her comfortable and free from hemorrhage. At 12 P.M. he was summoned to her bedside because of flooding and found a large tumor protruding from her vulva which he correctly diagnosed to be the inverted uterus. This he vainly attempted to reduce, but finally, by wrapping clothes about it, he checked the hemorrhage and came for me. We did not reach the house until nearly 5 A.M., when the woman was found to be dead. An immense tumor—the inverted uterus and vagina—lay between her thighs reaching almost to her knees.

In considering the treatment of chronic inversion we are met by the rival claims of the methods by rapid and by gradual reposition. The former was practised by the late Dr. James P. White, in a large number of cases, with signal success, but it is not devoid of danger, and necessitates long-continued anesthesia of the patient and exhausting efforts on the part of the operator. It is, moreover, as shown in my case, not uniformly followed by success in the practice of other less skilled practitioners.

The gradual method has generally proved effectual and is devoid of danger. As to the precise means of applying the pressure operators have differed, and probably different cases call for different procedures. On the whole, Dr. Wing's method is the most efficient, and suited to the largest number of cases, especially to those patients in whom the perineum has been ruptured or is lax. Where the perineum, as in my case, is so firm as to give adequate support and the vagina is narrow, it seems

<sup>1</sup> Read before the Obstetrical Society of Boston, January 10, 1885.

to me that my method offers the advantage of obviating the necessity of external straps and a rod, with the constrained position which they entail. My contrivance applied the force in the direction of the long axis of the vagina without wasting it upon the walls of the vagina, as does an ordinary rubber bag, such as has been used by others.

Should reposition prove impossible by either the rapid or the gradual systems of treatment, recourse may be had to the more dangerous but certain method of opening the abdominal cavity and dilating the constriction from within as recommended by Dr. T. G. Thomas, or better still, by the practice recently carried out successfully in one case by Dr. B. B. Browne, of Baltimore, of cutting through the fundus and dilating the cervix through this incision. Amputation of the inverted organ, which has been practised with fair results, may likewise be resorted to.

#### REPORT OF A CASE OF RECURRENT FIBROMA OF THE BREAST AT SEVEN AND ELEVEN YEARS OF AGE.<sup>1</sup>

BY GEORGE G. HOPKINS, M.D., A.M., OF BROOKLYN, N. Y.

MINNIE G. C., aged eleven years. Born in Michigan. Good physique. Mother has uterine fibroma. Father died of acute nephritis in 1881, aged thirty-four years. Grandfather on father's side died of "valvular disease of the heart" at sixty-three years of age; grandmother on same side still living and healthy.

Mother's father died at seventy-two years of age of "liver and kidney disease," to quote from family; grandmother on the same side living and healthy. All natives of the United States.

Immediate family consists of one brother two years senior, one sister two years, and one sister four years junior, all healthy.

When Minnie was seven years old, Dr. B. F. Plews, of Hancock, Mich. (since deceased), removed from her right mamma a tumor about the size of a chestnut, which he pronounced to be "malignant." Its location was just to the outer side of the nipple, and on a plane parallel with it, situated in the substance of the gland, as is shown by the cicatrix. This gland at present shows no indication of disease, and except for the line of incision—which, unfortunately, is perpendicular instead of horizontal, as it should have been—is perfectly normal in all its relations.

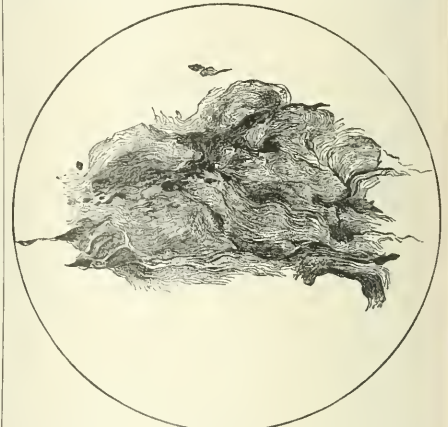
The second growth, which was in the left breast, was first noticed in May, 1881, about six months after the removal of the first tumor; it was then quite small. It was first brought to my notice through correspondence in the spring of 1883, when it was little more than an inch in diameter. It then ceased to grow, and the mother postponed any operative measures, as the family physician advised non-interference, hoping that it might disappear. They could detect no increase in its size until June last, when it began to enlarge rapidly, and they decided to bring her on to me for operation.

I saw her the first week in September, and found a tumor occupying the substance of the gland, sev-

eral of the axillary glands being also involved in the disease. She presented a ruddy, healthy appearance, with no indication of impaired health; the catamenia had not yet appeared. An operation for the extirpation of the entire gland was recommended as soon as the weather would permit. In this decision Dr. J. C. Hutchinson, who saw her with me in consultation, concurred.

The operation was done on the sixth of October, Dr. Rogers administering the ether, and Dr. Hutchinson kindly assisting me. I removed the entire mammary gland, with four axillary glands, which were also diseased and enlarged; the nipple and areola were also excised with the tumor.

Antiseptic precautions were observed throughout the operation. There were no vessels of sufficient size divided to require ligation, hot water serving to



check all the hemorrhage. Wound cleansed with bichloride of mercury solution; flaps coaptated with antiseptic catgut sutures, several strands of catgut being inserted in an opening made at the most dependent portion of the axillary flap for drainage. A large pad, shaped like the side of a vest, was made to envelop the left side and shoulder, the material being crinoline; the filling was antiseptic sawdust, the pad held in position by numerous turns of crinoline bandages.

The dressings were left undisturbed until the ninth day. My intention had been to leave them at least two weeks. They were only removed at that early day as the patient complained of pressure. The entire dressing was removed at this time (the ninth day) and the wound was found to have healed in its entire length; several of the sutures had been dissolved, but there was no excoriation at any point, the only discharge being from the drainage-opening; this was devoid of odor and was principally serous. The remaining sutures were dissolved by the eleventh day, the drainage-opening closing on the sixteenth day.

There was very slight elevation of temperature, the highest point reached being 100° F., at nine a.m. on the day of the operation, and this was undoubtedly due to excessive irritability of the stomach from

<sup>1</sup> Read before the New York Academy of Medicine, March 5, 1885.

the ether; the pulse at the same time was 90, and about normal during subsequent period of healing.

The interest in this case lies in the fact of the early age at which the disease manifested itself, which is fairly to be regarded as seven years of age in this patient; as the first tumor was undoubtedly of the same histological nature as the second tumor.

In his exhaustive work on Tumors of the Mammary Gland, Professor S. W. Gross says of fibroid tumors: "They have been met with as early as the twelfth year." He also informs me that he does not know of its having been met with at so early an age before and pronounces it true fibroma.

The cut presents its structure beautifully. It is copied from a section under the microscope colored with carmine.

## REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.,

Assistant Professor of Chemistry, Medical Department of Harvard University.

### URINARY CHEMISTRY. — ELIMINATION OF PHOSPHORIC ACID IN THE URINE.

The elimination of phosphoric acid in the urine in insanity and epilepsy has been investigated by M. A. Maïret<sup>1</sup> and M. A. Lailler.<sup>2</sup> Maïret's conclusions are as follows: In mania the results differ according to the particular phase during which the investigations are made. In the stage of excitement there is an increase in the elimination of nitrogen and phosphoric acid. In the period of depression the nitrogen and alkaline phosphates are diminished, while the earthy phosphates are increased. There is a decrease of nitrogen and phosphates during a remission. In epilepsy there is an increased elimination of these substances during an attack. In melancholia the earthy phosphates are increased in amount, and the alkaline phosphates and nitrogen are diminished.

Lailler's results were obtained from many hundred analyses, made while resident officer in a large asylum, and are as follows: In acute delirium phosphoric acid and urea are eliminated in notable excess; in excitable mania the phosphoric acid is in slight excess, while the amount of urea is normal; and in simple insanity the urine has the normal composition. In acute or excitable lypemania the amount of urea eliminated is abnormally high, while that of phosphoric acid is abnormally low. In simple lypemania the composition of the urine is normal. In general paralysis the elimination of both phosphoric acid and urea is related to the general morbid condition of the patient. At or immediately after epileptic seizures the urine contains a high proportion of phosphoric acid and a low proportion of urea. If the seizures succeed one another rapidly, the proportion of both phosphoric acid and urea is increased; but in the interval between seizures the urine has the normal composition.

M. Maïret<sup>3</sup> has investigated the influence of muscular and intellectual exertion on the elimination of phosphoric acid with the following results: The elimination of phosphoric acid is connected with general nutrition, the elimination of both alkaline and earthy phosphates being greater, the greater the decomposition of albuminoids, or, in other words, the greater the elimination of nitrogen. The effect of muscular exertion on the elimination of phosphoric acid depends on the state of nutrition. Phosphoric acid is used up, and if the exertion is proportionally greater than the amount and quality of the food assimilated the elimination of nitrogen and alkaline phosphates in the urine is increased; but if the diet is rich and abundant, muscular exertion has no effect on the amount of phosphates eliminated in the urine.

The effect of intellectual exertion, like that of muscular exertion, is closely connected with the sufficiency or insufficiency of the diet of the individual. The general result is a diminution in the quantity of nitrogen and alkaline phosphates eliminated in the urine, the amount of diminution depending on the duration of the intellectual effort. When the diet is insufficient, relatively to the work done, an additional effect is produced, and the amount of earthy phosphates eliminated is increased. For one and the same diet, the more severe the intellectual effort, the greater is the increase in the elimination of earthy phosphates. With a purely vegetable diet the increase is particularly well marked. It follows from these results that phosphoric acid is intimately connected with the nutrition and activity of the brain, and that, when the brain works, it absorbs alkaline phosphates and gives up phosphates of the alkaline earths.

### EXCRETION OF UREA AND INORGANIC SALTS UNDER THE INFLUENCE OF AN ARTIFICIALLY INCREASED TEMPERATURE.

Experiments made to determine whether high temperatures caused by artificial means influence the excretion of urea in the same manner as fever have led to very contradictory results. C. F. A. Koch<sup>4</sup> has repeated some of these experiments, at the same time extending his observations to the excretion of the phosphates, sulphates, and chlorides. The results were mostly of a negative character. The urea was not increased in any experiment. The phosphates and chlorides show a slight decrease of only very short duration, while the sulphates are unaffected. As an increase of carbonic acid expired takes place at high temperatures, experiments were made to determine whether any direct relation exists between the amount of carbonic acid expired and the urea excreted. No such relation could be found.

### PEPTONURIA.

Dr. Grocco<sup>5</sup> has published the results of his investigations on 300 patients, of whose urine more than 700 analyses were made. Peptonuria is always to be considered as a morbid fact, and is altogether independent of albuminuria. Peptonuria is as much a symptom of local disease as of general disease,

<sup>1</sup> Medical Record, August 16, 1884, page 193.

<sup>2</sup> Journal of the Chemical Society of London, January, 1885, page 73, from *Compt. rend.* 99, page 572.

<sup>3</sup> Journal of the Chemical Society of London, December, 1884, pages 1392 and 1394, from *Compt. rend.* 99, pages 243 and 282.

<sup>4</sup> Journal of the Chemical Society of London, December, 1884, page 1394, from *Zelle. f. Biol.* 19, page 447.

<sup>5</sup> The London Medical Record, January 15, 1885, page 22.

infective or not. Among general peptogenic diseases are marsh-infection, typhoid fever, scurvy, purpura hæmorrhagica, septicæmia, and acute phosphorus-poisoning. The local morbid processes which give rise to peptonuria are almost exclusively of inflammatory character, and most often suppurative. Among local inflammatory processes acute and subacute nephritis, the first especially, must not be omitted. Not all inflammatory processes, even when suppurative, give rise to peptonuria. In those of chronic course especially, it is often absent. Very rarely in malignant new growths of rapid development there may be peptonuria. In local processes the hypothesis is probable that the peptones formed in the affected part pass into the blood, and from the blood into the urine. In general diseases the pathogenesis of peptones is unknown. Peptonuria cannot be regarded as a diagnostic symptom between simple exudation and purulent exudation. But it does help us to conclude with great probability in cases of local disease, in which, from the site of the disease and from its course, the diagnosis is uncertain, that an inflammation, probably suppurative, rather than any other morbid state, exists. Peptonuria is very frequently met with in the period of resolution of pneumonia, but is not constantly present then, and, moreover, may be found before resolution occurs, or in the course of gray hepatization. In pleurisy peptonuria has no practical value as a guide to treatment.

#### SYNTHESIS OF XANTHINE.

M. A. Gantier<sup>6</sup> has effected the synthesis of xanthine by heating, in sealed tubes, hydrocyanic acid mixed with water and acetic acid to a temperature of 140° to 150° C. The product is a mixture of xanthine and methyl-xanthine.

#### LEVULOSE IN DIABETIC URINE.

J. Seegen<sup>7</sup> reports a case of diabetes mellitus in which the urine contained levulose, a variety of sugar which has been observed in the urine in only a few cases.

#### TOXICOLOGY.

*Chlorate of Potassium.*—Dr. J. von Mering<sup>8</sup> has carried on, in Noppe-Seyler's laboratory, an elaborate experimental investigation into the physiological, therapeutical, and toxicological actions of chlorate of potassium. He finds that the salt, under the influence of carbome and probably of other acids, is decomposed in the system with the gradual liberation of chloric acid, which tends to reduce the alkalinity of the blood; and in this lies the key to the right understanding of the action of the chlorate. The author discriminates between acute and subacute poisoning by the chlorate. In acute cases, such, for instance, as result from the administration of one large dose of the salt, death results in the course of a few hours from decomposition of the blood, with symptoms of severe vomiting, profuse diarrhoea, intense dyspnoea, cyanosis, and profound cardiac depression. On section, there is found a chocolate-brown color of the blood, while

the organs generally, especially the kidneys, are relatively little altered in appearance. The blood contains the stored-up products of its decomposition (methæmoglobin, etc.). With a less acute form of poisoning death results, not simply from an accumulation of oxidation-products in the blood, but from an accumulation of these in the organs, especially the kidneys, leading to occlusion of the tubules, scanty urine, and uræmia. The following symptoms and appearances are observed: grayish-violet petechiæ, icterus, accumulation of hæmoglobin in the blood, changes in the red corpuscles, dyspnoea, and cardiac depression; gastro-intestinal disturbances, such as profuse diarrhoea and severe vomiting, the vomited matter being generally greenish black, and enlargement of the liver and spleen. Functional alterations in the kidneys, such as anuria, occur, the scanty, turbid urine having a reddish-brown or black color, and exhibiting the spectra of methæmoglobin and hæmatin, and being also highly albuminous. It also contains numerous detritus-masses of red blood-corpuscles, in the form of brown cylinders or brownish-yellow flakes. Uræmic complications, such as delirium, coma, severe vomiting, tonic and clonic convulsions, and rigidity of the limbs, are observed. The subjective phenomena are headache, anorexia, tenderness of the stomach on pressure, pains in the hepatic and lumbar regions, intense oppression of the chest, and a feeling of extreme weakness. Post-mortem examination reveals the characteristic chocolate hue of the blood and the presence of methæmoglobin in it; but sometimes these phenomena are absent, especially when the patient has long survived the administration of the poison, or when the necropsy has been delayed for several days. The spleen, liver, and kidneys are considerably enlarged, and filled with the accumulated brown products of destruction of the red blood-corpuscles. The greatest alteration is observed in the kidneys, in which both the straight and convoluted tubules are filled with brownish masses, partly cylindrical, partly irregular in shape. The osseous marrow is brown, and contains numerous decomposed blood-corpuscles. The gastric mucous membrane is swollen and ecchymosed.

While the majority of instances of poisoning by chlorate of potassium (cases in which icterus and scanty secretion of reddish-brown urine occur) terminate fatally, this has not been invariably the case. A chronic poisoning by the salt is incredible, and it has been observed that the prolonged ingestion of small doses has been followed by no injurious results; but the condition of the stomach, whether empty or full, and the degree of alkalinity of the blood, greatly influence the result. The use of the chlorate in febrile affections, where there is subnormal alkalinity of the blood, is to be avoided; and the author emphatically condemns, as especially dangerous to life, the internal use of the salt in large doses in the treatment of diphtheria. The author gives the following as the maximum safe doses, when the use of the salt is not contraindicated: for adults, thirty-grain doses, with a daily maximum of two drachms; for children, aged ten to fourteen years, one drachm daily; for children, aged one to ten years, thirty to forty-five grains daily; and for

<sup>6</sup> Journal de Pharmacie et de Chimie, August, 1884, page 101.

<sup>7</sup> Centralblatt für die Medicinischen Wissenschaften, 1884, No. 43, page 754.

<sup>8</sup> The London Medical Record, December 15, 1884, page 518.

infants, not more than fifteen grains daily, always given in divided doses.

## LEAD.

Ellenberger and Hofmeister<sup>9</sup> have studied the effects of small and repeated doses of lead salts on sheep. The salt of lead employed was the acetate, in doses of 0.5 to 3 grammes per day, gradually increasing from the smaller quantity. The symptoms observed were loss of appetite, apathy, disturbed rumination, muscular weakness, dry, dull wool, diminution of urine and urea, disappearance of hippuric acid, presence of albumen in the urine, and protruding bowel.

The quantity of lead extracted from the different organs varied considerably. Contrary to expectation, the kidneys proved to contain as much as the liver. After the kidneys and liver, the largest amount was found in the salivary glands, pancreas, bones, and nervous system, in the order named. The blood and muscular system contained but little lead, but the spleen contained a comparatively large quantity. The authors think the poison attacks the nervous system first, and then the muscular system. Excretion takes place by the kidneys, liver, pancreas, and saliva, according to the preparation of lead employed; it is perceptible in the urine in about forty hours.

## Hospital Practice and Clinical Memoranda.

CARNEY HURRELL.

SERVICE OF H. L. BURRELL, M.D.

### CASES OF PERINEAL ABSCESS DEPENDENT ON URETHRAL STRICTURE.

REPORTED BY E. D. HOOKER, M.D., HOUSE SURGEON.

CASE I. Joseph W., aged twenty-four; jumped from a window a year and a half ago and the right hip has troubled him some since. During the last eight months there have been symptoms of pus formation in and about pelvis. There is a sinus four inches long in right iliac region, parallel with Poupard's ligament and discharging from a small opening; also three fistulous openings in perineum; the first appeared five years ago as a boil which was poulticed and lanced; the remaining two a year later. Urine comes from the most anterior opening in drops, during micturition, but at no other time. History of gonorrhoea seven years ago. Meatus enlarged by Dr. M. H. Richardson, prepuce cut as far back as corona of glans penis, and the sinus above referred to freely laid open. A fortnight later commenced to complain of pain about the right hip and a collection of pus was thought to be present. No limitation of movement at hip-joint. An incision two inches long was made just below the right greater trochanter; a sinus six inches in depth discovered running toward iliac region. Examination per rectum revealed a swelling on right side, two inches from anus, having a crescentic

margin and an indistinct sense of fluctuation; aspirated, but no pus.

External urethrotomy advised as the patient was bed-ridden and anæmic, with fistulous openings in perineum, two sinuses in thigh and one in groin, all discharging pus and a stricture at seven and three-quarters inches, impassable even to fine capillary bougies.

Wheelhouse's operation performed. The patient was placed in lithotomy position and the grooved staff with blunt-hooked extremity introduced to the stricture, with the groove outward; this being held in position an incision was made through the tissues of the perineum, in the median line, down to the urethra which was opened on the groove of the staff, one quarter of an inch in front of the stricture. The edges of this were then drawn apart, the staff turned half round and withdrawn till its blunt-hooked end engaged in the upper angle of the wound in the urethra. A probe-pointed director was then introduced through the opening in the stricture, which was hidden by granulations, toward the bladder with its groove downward, on which a sharp-pointed tenotome was entered and the stricture thoroughly divided. After this the probe-foreget was introduced into the bladder, by aid of the director, dilating the stricture and forming a passage into the bladder. A number ten English silver catheter was then introduced through the meatus, passed along this metallic floor into the bladder, secured in position and its external openings plugged; this plug to be removed every four hours. Wound dressed with iodoform, sublimated fossil-meal pad, and a T bandage. In the evening there was no necessity for changing the dressings. On the second day the wound was looking finely, healing by first intention. No dribbling of urine from wound or three fistulous openings in perineum. No marked elevation of temperature. Third day the catheter withdrawn; sound to be passed every third day. Wound completely united.

On sixth day all dressing of perineal wound discontinued. Conical steel sounds nineteen to twenty-one, French scale, passed readily into bladder. Sounds passed every third day, gradually substituting larger sizes till thirty French was reached, when discharge from wounds about hip was markedly less.

During the two following months is a history of diarrhoea, symptoms of amyloid liver, with urine containing albumen and waxy casts. Improved for a month, when he was discharged from hospital, at which time there was but very slight serous discharge from one of the openings about hip, and those of groin and perineum were closed.

CASE II. Michael K., aged thirty-seven; entered hospital with history of gonorrhoea and subsequent stricture. An area of redness and induration discovered extending from mid-point of perineum to two inches posterior to anus and to the tuberosities of ischia on either side; half an inch to left of anus was an opening, discharging pus quite freely, through which a probe could be passed to the depth of three inches in a direction parallel to the urethra. Urine voided without difficulty. A stricture at four and one-half inches existed, admitting number seven English sound. By rectal examination prostate

<sup>9</sup> Journal of the Chemical Society of London, January, 1885, page 71, from Med. Centr., 1884, page 535.

found not to be involved. Numerous free incisions were made in perinæum, evacuating a large amount of extremely offensive pus: syringed out with carbolic 1-40.

Dressing of sublimated fossil-meal pad. Second day general condition much improved. Perinæum had lost its dusky redness and boggiuess; discharge but slight.

Thursday, wounds almost closed. Granulations appeared in perineal wounds which retarded their complete closure about a fortnight. Urethral stricture gradually dilated up to number twelve English, when the patient left the hospital.

This case well illustrated the advantages of a sublimated fossil-meal pad.

## Reports of Societies.

### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

JANUARY 10, 1885. The President, Dr. C. ELLERY STEDMAN, in the chair.

Dr. J. R. CHADWICK reported a case of

#### GRADUAL REPOSITION OF AN INVERTED UTERUS.<sup>1</sup>

Dr. SINCLAIR spoke of a case of thirteen years' duration which he had seen in consultation with Dr. Storer: there was very little bleeding; but the patient was almost confined to bed by the constant sensation of dragging. A whole day was spent in ineffectual attempts to replace the uterus. He thought the method adopted by the reader was admirable.

Dr. BOARDMAN said the Society was indebted to Dr. Chadwick for the device which he believed was original with him. The soft colpocourter could do no harm, whereas a hard cup would be likely to.

Dr. ARNOT alluded to a case in which the baby was born suddenly, before his arrival: there was a complete rupture of the perinæum, and the uterus was found entirely inverted lying between the thighs in a pool of blood. Immediate reposition was easily accomplished; but the woman died within an hour from the effects of hæmorrhage.

Dr. BAKER spoke of a case of chronic inversion in which two attempts at immediate reposition had been made before he saw the patient. In this case he first tried Tarbell's method with a Wadsworth cup and an elastic tube: having succeeded by this means in nearly getting the fundus within the os externum, he etherized the patient and after prolonged attempts lasting an hour and a half he replaced the fundus within the os and closed the latter with three or four silver sutures. Three or four days later, however, the catamenia appeared, the stitches gave way and the uterus became again entirely inverted. Taught by this failure he was led to try the gradual method of reposition, and, the patient being admitted to the Free Hospital for Women, this treatment which he there directed was most successfully carried out by Dr. F. W. Johnson. In this case he noticed that after pressure for

three days the fundus looked black and sloughy; he therefore thought it unwise to continue the pressure. As, however, the fundus was already within the os externum, he secured it there with two crossed silver-wire sutures passed through the cervix nearly up to the internal os: within twenty-four hours spontaneous reposition occurred. In another case which he admitted to the same institution and in which the same method of replacement (Wing's) was employed, the reposition was accomplished within forty-eight hours. These two cases reminded him of one he had seen some time ago in which two forcible attempts had been made to replace a supposed inverted fundus: the case proved to be a fibroid polypus; but the appearances were much the same as in the cases he had related. Regarding the method of gradual reposition, Dr. Baker did not see how Wing's method could be improved upon. By the use of the stiff stem, pressure can be controlled exactly and brought to bear accurately, the patient keeping still. He thought the soft-rubber inflated pessary would be likely to slip to one side and its efficiency in producing the pressure thus impaired.

Dr. REYNOLDS asked if cases of from thirteen to eighteen years' standing are fairly to be considered as amenable to this treatment, or only recent cases.

Dr. CHADWICK said that it did not appear to have taken much, if any, longer to replace an inversion of from five to twenty years' standing, than one of recent occurrence: both acute and chronic cases are amenable to the gradual method. In reply to the objections to his method made by Dr. Baker, namely, the likelihood of the soft-rubber pessary slipping, Dr. Chadwick said that were the vagina large this might happen; but in his case the vagina was small, and the patient got out of bed to micturate, yet there was no disarrangement of the inflated pessary. He thought the great value of his method lay in the fact that in suitable cases for its use the patient could be allowed more freedom and need not be kept so quiet as when the stiff stem was employed. Regarding the subsequent position of the uterus Dr. Chadwick said he found it retroverted after reposition, and he was unable to keep it in position without a stem pessary.

#### THE ELECTRIC LIGHT FOR PURPOSES OF EXAMINATION.

Dr. BAKER spoke of the great advantage of the electric light over reflected light in examination of the urethra. The apparatus consisted of an incandescent burner contained in a glass bulb and connected with a suitable battery. The apparatus was strapped upon the forehead and was capable of shedding a flood of light into the urethra: the result was gratifying in the extreme. The only disadvantage was that of expense.

— It is said that a substance called by the manufacturer "benefit" (evidently named exclusively from his own point of view) is made at Waltham, Massachusetts, and sold to be used in the adulteration of milk, and that it has thus far defied the usual tests.

<sup>1</sup> See page 279.

## BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES H. WILLIAMS, M.D., SECRETARY.

FEBRUARY 2, 1885. DR. E. G. CUTLER read the following:—

CASES OF CHRONIC CATARRHIAL PNEUMONIA (PHthisIS PULMONUM) WITH ARREST OF THE DISEASE AND SUBSEQUENT RECOVERY FROM THE SYMPTOMS.

CASE I. In July, 1881, I was consulted by Mr. T. M. M., who gave the following history: He was about forty years old, with a good family record, married, and had served as a common soldier in the army during the war. While in the service he had suffered from intermittent fever and had been once wounded in the foot. Since recovery from his wound he had had frequent attacks of neuralgia in the same leg, but with this exception had been well. For some months he had been working hard to pay for a house he had bought at Beachmont, and had run down in flesh and strength and lately had had a severe cold which was accompanied by some expectoration. There had been one hæmoptysis a few days before I saw him. The appetite was gone, the bowels were irregular in their action, and his sleep was restless. For over a week he had had night-sweats, he looked haggard and dejected, and his position when sitting up was stooping. The cheeks flushed frequently and he was easily tired. He had lost much flesh and strength. There was considerable shortness of breath on exertion or going upstairs. The urine was concentrated, deposited a thick sediment of urates; there was no albumen. Pain in the lumbar region, and in the chest about the nipples, headache and dizziness were frequent complaints. He suffered from fever in the afternoon and night. The pulse was rather weak and eighty in the minute after lying quiet for a time on a lounge. Temperature a little over 100° F. when seen (at 3 P.M.).

*Physical examination.*—Inspection showed the chest to be well formed, the shoulders to be drooping from muscular weakness, and the supra-clavicular depression to be marked, probably due to emaciation. The movements of the chest were fairly natural on full inspiration, though the expansion of both upper parts seemed a little less full than normal.

*Palpation* gave increased vocal fremitus over the right upper front and an abnormally warm skin.

*Percussion* gave slight dullness above and below both clavicles, most marked on the right, and reaching down to the second intercostal space; also dullness in the upper part of the right axilla, and at the top of the lung on both sides behind. The rest of the chest in front, at the sides, and behind gave normal resonance.

On *auscultation* over the region of dullness on the right the respiratory sounds were of a bronchovesicular character, in some places approaching somewhat nearly the bronchial; on the left the respiratory murmur was weakened. There was increased vocal fremitus, and with the ordinary respiration various râles and some dry clicks, mostly on the right. Slight accentuation of the pulmonary second sound of the heart was noted.

The patient was enjoined to keep out of doors in the sun the whole day and to remain within the house after the sun went down. To sleep in a well-ventilated room alone, and to avoid all collections of people. The upper part of the chest was to be rubbed with Croton oil. Whiskey was to be taken in doses of half an ounce three times a day. Vapor of spirits of turpentine was to be inhaled twice a day, and the lungs to be fully inflated four different times in the day in the open air in the sun. One teaspoonful of the compound syrup of the hypophosphites three times a day was added, and for a cough mixture, chloroform-water, p. r. n., was ordered.

For some days there was no improvement and the physical signs and temperature increased, so cod liver oil was added to the other remedies.

The condition gradually changed for the better and after a few weeks the night-sweats disappeared, the cough became less constant and troublesome, the expectoration very nearly ceased, and the temperature returned to normal. By the end of November the physical signs had wholly disappeared, leaving a slight flattening of the upper part of the chest on the right, and a respiratory murmur, perhaps a little sharper than normal, in that region. He resumed his occupation, that of foreman of a building concern, and remained perfectly well until the month of January, 1884, when he began to run down again, and had several hæmorrhages from the lungs, amounting to about a pint in all. The physical examination gave a negative result: merely a few fine, moist râles were found in the left upper front. None elsewhere. No change in the respiratory murmur was recorded. The slight flattening of one side of the chest (right) remained. Ergot and hypophosphites were given and after a short time he became as well as usual. I have seen him on the street once or twice recently and he has seemed well.

CASE II. The first of October, 1881, Mrs. E. A. L. came under my care. She was about forty-five years old, of a long-lived family, and had enjoyed remarkably good health till the beginning of the previous summer, when she caught a severe cold which lasted a long time and she began to fail in flesh and strength.

*Physical examination* revealed the signs of some consolidation over the upper part of the right lung. There was diminished resonance down to the third rib and a respiratory murmur in the same region, somewhat concealed by fine, moist, and dry moderately coarse râles, but through which distinct bronchial expiration could be heard. There was no perceptible deficiency of expansion, and no change in the vocal fremitus detected on palpation. The voice sounds heard with the stethoscope were decidedly increased, especially above the scapula behind. The rest of the chest was resonant on percussion, and no other auscultatory signs, except a few sibilant râles in the middle of the right back, could be found. The apex-beat of the heart was in the fifth interspace, on a line with the middle of the clavicle. There was nothing recorded about its sounds. The temperature was 101.5 F., pulse 90, respiration 32.

There was no appetite; the patient was easily

tired and had occasional chills and feverish attacks. Small doses of iodide of potash, maltine, and wine of ipecac were given at first. All household cares were transferred to the daughter.

For a few days the patient continued about the same; then for several days there were numerous quite copious hæmorrhages, during which merely fine and coarse moist râles were detected on auscultation. Whiskey was added to the dietary and a few days later cod liver oil to be taken with the malt.

She became progressively worse, though with no hæmorrhages, till the end of October, when there was found to be flatness above and below the middle of the clavicle, in the upper part of the axilla and in the supra-spinous fossa; with bronchial breathing and bronchophony, which latter signs shaded through broncho-vesicular to normal vesicular respiration at the level of the nipple in front and the infra-spinous fossa behind. She was then given the hypophosphites, malt, whiskey, and cod liver oil, other medicines being omitted. Sleep had for a long time been much disturbed by horrid dreams, cough, and lately night-sweats had been very annoying. Soon however, her dread of nightfall changed to indifference, as some of these bad symptoms disappeared and the night-sweats could be somewhat controlled. The amount of expectoration was very considerable and was muco-purulent in character.

The patient lived up two rather long flights of stairs and it was impossible at this time to have her take exercise in the open air, for the exertion of climbing to her apartments, after a walk in the streets, more than counterbalanced any good which might be accomplished by it.

During the next two months, November and December, the consolidation extended a little and then began to soften, and by the middle of January, 1882, there were found under the right clavicle cavernous respiration, cavernous whisper, bronchophony, and the cracked-pot sound. She continued through the spring to get a little better and again worse; the cough, shortness of breath, and expectoration continuing marked. The summer was spent in Bristol, Rhode Island, where, on the whole, she did well; living out of doors most of the time, every night becoming a little hoarse. The winter of 1882-83 she remained indoors most of the time, avoided all crowded places, and steadily gained in strength and flesh and lost her fever. Glycerine and whiskey seemed to give her most relief. Fusel oil and all sorts of cough mixtures were given. Croton oil and iodine applications were frequently made to the chest. Inhalations of all sorts seemed to make her feel worse. I finally ceased visiting her at the beginning of the winter 1883, with a chest decidedly flattened at the apex, the top of the lung retracted, in comparison with the other side, an increased resonance or percussion on that side and a broncho-vesicular respiration reaching to the third rib. The cough, though still existing, was not very troublesome, but the breath was very short on going up any incline. I believed that any cavity which may have existed had contracted, leaving dilated bronchi. All the winter of 1883-84 she remained quite well and I was not called to see her till November, 1884, when she had some recurrence of expecto-

tation, cough, fever, weakness, and so forth, which after about a month of active treatment left her in her usual health. A short time ago I found her in the same condition as before the last illness, except perhaps with a little emphysematous condition of the lung.

Besides these cases in private practice of which I have kept records, I have seen two others, one in the Carney Hospital, covering a period of nearly a year, and the other a boy, kindly referred to me by Dr. E. H. Bradford, last spring. In both these the history was nearly the same (in the boy only a few months have elapsed since the case went out of care). In each the same preceding bronchitis had occurred, and when seen there was marked physical signs at the left apex, loss of flesh and strength, fever, cough, and expectoration. The same general course was pursued, and in each an arrest of the disease and subsequent recession occurred.

Several questions of great practical importance are immediately suggested in such cases:—

(1) The one of *prognosis*, which is rendered more or less favorable by the obvious cause of the disease, the early stage at which it may have been seen, the circumstances of the patient which may or may not admit of freedom from cares and anxieties, the leading of an out-of-door life, and the possibility of obtaining every modern aid in the treatment of such forms of disease.

(2) Shall the patient *go away from home*? It seems to me that first of all the home hygiene of the individual is to be thoroughly investigated by his attending physician before any proper advice can be given in this matter.

(3) How far may one permit former *occupations* to be resumed must depend on the individual case. The general proposition holding good that outdoor avocations are the only ones to be thought of.

(4) For *life insurance* such cases should be regarded as ineligible.

(5) The probability of *relapses* is great. I can do no better than read the opinion of Douglas Powell on this subject. He says: "The cure may remain permanent, but one must always bear in mind that catarrhal pneumonia is one of those diseases that are peculiarly prone to recur, resembling acute rheumatism, tonsillitis, and some other diseases, in this respect."

(6) The question of marriage seems to me to be a simple one. If it brings no increase of cares or work I see no objection, but rather the reverse.

Dr. E. N. WHITNER said the subject and the illustrations so aptly set forth in Dr. Cutler's paper are of deep interest.

It is, of course, understood by all that no disease contributes so large a percentage to the death-rate as the one under discussion; and it is also well determined by the experience of the older members of this Society that, within the past thirty years, as a result of the earlier detection of the disease, growing out of the improved methods of investigation, and from a better understanding of the physiological action of remedies, the duration of life in such cases has been greatly lengthened; but it is not equally and alike admitted that the combined influences of earlier detection, of climatic changes, of improved hygienic and dietetic surroundings, and medication

have resulted in many unquestioned cures, and I believe it is the object of this paper to emphasize this point, and to particularize the fact that cures take place even in New England.

It is well known that three of our acquaintances are now in other States, apparently fully recovered of what, at one time, appeared to be chronic catarrhal pneumonia of pronounced type. These results are largely due to climatic influences. Two are still in Colorado and one has returned, after several years there, to New York. All are in the prosperous practice of their profession.

Such instances are not infrequent, and illustrations of this class of cases may be found in the experience, or within the knowledge, of each of us.

When General Hooker was placed in charge of the Army of the Potomac, Mr. Lincoln wrote that memorable letter in which he distinctly stated that he appointed him to this most important command, not for the reason that he believed the General to entertain discreditable sentiments, and to have failed to give loyal support to General Burnside, but in spite of these facts: and what we seek to-night are not the evidences of curative results of the best known influences collectively employed, but cases of cures wrought in spite of the unfavorable influences exerted by our own inhospitable climate—cures in that class in our communities originating the largest number of such cases. I mean among the children of foreign-born parents whose heredity is free from such taint.

I can add but little to strengthen the facts presented by Dr. Cutler, except by citing cases similar to his in character and result—cases coming under my own observation.

I have notes of four in which the rational and physical signs were unquestionably those of chronic catarrhal pneumonia, in each of which the opinion formed by me had been anticipated, or even accepted, by our best experts; in all of these there were local and constitutional evidences of advanced pulmonary disease, and, at intervals varying from ten months to three years from the earlier observations, repeated and careful examinations failed, disease remaining *in situ*, or to cast any doubt upon the full recovery of these four patients.

These cases, which are alluded to for the purpose of adding to those described by Dr. Cutler, have strengthened the opinion I have formed, from carefully listening to his valuable paper, and from my own opportunities for observation, that now more than formerly, and now unquestionably, influences, positively curative, are brought to bear, even here, upon the disease known as chronic catarrhal pneumonia.

Dr. F. C. SHATTUCK expressed his full assent to what had been said by the reader and previous speakers as to the gradual improvement which has been made, and is coming about, in the outlook for cases of incipient and limited phthisis. Recovery or arrest cannot safely be predicated, however, soon after prolonged observation; inasmuch as we meet with many cases in which the disease remains stationary for a time, or even retrogresses, the rational signs showing more or less improvement also, but which end fatally nevertheless.

After alluding to the case of a gentleman whom

he believed to have contracted the disease from his wife, she being phthisical at the time of marriage and dying within a year, and the husband finally recovering entirely, Dr. S. went on to say that the experience of those who had been long in practice is of especial value with regard to this point. Dr. Flint published, in 1875, an analysis of six hundred and seventy cases of phthisis which had come under his observation and of which he had notes: in forty-four of these there was recovery and in thirty-one arrest: many of the cases were followed up for more than twenty years after they first came under his notice.

The reader justly emphasized the vital importance of fresh air in the treatment of this disease. Possibly some of those present may not be familiar with a simple means for ensuring a sun and fresh-air bath. If a room with a southern exposure is at command, on the coldest winter day a patient who is too feeble, from any cause, for active exercise, can be seated at the wide-opened window, wrapped up in blankets and shawls. That very morning the speaker found two of his patients thus established, and, sitting himself in the sunshine without hat or coat in perfect comfort, made his visit. Unfortunately, it is not every patient for whom such an expedient is desirable who can be persuaded to adopt it, some people preferring to suffer rather than appear peculiar to their opposite neighbors.

Again, with reference to cough; those of us whose personal experience of coughing is limited to an occasional attack of bronchitis do not always realize what hard work it is for a debilitated person. The secretion which has accumulated during sleep must be got rid of in the morning, and the aid which is afforded by the administration of a cup of very hot broth, cocoa, or the like, as soon as possible after waking, is very remarkable.

In conclusion, the speaker expressed his surprise at the unanimity with which the reader and previous speakers used the term "chronic catarrhal pneumonia," a term expressive of pathological doctrines once in vogue, but daily losing ground. There is a process to which the term catarrhal pneumonia may be properly applied, the lobular pneumonia namely, so common in the extremes of life, and as the type of which may be regarded the affection that so often proves fatal after whooping-cough and measles. The term, as applied to the disease under discussion, is inaccurate and misleading; while the terms phthisis and consumption involve no pathological theories, correct or erroneous, those who believe that the discovery of the bacillus has settled forever the pathology of the disease can use the term tuberculosis.

Dr. FITZ observed that he had been reminded during the discussion of the remark of the old Berlin physician, that "sooner or later most of us become more or less tuberculous." Post-mortem examinations show almost beyond question that recoveries from phthisical processes in the lungs are of relatively frequent occurrence.

Such examinations suggest the importance of limitation in the prognosis of pulmonary phthisis. It is well known that the apices of the lungs usually contain the remains of the obsolete processes, but

these may be found in the lower as well as upper lobes and in the lowermost part of the upper lobe, in front or behind, as well as at its apex. Evidences of healed phthisis are usually found limited to one part of the lung, and clinically the cases afford the most favorable prognosis in which, as in those reported by Dr. Cutler, there is no evidence of a localization of the disease in several centres more or less widely separated.

The possibility of a prolonged, useful, and enjoyable life, with evidences of extensive destruction of the lung from phthisis, was referred to and illustrated by a case which had been under observation for a number of years.

The patient, seventy-four years of age, was considered, by competent observers, more than thirty years ago to be seriously ill of pulmonary consumption. He gave up active business and spent several years in Europe. While in London he suffered from an acute attack of severe hæmoptysis. The eminent physician who was called upon for relief doubted if the patient could live a week. During the quarter of a century since his return from Europe he has been able to lead an outdoor life, to attend to his affairs, and to find abundant opportunity for enjoyment. The phthisical symptom of longest persistence, and for years a considerable annoyance, was cough with profuse expectoration. It never left him, but ceased to become a serious burden. Dilated bronchi, emphysematous lungs and a hypertrophied heart were developed in the course of years. Finally a weakening of the heart preceded an acute attack of broncho-pneumonia, which quickly ended in death.

The remarks of Dr. Shattuck, with regard to terminology, deserved attention. It seems undesirable to give up the terms chronic, catarrhal, and cheesy in connection with the pneumonia of phthisis. Since the discovery by Koch of the bacillus tuberculosis and its importance in the etiology of pulmonary consumption, there is a growing tendency to become satisfied with the use of tubercle and tuberculous in connection with the diagnosis of phthisis.

This tendency to confound etiology with anatomical characteristics might be regarded as retrograde in connection with the important advances in physical examination which permit the physician to discriminate between various anatomical changes found in the lung.

In evident solidification of the lung, although tubercles may be present, the greater part of the new material, in most cases, is to be regarded as an accumulated inflammatory product upon the alveolar wall or surface. Though united with tubercle, and perhaps caused by the tubercle-bacillus, the mass is to be recognized clinically as the manifestation of a chronic pneumonia, and the association with tubercle is to be regarded as mainly inferential.

In reply to Dr. Fitz, Dr. F. C. Shattuck remarked that he could not see the expediency of employing a term after experience had shown that it is incorrect and consequently misleading. He also wished to protest against the view maintained by Dr. Woodgett that a hopeless prognosis is to be based on the discovery of the bacillus tuberculosis in the

sputum. The discovery is altogether too recent and the observations too few to warrant such a position. At present the bacillus is diagnostic rather than prognostic; let us only recall the great gravity at first attached to the presence of casts in the urine and reflect on the change of opinion which prolonged and widespread observation has brought about.

DR. TARBELL spoke of the importance of this disease in relation to life insurance. The Mutual Life Company of New York have published the results of thirty years' observation, from which they have made a rule that no person is to be insured who has had chronic catarrhal pneumonia with hæmorrhage where the disease came on after adult life, and no person is to be insured among whose uncles, aunts, or grandparents there are two cases of death from this disease; on young people, however, who have recovered from this trouble, and after ten years remain in good health, an insurance may be made.

DR. LANGMAID spoke of the complications which often occur in cases of this disease, but he considered an uncomplicated case of chronic catarrhal pneumonia not by any means hopeless, for he had seen a number of recoveries. Great attention should be paid to alimentation, and the patient should remain under medical supervision for one or two years.

DR. J. B. AYER mentioned the case of a student who had hæmoptysis with solidification of upper lobe of left lung. He was sent to the Sandwich Islands by the way of the isthmus, and he now seems perfectly well.

DR. F. H. DAVENPORT said that, while in California and Colorado, he had seen a number of people who were in good enough health to do business there, although they could not return to the East, and when they left home had not been able to do anything.

DR. FORSMAN mentioned the statistics of Massachusetts which have been kept carefully for forty years and show a decrease of mortality from phthisis, about one sixth of the total death-rate being now caused by this disease. He thought physicians were too much inclined to give an unfavorable prognosis, and he advised keeping the patients quiet in some place where they could have attention and comfort, rather than constant shifting of quarters in search of a more favorable climate.

DR. BLODGETT called attention to the question of the bacilli of tuberculosis, and thought their presence in the sputa would lead to a much more unfavorable prognosis.

DR. CUTLER said the question of bacilli was too young to enable us to draw a dividing line between favorable and unfavorable cases, on account of their presence or absence.

DR. V. Y. BOWDITCH mentioned a case where with dulness and loud bubbling râles under the clavicle there were very abundant bacilli of tuberculosis in the sputa; the patient went to Texas, where she passed the winter in the open air; on coming back she caught cold in New York, but without developing any serious symptoms; she is now passing the winter in the Adirondack region, apparently perfectly well.

## PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY evening, February 12, 1885. The President, DR. SHAKESPEARE, in the chair.

## A CASE OF CARDIAC (?) ANEURISM.

Presented by Dr. JOSEPH S. NEFF.

William N., colored, aged forty. Family record good. No evidence of venereal disease. His previous history shows nothing of importance until two and one-half years ago, when he had acute inflammatory rheumatism. I could not obtain any satisfactory history of endo- or peri-cardial inflammation at that time. He appeared to make a good recovery and remained well until one and one-half years ago, when he noticed palpitation of the heart and dyspnoea upon slight exertion, soon followed by cough which was rather persistent. There was no œdema at this time, at least not sufficient to have attracted his attention. He improved upon rest and some medication received at a dispensary. After this first attack until admission to the Philadelphia Hospital, he was enabled to work, although being always susceptible to palpitation and shortness of breathing upon extraordinary exertion, with one exception; which was one of his so-called attacks, and described as "catching cold," which would increase the above-named symptoms to such an extent that he was compelled to remain in the house for several weeks last August. Here, again, there was no sudden exacerbation of the symptoms alluded to.

He was admitted to the medical ward of the hospital on November 25, 1884, at which time he presented the following

*Conditions.*—Orthopnoea intense, cough persistent and troublesome, accompanied by hæmoptysis, palpitation of the heart excited by moving in bed, general anasarca, skin on limbs and scrotum cracking in places from distension, deep pitting on pressure, even on chest, face, and forehead. Bowels constipated, urine scanty, containing one tenth of one per cent. of albumin. No casts. Pulse weak and frequent, although the peculiarity known as Corrigan's pulse was distinguishable.

*Physical examination* revealed marked and peculiar pulsation of the great vessels of the neck. Impulse of heart seen, disseminated over an area of about two inches. Cardiac dullness extended from upper border of third rib on left side of sternum to liver, and horizontally on a line of fifth rib, from three fourths of an inch to the right, to four and a half inches to the left, of sternum. The apex-beat being felt in the seventh interspace (one and one-half inches to the left and two and one-half inches below the nipple).

Upon auscultation a loud blowing diastolic murmur was heard, commencing immediately below the aortic valves on a level with third rib, and transmitted downward and toward the left, being quite loud at the ensiform cartilage and apex, with its seat of greatest intensity over the left side of sternum on a level with the fourth costal cartilage. This murmur was not transmitted in any other direction. As to its exact time, I would state that it commenced immediately after the first sound,

lasting through the second, and continuing almost through the period of rest.

A systolic murmur was also heard at the base of heart and was transmitted toward both infra-clavicular regions, and at times was heard in the carotids. It commenced with the first sound but did not last through it. It was not heard over the body of the heart. In the region of the axillæ a third murmur was heard, systolic, which could be distinctly separated from the preceding, as being less harsh and occurring later in the systole. It was also heard over the left auricle, and as far to the left as the axillary line. Was not audible posteriorly.

Physical examination of the lungs showed a condition of passive congestion. There was no nervous phenomena excepting some slight delirium, lasting for a short time and due to imperfect aëration of blood.

The diagnosis was undoubted aortic insufficiency with dilated hypertrophy of left ventricle and some mitral regurgitation. Under treatment improvement commenced at once and continued until December 11th, when he was able to walk around the ward without discomfort. Cough had disappeared. No shortness of breathing or palpitation without undue exertion. Dropsy almost entirely absent. The urine still contained a trace of albumin. Physical signs of the heart were unchanged, save an impulse increased in force. Pulse was seventy-eight strong and retaining to a marked degree the "trip-hammer" characteristic.

The general condition remained unchanged until December 30th, when it was noticed that the œdema was making headway; returning dyspnoea, etc. This gradual increase in severity of symptoms continued and on January 5th there was complete hæmoptysis, the physical signs being the same again as on admission, excepting dullness and bronchial breathing over both bases of the lungs posteriorly. Patient gradually grew worse and died on January 19th.

*Autopsy* made by Dr. Shakespeare, the pathologist of the hospital, the notes of which were written by my resident, Dr. Hickman, and are as follows:—

External appearances: General anasarca, especially of lower extremities; most marked in the left.

Heart.—Pericardial cavity contained some serous fluid, but no evidences of pericarditis. The heart was greatly enlarged, the enlargement being principally in left ventricle.

Right ventricle contained dark, clotted blood, the wall being one fourth of an inch in thickness, very firm, and marked post-mortem staining present. Nothing else noteworthy on this side.

Left ventricle was greatly dilated and the wall much hypertrophied, being fully three fourths of an inch thick. The endocardium was intensely stained postmortem. Ventricular wall was quite soft. The ascending aorta also showed intense post-mortem staining of inner lining, and the latter was in a condition of moderately extensive arteritis.

Coronary arteries appeared normal at their mouths, the right being somewhat dilated and more or less atheromatous; mitral orifice appeared normal, also the surface of the auricle. The ventricular

endocardium presented nothing noteworthy except post-mortem staining.

There were on anterior leaflets of mitral valve at base a few endocardial yellow streaks running horizontally.

At juncture of left cusp of aortic valve with ventricular cusp there was a mass of cheesy material beneath the endocardium about half an inch in diameter. The mitral cusp showed a rupture through and into the pocket of posterior cusp where the two joined; the latter cusp was also perforated in its right third and there was an aneurismal cavity extending into the upper portion of septum between the ventricles. The apex of the dilatation corresponding to the upper septum of right ventricle. The aneurismal sac showed a dilatation toward left ventricle and a rupture into the latter by an orifice admitting the end of thumb, the upper border of the opening being formed by the two affected leaflets above mentioned. There were some vegetations upon under surface of aortic cusp. The aneurism was the size of a walnut and contained no clots.

Both pleural cavities contained sero-sanious fluid. No adhesions except in one point at lower lobe. The two lobes are slightly collapsed; they presented no other abnormal appearance except the existence of two embolic infarcts. One small, wedged-shaped, size of a hazelnut, superficial near the inner edge of upper lobe at its anterior surface; pleural surface congested.

Another the size of an hen's egg, projecting above the surface at the inner edge of lower, and at the outer edge of upper, lobe, about two inches from base of lower lobe, at its anterior aspect. The two lobes are adherent at the point of the infarct and their substances appear to run together. The cut surface showed the infarction to be made up of tissue of both lobes, mainly of lower, and a line of division of the two lobes is quite perceptible. The area of infarct is dark red and granular, sharply outlined. At centre of the pleural surface of this large infarct there was an irregular area of reddish substance. No pleuritic adhesions with chest-wall corresponding to this infarct and no decided pleuritis.

The upper lobe of the right side contained two infarcts, size of a hickory-nut, along its anterior lower edge. Middle lobe, one in a similar position. Lower lobe contained four, varying in size. This lung presented nothing else abnormal.

Liver normal in size, flabby and smooth surface. Nothing else abnormal except some congestion and probable increase of fibrous tissue, it being extremely difficult to push finger in the cut surface.

Spleen normal in size, pulpy, dark brown in color, with slightly increased thickness of the capsule.

The kidneys were normal in size, and presented no marked unhealthy appearance, these organs being so stained postmortem as to make it impossible to judge of their condition. Amount of cortex appears normal.

The pathological change seemed to originate at the sinus of Valsava and penetrated into the septum, then causing a bulging of the two affected aortic leaflets, making a valvular aneurism (secondary), which ruptured into left ventricle. Clinically, these cases

are of little value, as none have been diagnosticated other than valvular disease. It seems quite remarkable, however, that there was no sudden onset of symptoms to mark the rupture of valves.

Dr. TYSON said that the aneurism seemed to have its origin in the sinus of Valsava, whence it had dissected the muscular tissue of the heart toward the base of one of the leaflets of the tricuspid valves without perforating into the cavity of the right ventricle. The perforation of the semilunar valves of the aorta he thought secondary, for if it had exerted its force primarily in this direction it would have perforated into the left ventricle. The origin of the infarcts does not seem at all clear. They ought, of course, to have come from the right side, as they were of large size, and could, therefore, hardly have come around from the left heart through the systemic capillaries into the right heart, and thence into the lungs.

Dr. HUGHES said that we might, perhaps, explain the infarctions by means of the bronchial arteries, as this was the route said to be pursued by emboli to the lungs.

Dr. NEFF said that the œdema, as described, was rather remarkable; but the notes would show that there was albuminuria in addition to the enfeebled circulation and pulmonary congestion; this œdema of the upper extremity was not constant. As far as the infarcts were concerned, he was anatomically at a loss. In his mind they were always directly connected with the lesion in the left heart, as it was difficult to see how the necessary thrombi could originate in the right side, as the postmortem revealed no signs of disease here, excepting the projection of the aneurismal bulging, which evidently did not interfere with the circulation. Congenital aneurisms, as described by Peacock and others, were lower down, as a rule, in the undefined space, and they were rarely, if ever, the direct cause of death, unless accompanied by endocarditis. The rupture of the cusps was due to their weakened condition, dependent upon calcareous degeneration.

Dr. TYSON was much struck with the explanation given by Dr. Hughes as to the origin of the infarcts, and thought we paid too little attention to the bronchial arteries as a factor in pulmonary infarction.

Dr. SHAKESPEARE agreed with Dr. Hughes, and thought that Colnheim, through his celebrated study of the embolic processes, had shown that pulmonary infarction usually takes place by way of the bronchial arteries, which are, according to him, of a terminal character.

#### SARCOMA OF RETRO-PERTONEAL GLANDS.

Presented by Dr. JAMES TYSON.

Samuel D., a gardener, aged forty-three, unmarried, was admitted to the Philadelphia Hospital August 15, 1884. There was no family history of phthisis or cancer, nor has he ever had syphilis. Three years ago he had a tertian intermittent fever, which lasted a week only. He thought he had injured himself by heavy lifting in June, 1884, and dated his illness to that time, although he admitted having experienced some discomfort prior to that time in the constant stooping that his occupation required of him. About July 1st he noted that his feet and legs began to swell; also that the swelling

would partially disappear at night. At this time he also began to have, at irregular intervals, severe pain in his legs, especially the left leg. He was subject to alternate constipation and diarrhea. This was about his condition when admitted. There was also noted a swelling immediately below the edge of the ribs on the right side, which was ascribed to enlargement of the liver, the dullness occasioned by it being directly continuous with that of the latter organ. His condition changed slowly, but gradually the tumor became more evident, and the pain in the right leg increased. He was certain when admitted there was more pain in the left, and that at that time could not lie on the right, side, while by November 20th he could rest more comfortably on that side. At this time the dullness extended in the maxillary line from the sixth rib to a line drawn transversely from a point one inch above the anterior superior spinous process of the ilium. In the median axillary line the dullness extended from the ninth rib to the crest of the ilium, and posteriorly from the eleventh rib to the same point. The tumor was bounded on the left and below by a line drawn from the umbilicus to a point one inch above the anterior superior process of the ilium, and thence obliquely to that bone. There was distinct bulging in the right flank and right lumbar region. The circumference of the abdomen through the umbilicus was thirty-four inches. There was greater fullness in the right flank laterally and posteriorly, and the veins over this region and the right half of the abdomen were distended. From December 1st he was confined to his bed, being unable to stand in consequence of what he described as weakness in his legs, especially the right, and he suffered so much pain as to require the regular administration of morphia. The circumference through the umbilicus was thirty-six inches. The sulcus at the border of the ribs had become more marked. There was at no time jaundice, and while he gradually emaciated there was no cachexia.

At first no thought was entertained that did not suppose the tumor was in some way associated with the liver. Abscess, lardaceous disease, and cancer were, however, excluded by the absence of the other essential symptoms, and it was finally thought we had most likely to do with a hydatid cyst. This was based on obscure sense of fluctuation at the most prominent part of the swelling to the right of the umbilicus. Accordingly, on December 12th, I introduced an exploratory needle to the depth of four inches at this prominent spot. A few drops of bloody fluid only were drawn, which showed upon microscopic examination to contain no distinctive elements. Forced by the results of this operation to abandon the liver as the seat of the disease, the kidney was then selected as its probable seat, although repeated examinations of the urine had shown that while it was somewhat diminished in quantity it was otherwise normal. It was twice ascertained, however, that it did not contain iodine after the administration of five grains of this substance. Soon after the first of January, 1885, his stomach ceased to retain food, after which he declined more rapidly, and died January 16th. As the disease progressed the tumor presented through the abdominal walls, and also to palpation, a more uneven outline, which

could not, however, be described as nodulous. At the autopsy, there was noted on inspection edema of the right leg, and a tumor occupying the space between the ribs and ilium on the right side, extending three inches beyond the median line. It was lumpy or uneven. The hand could be pushed up a short distance between the ribs and the surface of the tumor. On section, the visceral and parietal peritonæum appeared normal, and the omentum partially covered the abdominal contents, but was adherent only in the right iliac fossa. The colon was displaced, and, commencing at its head in nearly the normal situation in the right iliac region, extended upward and to the left along the border.

The right kidney was found closely applied to the front of the tumor, and so closely that it was at first overlooked, and the tumor thought to be one of that kidney. It was compressed, flattened, thinner than an average hand, and smaller in circumference than the normal organ. The minute examination of the right kidney revealed a very interesting condition. The tubules bore evidence of the compression to which the organ had been subjected. The cells were everywhere compressed and the tubules narrowed. There was a slight hyperplasia of intertubular tissue, especially about the malpighian bodies. The ureters and bladder were normal.

The pericardium and heart were normal, the left pleural sac contained a small quantity of bloody serum, and there were a few trifling adhesions.

The left lung contained, along the outer anterior edge of the upper lobe, three inches from its base, a moderately formed nodule half an inch in diameter, pinkish-gray on section, and projecting above the adjacent cut surface of the lung. Two similar reddish-gray nodules were found on the lateral aspect of the lower lobe of the lung, about four inches from its base. They were about an inch apart, about three fourths of an inch in diameter, and projecting as much from the lung almost as sessile tumors. There was another small tumor on the posterior edge of the base of the lobe. There was more than the usual adhesion between the two lobes of the lung. The lower lobe of the right lung was much adherent to the diaphragmatic as well as the thoracic pleura. There was a warty excrescence about three fourths of an inch in diameter attached by a small pedicle to the upper lobe and a still smaller one at its anterior edge. The nodules in both lungs were encapsuled. The tumor itself was lobulated, and occupied the entire right side between the edge of the ribs and the pelvic bones, and extended even to the left of the median line in the neighborhood of the umbilicus. It presented the same obscure sense of fluctuation, and, upon section, the lobes of which it was composed, each one of which appeared to correspond with an original lymphatic gland, protruded in its central position, and presented a uniform pinkish-gray surface of moderately soft, but by no means diluent, consistence. The microscopic examination revealed throughout its structure of a sarcoma of the tumor mass, to the region of the spleen, where it turned inward and made two or three twists along the left side of the abdomen. The right side of the liver was slightly enlarged, but the organ was otherwise

normal. There were no adhesions whatever and its surface was smooth. It was unusually firm on section and the lobules seemed to have been compressed.

The spleen was slightly harder than usual, but otherwise normal. The pancreas and stomach were both placed backward and to the left. The former was normal, as was also the latter, except that there were a few punctiform extravasations in its cardiac end.

The left kidney was found buried beneath the left portion of the tumor, and appeared one third larger than normal. The capsule stripped off easily, leaving a smooth dark-red surface. On section the cortex seemed slightly broader than in health and was darker in hue. These sections, studied microscopically, showed a normal histology. The organ was simply hypertrophied.

Dr. J. H. Musser asked whether the tumor moved synchronously with respiratory movement, for if connected with the liver, such would be the case. He would also like to know whether hydatid fremitus, so called, was present and by which signs the diagnosis of hydatid tumor was made. Dr. Musser also asked the position of the left lobe of the liver, for if displaced it would have indicated possible dislocation of that organ, a condition well known to ensue in tumors of the right kidney on account of the direction of their growth. He thought a tumor of the right kidney could have been eliminated, by the direction of the growth of the present tumor, namely, downward and outward.

Dr. Tyson said that with regard to its mobility it was certainly a fixed tumor. There were no signs of hydatid fremitus, this diagnosis having been arrived at by exclusion, and the obscure sense of fluctuation which could be detected.

Dr. SHAKESPEARE said there was also a small lobulated tumor on the left side of the vertebral column entirely covered and concealed from view by the fibres of the head and belly of the left psoas muscle. He suggested that the origin of the larger right-sided tumor may possibly be explained in the same way; for not only the kidney and ureter, but also the large vessels, were pushed forward and to the left border of the tumor mass, and no remains of the head or belly of the right psoas muscle could be found. The location of the retro-peritoneal glands of the lumbar region is mainly in front and around the main vessels. They are far in front of the psoas muscle, and can with difficulty, under all the circumstances of this case, be regarded as the origin of this large tumor. Dr. Shakespeare would ask Dr. Tyson whether the pain complained of was referred to the anterior crural or the sciatic nerves.

Dr. Tyson replied that he could not be certain whether the pain in the left leg was along the distribution of the anterior crural, but thought that it was. Certainly in the right leg the pain pursued the course of the branches of distribution of the sciatic nerve.

LARYNX, TRACHEA, LUNGS, AND HEART FROM A CASE OF ANGINOSE DIPHTHERIA.

Presented by W. A. EDWARDS, M.D.

This case occurred in the practice of Dr. William

M. Powell, of this city, at whose request I saw the little patient and for whom I made the post-mortem examination. Lizzie P., aged two, of a strumous diathesis, was first seen by Dr. Powell on February 2, 1885, when she appeared to be suffering from catarrhal fever, but at his next visit, two days later, a diphtheritic membrane was easily recognizable over the uvula, tonsils, and half arches.

The child grew worse, the membrane increasing, the cervical and post-cervical glands enlarging, pulse running high, hyperpyrexia, and the case rapidly assuming a malignant aspect.

On last Sunday, the 8th, after consultation, the plan of treatment was slightly changed, apparently to the child's benefit, as she improved until about eight in the evening of the 11th, when her respiration was noticed to become fish-like, extremities cold, pulse high and thready, increasing apnoea, and sudden death at 9.30 p.m.

Postmortem fourteen hours after death. Female child, fairly well nourished; in the right eye is to be seen a corneal opacity, probably the cicatrix following phlyctenular keratitis.

The larynx unfortunately was somewhat mutilated in removal, as an incision in the neck was not permitted. Some oedema may be noted and in the recent state areas of hyperaemia were observed, probably the seat of membrane.

The trachea presented these areas much more plainly.

The glands at the root of the lungs and along the trachea are much enlarged and indurated; one is lodged just at the bifurcation of the trachea and probably had some causal relation, through pressure, to the emphysematous condition of the lungs.

Thorax: *lungs*, the pulmonary and costal pleura are adherent, as is also the diaphragmatic; the lobes of the lungs are bound together by slight adhesions. In numerous spots over the lung tissue are to be seen small areas of emphysematous dilatation. Cross-sections of the bronchioles show exuding muco-purulent matter well aerated. No effusion is to be seen in the pleural cavities.

The heart appears to have undergone some dilatation of its right cavities; the valves are normal; the left side is forcibly contracted, with normal valves. Contrary to our expectation no clots were seen either in the heart, pulmonary artery, or aorta, with the exception of a very small one entangled in the cordæ tendinæ of the right ventricle. No effusion within the pericardium.

Liver normal, spleen somewhat enlarged, stomach contained a large quantity of undigested milk; over its surface were seen numerous centres of ecchymoses.

Kidneys and brain not examined.

The cause of death in this case becomes an interesting inquiry. The child was practically well of the diphtheria and was progressing nicely toward convalescence when suddenly signs of apnoea appear, deepening into death. As was noted above, the right auricle and ventricle appear to have undergone severe dilatation. This, to my mind, was the cause of death in our patient's case, as sudden and considerable dilatation of the cardiac cavities, more especially of the right heart, may be remarked at the bedside, and in many febrile cases causes sudden death from heart failure.

Dr. Tyson said that the cause of death in diphtheria seemed best explained by the theory of Dr. Edwards, which is a very reasonable one, and that this dilatation of the heart cavities was the result of a rapid fatty degeneration of the heart muscle, a condition of frequent occurrence. Theoretically digitalis was considered useful in this form of heart failure, but if due to fatty degeneration it would, of course, produce no effect. Affections of the cardiac ganglia, he believed, produced this heart dilatation.

Dr. Edwards said that Dr. Beverly Robinson had reported examinations in which he could find no fatty degeneration, and Dr. Edwards himself, in three cases of rapid dilatation of the right cavities occurring in typhoid fever, had failed to find evidences of fatty degeneration. These cases were published in the medical journals about one year ago.

#### RHODE ISLAND MEDICAL SOCIETY.

SIXTY-SIX Fellows attended the usual quarterly meeting, which was held in Lyceum Hall, Providence, March 19, 1885, the President, Dr. O. C. WIGGIN, in the chair.

As recommended by the Board of Censors, Drs. Charles A. Stearns and Horace N. Williams, of Providence, were admitted to fellowship.

The following delegates were elected to the New Orleans meeting of the American Medical Association, namely: Drs. Herman Canfield, J. W. Sawyer, O. C. Wiggins, A. G. Browning, J. H. Eldredge, F. B. Fuller, Benjamin Greene, Ariel Ballou, G. H. Kenyon, Job Kenyon, H. G. Miller, Charles O'Leary, G. A. Pierce, H. Terry, S. Hunt, W. E. Anthony, A. E. Tyng, W. J. Burge.

A communication was received from the Association of Superintendents of American Asylums for the Insane, relative to the emigration to the United States of the defective classes of foreign countries. The circular represents that the foreign-born element of our population constitutes one eighth of our people but furnishes one third of our criminals, paupers, and insane; and contains resolutions asking Congress for such legislation as will restrain the immigration of persons likely to become public burdens. The resolutions were endorsed.

Dr. CHARLES H. FISHER, secretary of the State Board of Health, presented for distribution a pamphlet recently issued by the Board, and entitled "Suggestions in relation to Asiatic Cholera."

Dr. R. F. NOYES reported in detail an unusually severe case of typhoid fever complicated by miscarriage. The patient, married, aged twenty years, between three and four months pregnant, and thirteen days sick with typhoid fever, was admitted to Rhode Island Hospital, with temperature 101.2° F. and pulse 132. She was placed in a private room and the "specific treatment" of enteric fever by carbolic acid and iodine instituted, with nourishment, stimulants, and sponging. Her condition remained essentially unchanged until the sixteenth day, when she became delirious and uterine hemorrhage occurred. This was promptly controlled by position and the use of ice, immediately after which the vagina was thoroughly

tamponed. Expulsive pains began the next day; the fetus and placenta were delivered and firm uterine contraction secured. During the night following, the patient failed rapidly; the pulse rose to 168 and was occasionally absent at the wrist, and she had numerous attacks of syncope from which she was roused by the hypodermic administration of brandy. The "specific treatment" was discontinued, and from this time on, the stomach was allowed milk and brandy only, while opium and quinine were given by the rectum. During the next week her condition was critical, the temperature being one and a half to two degrees higher in the morning than in the evening and twice rising to 105.5° F. From the twenty-fifth day, when the temperature fell to 99.5° F., convalescence was continuous.

Dr. A. B. BRIGGS reported a similar case in which the temperature reached 105° F., for six days in succession and then abated. In the third week there was a relapse, which subsided, and abortion followed. The patient was eight months pregnant, and made a good recovery. The child was still-born and much emaciated.

The President had seen two cases of typhoid fever in pregnant women. In one case which happened during the third or fourth month of pregnancy the fever was mild and the patient recovered, giving birth in due time to a healthy child.

The second patient was in the last month of pregnancy. Labor came on during the twelfth day of the fever, while the delirium was at its height and was completed without the mother's knowledge. The child lived to surprise its mother when she recovered consciousness, ten days later.

The President defended hospital treatment of typhoid fever. It is a popular error that these cases can be cared for better in their own homes. Hospital care and nursing are very successful in the management of this disease if the case is brought in early in the illness. The danger lies in removal. If a patient has been some days sick with enteric fever he had better remain even in miserable surroundings than risk the dangers of transportation.

The paper was further discussed by Drs. White, Hunt, Ariel Ballou, Newhall, and A. A. Mann.

Dr. B. R. SYMONDS presented a paper on the "Pathology and symptoms of rachitis."

Concerning the prevalence of rachitis among the poorer classes of Germans, Dr. G. T. Swarts suggested that it might be due to the diet, which, in their native land, often consists almost wholly of bread made without salt.

Dr. E. B. SMITH reported a case of cancer of the intestinal tract in which there was found complete occlusion of the descending colon, the transverse colon being enormously distended with gas.

Dr. G. T. SWARTS reported a similar case, where, at the autopsy, the transverse colon was found distended to six times its normal diameter. In this case there had been paralysis, which was supposed to be due to pressure on the nerve roots at their exit from the spine.

Dr. W. O. BROWN suggested that we often overlook the true pathology of cases in which paralysis has been a symptom by failing to examine the spinal cord. In such instances a post-mortem exami-

nation should be considered incomplete which omits inspection of the cord.

Dr. G. W. PORTER reported a case of pyo-salpinx treated by Tait's operation. The patient, aged twenty-seven years, was always delicate, menstruated first at sixteen or seventeen years, and had always suffered from dysmenorrhœa. Married at twenty-one and had a miscarriage at three months soon afterward. No children. She jumped from a wagon in the fall of 1879, and at once began to have painful micturition, from which she had suffered ever since. There was also backache and "burning ache" in both hips, worse at night. She had been treated locally by pessaries, etc., and had suffered from occasional pelvic inflammation. Soon after last Christmas she began to notice a pain in the left hip different in character from what she had before, often with nocturnal exacerbations. No chills. When Dr. Porter saw her, in January, he found the right ovary prolapsed and a mass on the left side of the uterus, very sensitive, which increased rapidly in size, gradually assuming the sausage shape of a distended and bent Fallopian tube.

As soon as the nature of the trouble was apparent an operation was proposed, and was performed in a private hospital in Providence, February 14, 1885. An abdominal incision was made in the median line just above the pubes, sufficient to admit two fingers, and the left Fallopian tube drawn up, some slight adhesions holding the uterus and tube backward being broken up by the fingers. The ovary was found, fully twice its natural size, completely encircled by the distended tube, which was everywhere very firmly adherent to the ovary. A double ligature was passed through the broad ligament and tied firmly, on one side close to the horn of the uterus and on the other embracing the outer portion of the broad ligament. The tube and ovary were then cut away, a little pus escaping at the uterine end of tube; but this was carefully prevented from touching the peritoneum. There was slight oozing from breaking up of adhesions, but otherwise no hemorrhage. The other ovary, slightly enlarged, was felt prolapsed into Douglas's pouch and quite firmly bound down by adhesions. This was left undisturbed. The tube on the right side was not distended. The pelvis was sponged out carefully, and the abdominal wound closed by silver sutures so placed as to bring into contact a considerable surface of the peritoneum on each side of the line of incision. The abdomen was covered with a thick layer of salicylated cotton. The carbolic spray was not used, but hands, instruments, and sponges, were kept thoroughly carbolized.

The patient took ether well. There was no apparent shock from the operation and very little nausea from the anesthetic. She made a rapid and uninterrupted convalescence, having scarcely any pain and no tympanites. The only time of serious discomfort was from efforts to move the bowels on the ninth day.

The temperature on the morning of the third and evening of the fourth day was 100.2° F. At no other time did it exceed 100°. Pulse did not reach 100. Several of the superficial sutures were removed on the eighth day, but the deeper ones

were left longer, the last remaining two weeks. She returned home in three and one-half weeks, with excellent appetite and gaining strength daily.

## NEW YORK ACADEMY OF MEDICINE.

STATED meeting March 19, 1885.

### THE TREATMENT OF PATIENTS IN THE TEMPLES OF ÆSCULAPIUS.

PROF. A. G. MERRIAM, of Columbia College, by invitation delivered a lecture on the above subject. Much that had been made known since the brilliant discoveries of Sellheim, he said, had been almost immediately buried again by consignment to archaeological periodicals and monographs. It was to the labors of the Athenian Archaeological Society that we were indebted for a knowledge of the great temples of Æsculapius at Athens and Epidaurus. As a preliminary to his subject proper, the lecturer reviewed the opinions of a number of authors of antiquity in regard to the subject of disease and medicine. The idea was universal among the ancients in India, Egypt, Palestine, and other countries, as well as Greece, that diseases were due to the anger of some offended god or demon, and that in order that a cure might be effected it was necessary that this supernatural agent should be appeased. Having referred to a number of allusions to disease and injuries, and their cure by the interposition of divine power, in the Homeric poems, he stated that there was no mention whatever in Homer of such a thing as resorting to temples in order to be healed. This became the practice at a later period, when hero-worship was in vogue. In speaking of medicine in the seventh and sixth centuries B.C., he mentioned the teachings of Solon, and, in the fifth century, of Empedocles. Having then referred to Plato, he quoted the last words of Socrates: "Crito, I owe a cock to Æsculapius," and said that their exact significance was not known.

Passing to the beginning of the Christian era, he quoted from Aristides and also from St. Cyprian, as expressing the opinions of the Fathers of the church, and showed that the same general idea concerning disease prevailed. Thus, for a thousand years, at least, it was the general belief that it was due to the anger or malice of some supernatural power, and that cures were effected by divine interference. He then went back to Aristophanes, 400 B.C., and gave a sketch of the references to resorting to the temples of Æsculapius in the "Wasps." The most detailed account of the subject in any ancient author, however, was given in his "Plutus," from which Professor Merriam quoted at length.

To pass from the Æsculapium of Athens to the Æsculapium of Epidaurus, he continued, was to go from the offspring to the parent, since the temple of the latter was the more ancient and by far the more important. It was built about the end of the fifth century B.C., and many ancient authors referred to it. The excavations at Epidaurus were commenced in 1881 by the Athenian Archaeological Society, and if, as had been stated, it was true that

the temples of Æsculapius were almost always placed in the most salubrious locations, the site of this one certainly bore out the assertion. He then gave an account of the excavations and discoveries, and spoke particularly of some slabs with inscriptions, one of which was comparatively perfect, and of a very fine kind of stone. The inscription on it, which was written in the Doric dialect, gave an account of some of the miraculous cures which were effected in those visiting the temple for relief. The first history related was that of a woman who had been "five years with child," and came as a suppliant for delivery. She had a vision from the god during the night, and the next day was safely delivered of a boy, who immediately washed himself in the fountain and began to walk about with his mother. The belief in delayed births seemed to be very common among the ancients. Another account was of "One-eyed Ambrosia from Athens," who was altogether incredulous of cures from visions, and laughed at the tablets commemorating them that were placed about the walls. Yet she slept in the temple and herself had a vision from the god, who told her that she would be cured on condition that she devoted a silver pig to him. She promised to do so, and the next morning her eye was restored. There was positive evidence that the slab on which these inscriptions were written was one of those identical tablets seen by Pausanias when he was at Epidaurus. The accounts of the different cures are simple, straightforward tales, without any attempt at rhetorical flourishes. The form of the letters in which they were written was that belonging to the third century B.C., but the histories themselves were evidently of much older date than this. The latest discoveries at Epidaurus had brought to light two slabs which were the oldest of all, belonging to the sixth century B.C.

Strabo intimated that Hippocrates obtained his knowledge of the healing art at the Æsculapian temple at Cos; but at Epidaurus no mention was made in the inscriptions of the use of any remedies; all the cures being miraculous. Later the priests probably became more or less skilled in the treatment of disease, and the most complete account of their duties and mode of life that remains was preserved in the temple at Athens. Having spoken at some length of the priests, Professor Merriam took up the subject of the attitude of the physicians of the day toward these temples of Æsculapius. When the great conflict between science and religion began in Greece in the fifth century B.C., the opinions held by the philosophers were very conflicting. Socrates taught that the spheres of the two were entirely distinct and separate; while Anaxagoras, on the other hand, explained all things on a physical basis. The general public still believed that the gods were at all times ready to interfere in a miraculous manner with human affairs. Hippocrates declared that disease was all human, and at the same time all divine. He gave a rationalistic explanation of the disease of the Scythians, saying that nature was behind this, and that nothing was done without nature. Democritus said that men were mortal gods and gods immortal men; a belief which was very deeply rooted among the Greeks.

The bitter polemic of Hippocrates, in his treatise

on epilepsy, was against the magicians, and not against the priests of the temples. Galen, who was as free from superstition as almost any writer of antiquity, spoke more than once of the divine interference of Æsculapius, and it seemed to him that this must undoubtedly refer to the cult of Æsculapius in the temple of the god. There was, therefore, no antagonism between the priests and the physicians, and he thought it quite probable that when the latter had chronic cases or others which they wanted to get rid of, they sent them to the temples for relief. Scepticism as to the efficacy of the temple treatment, however, was constantly increasing among the people at large, as it was among the medical profession. But some of the priests were themselves physicians, and that the faith in the value of the ministrations of the temples was at one time very widespread was shown by the fact that no less than 320 temples of Æsculapius were known to have existed in antiquity.

On motion of Dr. ALFRED C. POST, the thanks of the Academy were presented to Professor Merriam for his learned, interesting, and instructive lecture, and he was requested to furnish a copy for publication.

### Recent Literature.

*Denison's Seasonal Climatic Map of the United States.* By CHARLES DENISON, M.D., Denver, Colorado. Chicago: Rand, McNally & Co.

The compiler of this map is well known as the author of the "Rocky Mountain Health Resorts," and we accept his name as a guaranty of the correctness of the charts, which each represent the condensation of about 5,000,000 separate Signal Service observations. The correctness of the charts being granted, there can be only one opinion as to their usefulness, and that a favorable one, illustrating graphically as they do combined humidity statistics with isotherms, wind statistics, and seasonal tables.

There are, in all, five charts, printed on both sides of a wall-map, fifty-eight by forty-one inches. Upon one side is an annual climatic map of the United States, and upon the reverse four separate seasonal maps for spring, summer, autumn, and winter. The isotherms give the average temperatures (Fahrheit) since the Signal Service stations were established; differently figured arrows represent in the same way the prevailing, rain-bearing, and pleasant-weather winds, and the local dryness and moisture are indicated by colors and shades of colors.

These maps cannot fail to prove interesting to all who for any reason concern themselves with climates, but for physicians they will have an especial value.

### CONTINUATION OF THE INDEX MEDICUS.

DRS. BILLINGS and FLETCHER announce that Mr. George S. Davis, of Detroit, has gallantly undertaken to continue the publication of the *Index Medicus*, on the same general plan, and with the same regard to typographical accuracy and finish, as heretofore. On account of the delay required to perfect this arrangement, the first number of the *Index* for the current year will comprise the literature of January, February, and March, after which it will appear monthly, as usual. At the end of the year, in addition to the usual annual index of names, subscribers will be furnished with an index of subjects to the volume. It is requested that all exchanges, and books and pamphlets for notice, be sent to the *Index Medicus*, Washington, D. C.

# Medical and Surgical Journal.

THURSDAY, MARCH 26, 1885.

*A Journal of Medicine, Surgery, and Allied Sciences, published weekly by CUPPLES, UPHAM & Co., Boston. Price, 15 cents a number; \$5.00 a year, including postage, to subscribers in the United States and Canada. Foreign subscribers are charged the postage in addition.*

*All communications for the Editor, and all books for review, should be addressed to the Editor of the Boston Medical and Surgical Journal.*

*Subscriptions received, and single copies always for sale, by the undersigned, to whom remittances by mail should be sent by money-order, draft, or registered letter.*

CUPPLES, UPHAM AND COMPANY,

283 WASHINGTON STREET, BOSTON, MASS.

## MORE DIPLOMAS.

AMONG the stories that are constantly reappearing in various shapes in the comic literature of the day is one of the cat that, no matter how carefully drowned, always greets its master on his return from the expedition which he supposed had already closed pussy's earthly career. The story recurs to our mind at the reappearance of the Philadelphia diploma-monger. But the various forms of the legend would seem to indicate that the famed plurality of feline life is common to the species, or at least is possessed by many individuals of the tribe, and we have recent evidence that the famous Philadelphia has no monopoly of the art of mysterious resurrections.

We have before us a printed broadside dated at the Palace Hotel, Cincinnati, Ohio, and addressed to My Dear Doctor, which sets forth that the Trustees of the Bellevue Medical College have decided to incorporate a Veterinary Department, and to fill the faculty from the list of those advanced graduates of the Ontario Veterinary College who are, or may become, members of the Alumni Society; and, further, that each member of the Veterinary Faculty will receive a yearly salary of twelve hundred dollars (\$1,200); and yet further, that such salary shall be payable monthly, beginning from the date of appointment. In addition to receiving his salary, each member of the faculty will be required to attend the college during the regular sessions. A form of application is appended for membership in the Alumni Society, wherein the applicant states that he encloses a life-membership fee of \$50, which a note explains will be returned if the application is not accepted. The names of rejected candidates will not be published, and the trustees have already carefully considered the names of all those who will receive invitations. Canadian money will be accepted.

But might not a man who should be so fortunate as to be accepted as a member of the Alumni Association, and on the other hand so unfortunate as not to be appointed a member of the faculty, at a

salary of twelve hundred dollars, payable monthly, feel that his membership in return for his fifty dollars was an insufficient *quid pro quo*? There are people who feel wronged when they find that some one else has drawn the prize in the lottery. To meet the complaints of such unreasonable people, and to create a lottery in which each man shall draw a prize, it is casually mentioned (to some minds it might possibly explain the reason for the existence of the Alumni Society) that "the College will also confer the Hon. Diploma of Doctor of Medicine (M.D.) upon all the members of the faculty and Alumni Society."

From the lower left-hand corner of this document, like the legendary cat upon the fence, the seal of the "Bellevue Medical College, chartered by the Commonwealth of Mass.," smiles upon us.

The name of the Bellevue Medical College, of Boston, is familiar to our readers. Its character was made known in a late report of the Illinois State Board of Health, and the information in regard to it was fully set forth in the editorial columns of this journal, in the number of December 7, 1882. It was supposed that the exposure of the school and the subsequent action of the Legislature, which made a special act necessary for the establishment of an institution with the power to grant degrees, had given a quietus to this concern, which has been so aptly termed a diploma mill. The seal of the concern evidently survives as well as the individuals who are willing to profit by its trade. Of the Ontario Veterinary College we have no information to impart, or rather, only the negative information that it holds no charter under the laws of Massachusetts. It must, however, be judged by the company it keeps.

This most extraordinary scheme seems to have been framed for the purpose of evading existing laws, and so dividing the responsibility between different States as to make it difficult to restrain the issuing of diplomas. Such an issue of diplomas we take to be the only object of the scheme, for it seems impossible that any one should be induced to expend fifty dollars by the possible chance of obtaining a professorship. To give such a scheme the greatest possible publicity is the proper means by which to combat it.

## THE TREATMENT OF CONSTIPATION.

CONSTIPATION has been called a disorder of civilized society, being almost unknown among savages. The lower animals seem to be mostly free from it, although it is common enough among certain domesticated animals, as cats, dogs, and birds, that are pampered and lead an indolent life. It is relatively frequent among people of indoor, sedentary habits, as contrasted with those that are constantly occupied with outdoor employments. Deficiency

of muscular exercise, severe mental application and worry, and inattention to the calls of nature are recognized factors of causation. Apart from organic obstructions mechanically giving rise to it, constipation may briefly be said to be due to want of action of the intestines, or want of secretion. The want of action may be a paralytic state in which loss of sensibility or loss of contractility may predominate. The lack of secretion may pertain to the intestinal, pancreatic, or biliary glandular functions; the bile especially, from time immemorial, having had the reputation of being an alvine stimulant.

The therapeutics of constipation should be first and chiefly hygienic. Much can often be done to overcome constipation by the selection of articles of food (vegetables, coarser grains, fruits, especially dates, prunes, figs), which contain an excess of waste material, and which irritate the intestinal fibre. Physical exercise undoubtedly promotes peristalsis; the same may be said of the external application to the body of cold water; cold lavements, and even, in some persons, drinking freely of cold water, have often the same result. Exhausted or depressed innervation, whose causal agency is well recognized, may be restored by rest, change of scene, and a suitable dietary regimen. The formation of regular habits of defæcation, at certain hours, has always a prime therapeutic importance. But, unfortunately, reliance on hygienic means alone for the cure of constipation sometimes disappoints. Every physician has his incorrigible cases: patients who are always in danger of self-poisoning from the ptomaines of intestinal sepsis; whose sluggish colons will not yield up their effete contents, except under the whip of a purgative.

On such patients everything will be tried, and everything will fail to permanently benefit them. When one laxative has been used long enough to lose its effect—the intestines ceasing to respond to its incitations—another is prescribed, which, at first more successful, will eventually cease to act, except in excessive doses. It is rare that any one evacuant will remain for years the sufficient condition to normal intestinal peristalsis, although now and then this is the case. Of all the old remedies, rhubarb will doubtless continue to hold a first place among the comparatively safe and certain anti-costive medicaments (the tincture and the infusion being the most useful preparations), while among the new, cascara sagrada seems growing in credit and favor, if we may trust its testimonials; not to refer to the large use now made of the rhamnus purshiana in this country. It is an American plant, obtained on the Pacific coast, and was first introduced into practice in 1878. It has lately been made the subject of experimentation on the Continent, and has proved to be of singular efficiency in the treatment of constipation, if we may credit the favorable report of Dr. Eymery, of Val

de Grâce, who has recently published a pamphlet on the subject. Eymery regards it as a cholagogue as well as an intestinal stimulant; by its resins and volatile oil, it seems to act on the entire secretory apparatus as well as on the muscular fibre. The above-mentioned writer reports numerous cases in hospital and private practice, most of them coming under his own observation, where cascara sagrada, given in the form of powder, or as fluid extract (the latter form being preferred), gave most gratifying results. He concludes that this medicine should have the preference over other cathartic medicaments, as being less likely to do harm if its use is long continued, as being tonic as well as aperient, as causing neither griping nor nausea and diarrhoea in its action. These conclusions are substantially the same as those formulated by Bundy, who is credited with the introduction of the cascara into this country. Making all due allowance for exaggeration, we have doubtless in the sagrada a valuable addition to the materia medica, though it does not always prove a certain remedy, any more than any other drug.

#### MEDICAL NOTES.

—The *Northwestern Lancet* speaks of a modest young practitioner who lost his first good patient through his blushing inquiry, "Madam, if it is a question that a gentleman may properly ask a lady, are the bowels regular?"

—According to the same journal a physician of St. Paul recently played a trick upon a midwife, who sent to him to borrow a pair of forceps, by giving her two left-handed blades. On returning them the next day, however, she reported that she had brought the child with them. Few men could have done more.

—According to a writer in the *American Journal of Obstetrics*, Michaelis, the Professor of Obstetrics at the University of Kiel, was a martyr to the doctrine of the infection of puerperal fever being carried from one patient to another. A near relative whom he had attended in confinement at a time while he was much occupied with autopsies on patients dead of puerperal fever, died of the disease, and the accoucheur, recognizing, in the light of the new investigations of Semmelweis, that he had himself carried her the infection, laid himself on a railroad track before a train and was crushed to death.

—The death is announced of Professor Frederick Theodore Frerichs, of Berlin. He was born at Aurich, in Hanover, March 21, 1819, and was educated at Göttingen. He occupied a chair at the University of Kiel, then at Breslau, and in 1859 was called to the University of Berlin. During the Franco-German War he was physician-in-chief of the army. In 1854 he received from the King of

Prussia the decoration of the Red Eagle and the title of Privy Councillor.

—A Chinaman at Pueblo, Colorado, is reported to be doing a great business in the healing line. He keeps a drug-store in which six Chinese clerks are employed, and his average receipts are said to be from \$200 to \$400 per day. The usual number of wonderful cures are made, and New England, as is usual in such cases, is not behindhand in furnishing her quota of the patients. Which goes to show that euhre is not the only American game to which the untutored Oriental shows a ready power of adaptation.

#### NEW YORK.

—Charles White, proprietor of an "opium joint," in Clinton Place, has been sent to the penitentiary for three months and fined \$500. This is the highest penalty of the law, and it has never before been imposed on an opium-joint keeper.

—Dr. Nathaniel Ford, a well-known physician of Brooklyn, and the oldest member of the Kings County Medical Society, died on March 9th. He was seventy-three years of age.

#### PHILADELPHIA.

—The Woman's Medical College held its thirty-third annual commencement on the 11th instant, at which the degree of M.D. was conferred on twenty-two candidates. Dr. W. W. Keen delivered the valedictory address, the major part of which was devoted to a special plea for vivisection.

—Dr. Frank Woodbury has been elected Professor of Materia Medica and Therapeutics in the Medico-Chirurgical College of Philadelphia.

—It seems as if the County Medical Society of Philadelphia were really about to do something to aid in securing the enforcement of the provisions of the registration law. This act has been in operation for several years, and yet there are men practising medicine in this city in open defiance of the law, enjoying immunity because it did not seem to be the duty of any one in particular to actively prosecute these offenders. Some other county societies in this State have already been engaged in this line of duty, thereby setting a good example to the Philadelphia Society, which will act through the standing committee on hygiene and the relations of the profession to the public. The County Medical Society, also through this standing committee on hygiene, has inaugurated a series of public lectures upon subjects connected with hygiene. The first was delivered on the 11th instant, by Dr. E. O. Shakespeare, upon "Cholera," in which the modern teachings as to aetiology and prophylaxis were especially brought out, and their lessons for this community, in view of a threatened epidemic, were carefully inculcated.

## Miscellany.

### A NEW ILIAD.

For nearly ten years the Grecian tribes under the leadership of Agamemnon had waged a rude kind of warfare around a walled town known as Troy, seeking to capture it, but were for divers reasons unable, when a plague broke out in their camp which threatened to decimate the army. Homer says that it began with cattle and dogs, but this statement must be looked at as a poetical fiction; it was simply a form of malignant typhus. Great consternation prevailed throughout the army; in accordance with the superstitious notions of the times, it was currently reported that some god was provoked, and support was given to this view from the fact that Agamemnon had in his possession a beautiful captive, the maiden daughter of Chryses, priest of Apollo, whom he had refused to give up at the earnest solicitation of the father, though threatened, for his refusal, with the direst vengeance which the pagan deity could inflict. So loud and persistent on the part of the soldiers were the clamors, inspired by dread of the spreading pestilence and belief in the pyretogenous power of Apollo's (imaginary) poisoned arrows, that the "king of men" prudently thought it advisable to call a council of his chiefs, over which he himself, of course, presided. Agamemnon opened the meeting by a brief address, in which he stated the object for which he had called his chiefs together. It was known to all that a malignant epidemic had broken out among them. It was for the council to decide whether the pestilence was due to any natural, readily explicable cause, or to "Apollo's wrath." He awaited the voice of the meeting. Menelaus, on being called upon, said that he had no doubt that the popular impression was right, and that Apollo must be appeased by the sacrifice, by his brother, of the captive maiden. Calchas, the priest of Zeus, arose and vehemently repudiated the notion that this pestilence was "Apollo's work." "For my part," he said, "if I thought so I would shriek out in despair; I would pluck out one by one my hoary locks; I would abandon my priestly profession; I would sit in sackcloth and ashes the rest of my days." He continued by saying that he had too much respect for the pagan deities and for Apollo in particular, the god of the silver lyre, to suppose that any one or any number of them could be guilty of so atrocious a crime against the Grecian host. "No, friends, let us lay the blame where it belongs, on ourselves, and declare the deities innocent. This pestilence is the work of bacteria, not of Apollo. It is filth — bad water and bad drainage — that has done it all." Ulysses, on being called upon by the Chair, said that he had no doubt that the last speaker was right; he did not, however, profess to be an expert in *bacteriology*; he knew something of military matters, but very little about either medicine or hygiene. He had however observed that overcrowding and bad air and filthy surroundings always breed epidemics. He had himself lost three children when in Ithaca from diphtheria, and he always attributed this sickness to a foul cesspool, and not to "Apollo's anger." He observed finally that the man of all others whom

they should have first called upon — their doctor, Machaon — had not yet spoken. He would like to hear Machaon's opinion. The surgeon-in-chief of the army arose amid profound silence. He applauded the sentiments of all the speakers but the first; Menelaus's remarks savored of a superstition which he had hoped was wellnigh outgrown. He had no doubt that Calchas and Ulysses were right. He could but applaud the expression of righteous indignation which came from the lips of the priest, when he felt himself compelled before so august an assembly to vindicate the character of his god Apollo. Calchas had given the key to the solution of the problem: *It was that one word, bacteria.* "I am convinced," he added, "that this pestilential fever has appeared among us because the soldiers have been drinking the Scamander river water, which is polluted with their own filth. Your majesty should prohibit any further use of the river water for drinking purposes; it is rank with the sewage of our camps. Let the entire army be compelled to resort for their potable water-supply to the wells which we have dug, at such expense and loss of life, at the foot of Mount Ida. I have observed that those who have not drunk of the Scamander source of supply, and have taken ordinary precautions of neatness and cleanliness about their tents, have been spared the visitation of the epidemic."

This speech made a great sensation in the Grecian army. Machaon was given full powers to stamp out the epidemic. The camps were removed to healthier quarters, and all the paraphernalia, utensils, and clothing were thoroughly purified by burning sulphur. The Scamander was used only as a sewer, and pure drinking-water was regularly brought for the use of the soldiers from the wells of Mount Ida. Finally, under the new hygienic management, the plague was arrested; Agamemnon kept his captive mistress; and the row with Achilles was averted; and unnumbered mighty chiefs were saved from Pluto's gloomy realm. A shorter and less sensational liad was the result.

## Correspondence.

### THE SANITARY CONDITION OF NANTUCKET.

Boston, March, 1885.

*Mr. Editor,*—My attention has recently been called to an article appearing in the supplement to the Fifth Annual Report of the State Board of Health, Lunacy, and Charity, entitled: "Certain questions relative to the sewerage and the sanitary condition of Nantucket." This article I have read with surprise and regret — surprise that the State Board could have lent the authority of its name to an article so superficial and misleading; regret that it should have become my duty to reply to it. But the article in question, although mistaken in fact and defective in logic, has been widely copied and freely quoted. It has done great wrong to the inhabitants of Nantucket; and it has prejudiced the value of statistics in general. Such being the case, I feel constrained to reply, however greatly I may privately regret the necessity which thus places me in antagonism with the State Board.

The conclusions arrived at in the article in question are that between the years 1871 and 1881 Nantucket was one of the most unhealthy, if not the most unhealthy, town in the State. These conclusions are

based upon a tour of inspection and upon vital statistics compiled from the records of the town clerk's report and the census of 1880. Of the tour of inspection little is said, the report relying chiefly upon its statistics for the conclusions reached. These statistics are as follows:—

In Nantucket the mortality rate for the eleven years mentioned is 30.34. In the State at large it is 19.06. In Nantucket the mortality rate from typhoid fever is 7.7 per 1,000; in the State at large, 6.42. In diphtheria the figures are: Nantucket, 18.77; State, 11.85. In dysentery, Nantucket, 4.01; State, 2.75. In phthisis, Nantucket, 63.59; State, 35.65.

These are the figures; terrible ones, certainly, and of great weight coming from so stately a source. No wonder the report says: "The cause of this excessive mortality . . . is not easily explained." But has the Board endeavored to explain it? Has it paused to consider whether its figures are authentic before offering them to the public? Let us see. Statistics to be of value must be accurate, but even if accurate, as the report truly remarks, they are not conclusive "when applied to small numbers of people and to short periods of time." Therefore, in dealing with Nantucket, since we are dealing with excessively small figures, 3,727 being the total population as given in the census of 1880, accuracy is of double importance, and yet it appears that the figures of the State Board are far from accurate.

In the first place, since the above-mentioned conclusions are based upon a comparison between the total population and the total number of deaths, it becomes necessary to inquire was 3,727 (the figures taken from the census of 1880) the total population of the town during the period in question? Was any consideration taken of the thousands of visitors, many of whom are invalids, who annually appear at Nantucket, during the summer months? The report does not say so; yet in the first summer I practised in Nantucket (1881) the town was crowded with summer visitors, several of whom died. Now, supposing that there were 6,000 summer visitors (the boat carried 6,327 in July and August of 1880, the first year that a record was kept); supposing that, of these 6,000, 1,000 remained on the island for an average of three months, as is probably the truth, then it is evident that the yearly population of the island should be rated at 4,000 instead of 3,727, figures which would reduce the mortality more nearly to its proper level. These figures, it will be seen, are based upon the number of passengers the boat carries during two of the summer months. As young children are not included in the boat's record, the benefit of the error is thus manifestly with the State Board.

Next, as to the number of deaths taken. The State Board has compiled its statistics upon the *number of burials at Nantucket*, instead of upon the number of deaths actually occurring there! I quote the statement of Captain Allen given in the report:—

"Those who died in other places and were taken to Nantucket for burial were included in the town clerk's report to the secretary of the Commonwealth as having died in Nantucket."

But that this does not vitiate the value of the statistics, we are gravely assured by Dr. S. W. Abbott, the health officer of the Board, who writes in the following terms:—

"Furthermore, the practice of conveying the bodies of persons from a distance to their native towns for burial cannot be regarded as the peculiar characteristic of Nantucket to the exclusion of other towns, and if it is urged in favor of a lessened mortality of the island population, the same reasoning may be applied to every other community in the State."

Dr. Abbott's error is self-evident. The practice may not be a peculiar characteristic, but the including of these imported bodies among the number of the town's dead surely must be. Furthermore, Nantucket,

in the census of 1840, had a population of 9,012; in 1880, of 3,727. This decrease of nearly two thirds of its total population was due to emigration. Does every other community in the State show a similar number of emigrants whose bodies at death are to be returned to their native town for burial? If not, the same reasoning will not apply to such other communities. One might as well argue that the death-rate of Forest Hills was excessive because of the annual internments there.

Thus, having seen that the State Board is in error, first, with respect to its estimate of the population, and, second, with regard to the annual number of deaths, the two vital factors upon which its conclusions are based, let us see if we can find any particular causes which might account for a high rate of mortality, did such a rate actually exist. Amongst such causes may be enumerated the following:—

(1) The inhabitants of Nantucket are old people: the old people of a town of 9,000, in fact. For in the exodus of 1845-55 the young people migrated while the old people remained. This is shown by the average age at death at Nantucket for seventeen years: in Nantucket it being 52.14, against 30.34 in the State. That old people must die is a phenomenon which has hitherto been recognized from the earliest times and amongst barbarous nations. In some countries, indeed, they kill the old people, a plan which might recommend itself to us in Massachusetts for dealing with our decrepit institutions!

(2) The pauper element of the former population remains. Nantucket has more paupers in its almshouse, in proportion to its population, than has any other town in the State.

(3) Deaths from causality at sea: shipwrecks on the coast of Nantucket. Deaths which are included amongst the town's dead, although they cannot be so considered. Under the application of this reasoning Gettysburg must have been an extremely unhealthy locality in the early part of July, 1863.

(4) By natural selection it is the strong and healthy who emigrate, the sickly who remain.

(5) The ill-regulated hand-feeding of infants; and

(6) Nantucket is a health resort. Invalids afflicted with chronic diseases, notably phthisis, seek Nantucket in search of health, a class of visitors who must of necessity swell the death-rate.

In answer to certain of these causes, the State Board may say that the number of imported invalids and of shipwrecked sailors is small. In reply to which objection I would urge the smallness of the annual number of deaths, *only eighty-seven in 1884*. The above considerations, therefore, seem to me more than sufficient to account for a high total death-rate, did such a rate actually exist, without appealing to the bad sanitary conditions which the Board endeavors to show. Now, let us turn to the specified diseases and see if we can find there any considerations in regard to them, too, which have been disregarded.

Typhoid fever is first considered. The figures are as follows: State 6.12, Nantucket (Board) 7.7. Captain Allen's, *after the elimination of deaths not occurring on the island*, 2.14. Both, as we have seen, are based upon an underestimated population. But even with this correction, I believe these figures to be too large. In my own practice at Nantucket during the past four years, at the season too when typhoid fever is most prevalent, I have known of but two cases of this disease, one of which was contracted in New York and the other at a neighboring island. The question therefore naturally arises, how can we account for these nine deaths, said by Captain Allen to have occurred? I unhesitatingly say that I do not believe these nine deaths did occur, in support of which opinion I appeal to a peculiarity of the island not previously mentioned. In Nantucket, if we include an "clever doctor and a cancer doctor," there have been,

to my knowledge, eight resident physicians practising during the eleven years mentioned, all of them being at one and the same time residents of the island. Of these seven only one was a member of the State Society. Now out of the nine deaths of typhoid fever in but three is the name of the reporting physician recorded, *and in all of these three the recording physician was an unqualified man, having neither a medical diploma nor a medical education*. How many of the remaining six deaths are recorded upon similar testimony it is impossible to say. There is nothing to prove that all were not reported by the same or similar authority.

Taking the population of Nantucket then at 4,000 instead of at 3,727, disregarding the 20 deaths which occurred off the island, and supposing that the unqualified practitioner, who reported the only 3 deaths in which the physician's name is recorded, was right in one half his diagnoses, we shall have a death-rate at Nantucket from typhoid fever of 2.10 against the 7.7 given by the Board, *a rate 4.30 more favorable than that of the State at large*. Diphtheria I have never encountered on the island. The report, however, says that there were 70 deaths, or 18.77 per 1,000, for the 11 years, and Captain Allen, after eliminating deaths from this disease not occurring on the island, has collated 49, or 10.46 per 1,000 for the same period. As previously stated, both these rates are based upon an underestimated population. Otherwise Captain Allen's figures should be nearly correct, the only error lying in mistaken diagnosis: two of the 49 deaths only being known to be reported by qualified practitioners. This rate, however, *although 1.85 more favorable than that of the State at large*, is probably higher than it should be, not because Nantucket is unhealthy, but first, because those measures to prevent the spread of the disease customary in other communities were neglected in Nantucket during the period from which the statistics were derived, and, second, because of the before-mentioned peculiarities of the Nantucket medical practice. Tracheotomy has never been performed on the island, yet under the most favorable circumstances tracheotomy saves nearly 11 per cent.<sup>1</sup> Moreover, the epidemics said to have occurred may have been of an unusually severe character, and, as the Board asserts, in an ingeniously inserted foot-note, "epidemics are always liable to affect mortality-rates unfavorably," and, referring to the supposed epidemics which are said to have lasted for five years, "such a result might happen to any similar community."

In dysentery the figures are as follows:—Nantucket (State Board) 4.01; Captain Allen, deaths of natives dying off the island eliminated, 3.22; State at large, 2.75. According to Captain Allen there were 12 deaths in all; of these 12, 6 were in persons over 70 years of age and the remaining 6 were in children under 1 year. Thus, in the case of this disease, in addition to the underestimation of the population, we have three sufficient means of rebuttal: first, that so-called dysentery is one of the commonest causes of death among the aged, and in Nantucket the population is largely composed of old people, the average age at death being 30 years greater than in the State at large; second, the large number of summer visitors at Nantucket during the season when so-called dysentery is most prevalent; and, third, that 50 per cent. of the deaths recorded were in infants. Who can say that of these 6 children's deaths, some were not in truth due to enterocolitis, the commonest type of enteric disease amongst the very young? Lastly we come to the consideration of phthisis, in which disease the fallacy of the Board's logic is most strikingly evident. "The mortality from phthisis at Nantucket is excessive and for the period named was 63.59 per 1,000, while that of the State was 33.65, and that of Dukes County still less (29.06)."

<sup>1</sup> Henoch *Charité Hosp.*, Berlin, *Ann. J. Med. Sc.*, Jan., 1885.

Here we have a method of reasoning which recommends itself to the Board, inasmuch as it arrives at false conclusions without the necessity of seeking out false data. *The State Board has compared the deaths from phthisis with the total number of deaths, instead of with the total population.* Let us expose the fallacy of such conclusions in the suppositious case of two towns each with a population of 1,000.

In A with a total of 24 deaths, 12 die of phthisis or 50 per cent. In B with a total of 48 deaths, 16 die of phthisis or 33 per cent. That is, in A, where an excess of 4 persons per 1,000 over A die of phthisis, the death-rate from this disease is 17 per cent. more favorable. The same reasoning makes New Orleans with its huge death-rate from phthisis more favorable with respect to this disease than is San Diego, the popular resort for consumptives.

Captain Allen's statistics in this disease (those dying off the island eliminated) are not mentioned in the report, though why omitted it is difficult to understand, when his other figures are included. But Captain Allen's figures are preserved and stand as 40.28 against 63.59 as given by the Board, although arrived at by the erroneous method noticed above. Nantucket has been regarded as a health resort for cases of phthisis largely in consequence of the researches of Dr. Bowditch, who has represented it as one of those towns in which consumption is rare.<sup>2</sup> Dr. Bowditch's state-

ment coincides with my own experience. I can recall but three cases of phthisis occurring amongst residents of the island, one case being that of a child with great scrofulous enlargement of the cervical glands; the second, also in a child, with lateral spinal curvature following upon caries of the vertebrae, and the third, a case of laryngeal phthisis in a young adult.

Thus, then, having considered the inaccuracies of the report, let us turn to the practical counsel given to the inhabitants of Nantucket: that they shall provide a pure water-supply and that they shall provide for the removal of their sewerage.

The first of these conditions is already fulfilled—nay, more than that, *was fulfilled when the report was written*, and the Board, in publishing this counsel, has been guilty of the greatest injustice to the inhabitants of Nantucket. Nantucket is abundantly supplied with pure water—water which has been analyzed by Prof. E. S. Wood, who pronounced it sufficiently pure for domestic use.<sup>3</sup> The second condition on the other hand, presents extraordinary difficulties—difficulties almost insurmountable because of the flatness of the island, its low level above the sea, and the poverty of its inhabitants. That some better system of sewerage should be adopted no one can be more anxious than I am. Yet I do not believe that the matter will be hastened by superficial data and careless reasoning.

HAROLD WILLIAMS, M.D.

<sup>2</sup> Med. Com. of the Mass. Med. Soc. vol. x., No. 2, 1892.

<sup>3</sup> See Dr. Abbott's letter.

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 14, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	777	282	18.98	25.48	6.63	2.99	41.6
Philadelphia . . . . .	927,995	461	151	14.30	10.56	6.82	2.42	—
Brooklyn . . . . .	644,526	309	132	16.64	19.52	5.44	3.32	.64
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	193	60	10.26	32.40	5.94	2.70	—
Baltimore . . . . .	408,520	162	59	7.15	6.50	.65	—	—
St. Louis . . . . .	400,000	143	—	16.80	19.60	4.90	2.10	.70
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	60	24	30.54	16.66	14.94	.16	—
District of Columbia . . . . .	194,310	100	36	11.11	23.00	1.00	6.00	—
Pittsburgh . . . . .	186,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	50	12	10.00	12.00	.20	—	.20
New Haven . . . . .	62,882	27	6	11.11	11.11	7.40	—	—
Nashville . . . . .	54,400	16	3	6.25	25.00	—	—	—
Charleston . . . . .	52,286	26	7	3.85	11.55	—	—	—
Lowell . . . . .	71,417	23	5	30.45	21.75	—	4.35	—
Worcester . . . . .	69,142	38	18	13.15	23.67	7.86	4.35	—
Fall River . . . . .	62,671	31	15	12.92	16.15	2.63	—	—
Cambridge . . . . .	60,995	30	7	13.33	29.77	13.33	—	—
Lawrence . . . . .	45,516	14	6	14.28	14.28	—	—	—
Lynn . . . . .	44,895	7	3	14.28	—	—	—	—
Springfield . . . . .	38,090	16	3	6.25	6.25	6.25	—	—
Somerville . . . . .	31,350	10	3	20.00	20.00	—	10.00	—
Holyoke . . . . .	30,515	12	5	8.33	25.00	—	—	—
New Bedford . . . . .	30,114	16	9	37.50	12.50	6.50	—	6.50
Salem . . . . .	29,503	9	3	11.11	11.11	—	—	—
Cleves . . . . .	24,347	11	2	21.42	14.28	7.14	7.14	—
Taunton . . . . .	22,433	15	8	13.33	20.00	6.66	—	—
Gloucester . . . . .	21,160	6	1	16.66	16.66	—	—	—
Haverhill . . . . .	20,965	7	1	—	—	—	—	—
Newton . . . . .	19,421	5	0	—	20.00	—	—	—
Brockton . . . . .	18,323	7	1	14.28	14.28	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	3	1	—	33.33	—	—	—
Pittsburg . . . . .	13,433	—	—	—	—	—	—	—
Waltham . . . . .	13,568	6	1	16.66	—	16.66	—	—
Northampton . . . . .	13,165	—	—	—	—	—	—	—
93 Massachusetts towns . . . . .	382,457	76	13	—	—	—	—	—

Deaths reported 2,672; under five years of age 880; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 398, lung diseases 516, consumption 415, diphtheria and croup 145, scarlet fever 65, measles 38, typhoid fever 35, diarrheal diseases 27, cerebro-spinal meningitis 27, malarial fevers 18, erysipelas 17, whooping-cough 16, puerperal fever 10. From typhoid fever, Philadelphia 17, Baltimore and Lowell five each, St. Louis two, New York, Brooklyn, Providence, Charleston, New Bedford, and Gloucester one each. From diarrheal diseases, New York 10, Brooklyn eight, Boston two, St. Louis, Buffalo, District of Columbia, Providence, Lowell, Holyoke, and Chelsea one each. From cerebro-spinal meningitis, New York 10, St. Louis seven, Buffalo four, Nashville, Fall River, Somerville, Taunton, Brockton, and Waltham one each. From malarial fevers, New York six, Brooklyn four, Buffalo three, St. Louis two, Philadelphia, Baltimore, and Fall River one each. From erysipelas, New York and Brooklyn four each, Philadelphia three, Baltimore two, Providence, Worcester, Fall River, and Lynn one each. From whooping-cough, New York seven, Brooklyn three, Philadelphia and Lawrence two each, District of Columbia and New Bedford one each. From puerperal fever, New York, Brooklyn, and District of Columbia two each, Boston, Baltimore, St. Louis, and New Haven one each.

In 114 cities and towns of Massachusetts, with an estimated population of 1,458,096 (estimated population of the State 1,955,104), the total death-rate for the week was 19.48 against 17.75 and 20.76 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending February 28th the death-rate was 21.4. Deaths reported 3,660; infants under one year of age 850; acute diseases of the respiratory organs (London) 384, whooping-cough 113, measles 102, scarlet fever 44, fever 32, diphtheria 31, small-pox (London 18, Birmingham and Sunderland two each, Brighton and Liverpool one each) 24. The death-rates ranged from 13.9 in Portsmouth to 32.2 in Preston; Birmingham 19.4; Blackburn 21.3; Bradford 18.7; Hull 15.7; Leeds 19.7; Leicester 18.4; Liverpool 25.7; London 20.9; Manchester 24.6; Nottingham 16.9; Sheffield 27.8; Sunderland 29.6. In Edinburgh 16.0; Glasgow 29.1; Dublin 30.3.

For the week ending February 28th in the Swiss towns there were 37 deaths from consumption, lung diseases 29, diarrheal diseases 14, diphtheria and croup 12, puerperal fever 5, typhoid fever 4, measles 3, whooping-cough 3, scarlet fever 1, small-pox 2. The death-rates were: at Geneva 15.2; Zurich 13.6; Basle 20.4; Berne 37.1.

The meteorological record for the week ending March 14th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.	Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.		11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
March, 1885,																		
Sunday, 8	29.939	21.2	30.2	11.0	83	72	61	72.0	N	N	N W	7	14	19	N	O	C	—
Monday, 9	29.928	20.7	27.5	9.2	56	69	100	75.0	W	W	W	14	12	18	C	C	C	—
Tuesday, 10	29.839	24.7	32.2	19.0	75	69	76	73.3	W	W	W	24	25	17	W	C	F	—
Wednesday, 11	30.269	19.3	24.0	11.4	39	44	65	56.0	W	W	W	12	14	14	C	C	C	—
Thursday, 12	30.125	20.5	31.3	9.0	63	55	55	57.7	W	N W	N	10	22	15	C	C	C	—
Friday, 13	30.207	16.5	23.0	2.9	71	76	73	73.3	N	N E	E	15	12	11	O	N	C	—
Saturday, 14	29.957	26.8	34.5	13.0	84	62	54	66.7	N W	N W	N W	12	12	3	N	C	C	—
Mean, the Week.	30.029	21.4	28.9	12.2				67.7									31.0	0.10

O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening; N, snow.

## EFFECTS OF CONSANGUINEOUS MARRIAGES UPON OFFSPRING.

255 WARREN ST., ROXBURY, BOSTON, MASS.  
March 23, 1885.

Mr. Editor, — Desiring to collect some recent data regarding the effects of consanguineous marriages upon off-spring, I wish to ask through the columns of the JOURNAL the co-operation of the medical profession. Any physician, having personal or professional cognizance of any marriages within the sixth degree of kinship (second cousins), will confer a great favor by forwarding brief notes thereof to the above address. The following facts are desired: (1) date of marriage (approximate); (2) name, whenever there is no objection (this is merely to guard against duplication of cases); (3) degree of relationship between husband and wife; (4) nationality of each; (5) occupation of husband; (6) number of children born; (7) number living at present; (8) number of children healthy; (9) diseases or defects of children not healthy; (10) any other facts of interest in the case.

It is particularly wished that no selection of cases be made, but that all consanguineous marriages (including those not made especially conspicuous by reason of unfortunate results in the off-spring) be impartially recorded.

Very truly yours,

C. F. WILKINSON, M.D.

## OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDED MARCH 14, 1885.

BALDACHE, P. H., surgeon. Detailed as President, Board of Examiners. March 10, 1885.

PURVISANCE, GEORGE, surgeon. Detailed as member, Board of Examiners. March 10, 1885.

AUSTIN, H. W., surgeon. Detailed as Recorder, Board of Examiners. March 10, 1885.

## THE CARTWRIGHT PRIZE.

ESSAYS in competition for the CARTWRIGHT PRIZE must be handed in to some member of the committee on or before April 1, 1885. The committee consists of Robert Abbe, M.D., 32 East 2nd Street; Walter Mendelson, M.D., 290 West 46th Street, and R. W. Ambion, M.D., Chairman, 18 West 21st Street, New York.

## CORRECTION.

In the case reported by Dr. Lyman, in the Improvement report of last week, page 274, seventh line, first word, read "right" for "left."

E. M. BUCKINGHAM, Secretary.

## BOOKS AND PAMPHLETS RECEIVED.

N. W. Ayer & Son's American Newspaper Annual, containing a Catalogue of American Newspapers. Philadelphia: N. W. Ayer & Son.

Typhoid Fever and Low Water in Wells. By Henry B. Baker, M.D. (Reprint.)

The Forty-second Annual Report of the Mount Hope Retreat for the Year 1884. By William H. Stokes, M.D. Baltimore, 1885.

## Original Articles.

TEN CASES OF REMOVAL OF UTERINE TUMORS BY LAPAROTOMY.<sup>1</sup>

BY JOHN HOMANS, M.D.,

Surgeon to the Massachusetts General Hospital, and Instructor in Harvard University on the Diagnosis and Treatment of Ovarian Tumors.

PROBABLY hysterectomy will never be so successful as ovariectomy has become in practised hands, but its mortality will undoubtedly be much diminished when it is done before the tumor has grown enormously large, and the vital functions have almost ceased, and the patient has become helpless and feeble. The difficulty about knowing when to operate is one of prognosis. If we only knew what tumors, or class of tumors, were destined to grow and become so large as to cause death by mechanical pressure, and what ones, on the other hand, would become smaller, or even atrophy and disappear entirely, then we could pick out proper cases for early operation. I have seen cases where delay and the use of ergot have been advised where the advice has been followed by diminution in the size of the tumor, and other cases where similar advice has been followed by its growth to an unbearable or even enormous size. I am quite sceptical as to the value of ergot in most of these cases where the growths are subperitoneal or interstitial and lie nearer the outer surface than the cavity of the uterus. In regard to prognosis, if I should hazard an opinion, which I may very possibly have to retract, I should say that the fibro-mycomatous tumors which lie beneath the peritoneal covering of the uterus were more likely to become harmful and fatal by increase of size than those that lie more deeply in the substance of the organ. These exterior tumors probably get a greater blood-supply and are more vascular than those that are more intra-mural. This increased vascularity comes from their proximity to the peritoneum of the uterus, of the omentum, and of the mesentery, and I think that these tumors more frequently require hysterectomy than the deeper ones. In the English and American journals about five hundred cases of hysterectomy have been reported, and in the Continental and other journals many more. A very few operators have excellent results and others bad or indifferent. Some treat the stump (that is, that portion of the uterus which is left behind, or in exceptional cases the vaginal wall) intra- and others extra-peritoneally; that is to say, that some drop it back and sew up the abdominal wound, and others hold it up outside the skin and sew up the wound around it, keeping the end of the stump above the surface by means of one or more long pins passed through and having their ends resting on the skin of the abdomen. I have had success both ways and failures also. If the stump is a moderate-sized one I am rather inclined to treat it intra-peritoneally after *searing it brown* with the cautery, so that it would be nearly as dry and tough as sole-leather.

As I said above, if we could tell what tumors would grow, we should know when to operate early, and not find that a woman, whom, two or three years

before, we had told to dismiss her condition from her mind, and that her bunches would never grow, nor ever trouble her, had become a confirmed, worn-out invalid, with a solid growth reaching to the ensiform cartilage, and almost irremovable, whereas, if an operation had been done when she was first seen and in robust health she would more probably have been cured. Since many, *but not all*, fibroids cease to grow coincidently with the menopause, it has been proposed that an artificial menopause should be brought about by removal of the ovaries, and this seems certainly a surgical proceeding based on as sound physiological reasoning as one can imagine or wish for. Reported successes have followed this mode of treatment and reported failures, but I think the former outnumber the latter. I have only removed the uterine appendages twice for the cure of uterine myomata.

Again, in regard to the ages of the patients, Dr. Keith thinks that hysterectomy would be proper in cases of rapidly growing or largely hemorrhagic tumors in young persons, or in persons under thirty years of age, but I have seen the most rapid growths in patients between forty-five and fifty-five years old when the catamenia seemed to have ceased or appeared only once in six months. One of the most, perhaps the most, useful book to study on ovariectomy is the first book published by Sir Spencer Wells, in 1865. It is entitled "Diseases of the ovaries," and gives an account (in minute detail) of one hundred and fourteen cases of ovariectomy; each case has its previous history, given at great length, the reasons for operating are stated, the operation is described fully, and each day's progress is often minutely recorded. Here one can see the successes and failures, the efforts to make success more certain and to avoid errors. Only one volume was published. If Sir Spencer had continued to describe all his cases afterward in this form we should have had a very large array of facts and observations, among which we could have found a parallel for every complication that could possibly arise. I wish we had such a volume on hysterectomies. In the following small number of cases of partial or complete hysterectomy will be found four recoveries and six deaths. Of the four women who recovered, three were in good health and one was somewhat exhausted; of the six who died one was in robust health, and the others were more or less exhausted, two being bedridden and having bedsores at the time of the operation.

In three of the fatal cases the pedicles of the tumors were such as to have been easily managed if removal had been attempted early. All these cases were treated antiseptically and with the spray. None of these operations were undertaken except to save life or relieve intense physical pain.

CASE I. — April 5, 1881, Carney Hospital. A fibro-cystic tumor weighing two pounds was removed from the fundus of the uterus during an ovariectomy; its base was transected, cauterized, and tied, as I usually do, with the ovarian pedicle. Recovery was uninterrupted. Dr. W. W. Gannett reported the tumor to be a fibro-myoma.

CASE II. — April 11, 1883, Carney Hospital. About two thirds of a two-horned uterus, containing many pounds of bloody fluid, was removed on account

<sup>1</sup> Read before the Obstetrical Section of the Suffolk District Medical Society, February 18, 1883.

of unbearable pain. The operation is identical with hysterectomy for a fibro-myoma. As this case has been described at great length in a former number of the *JOURNAL*<sup>2</sup> and in the *London Lancet*, I will only say that the pedicle was treated extraperitoneally in one of Sir Spencer Wells's clamps and that the patient recovered rapidly. She wrote to me on February 13, 1885, that she was perfectly well. She has not menstruated since the operation.

CASE III. — April 24, 1883, St. Margaret's Home. Patient forty-three years old, married, six children; she had known of the existence of the tumor for four years, and had been an invalid for eight years. Two months before she came to St. Margaret's she had been tapped on account of distress and discomfort, and sixteen pounds of ascitic fluid had been drawn off. The breathing was labored and the urine much diminished; there was a bed sore over the sacrum. The probable duration of life, if neither tapping nor hysterectomy was done, seemed but a few weeks. The abdominal girth was forty-one inches. An incision, seven inches long, was made from above the umbilicus to the pubes; much ascitic fluid ran out. Adhesions to the bowel and peritoneum were tied and divided. The hemorrhage was rather free from the torn adhesions, and from the ovarian artery in the right broad ligament. A cord of rubber tubing was first tied around the base of the tumor, and, finally, a clamp, sliding on parallel bars, was fastened around the pedicle. Both ovaries were tied but the right alone was removed. The operation was an embarrassing one, owing to the peritoneal and intestinal adhesions which were difficult to separate. When the patient came to St. Margaret's Home she had a bed sore, and this, and the constitutional condition which a bed sore usually implies, contributed much to the ultimately fatal result of the operation. Her condition was not at all discouraging until the fifth day, although the bed sore was a continual annoyance. At this time the abdomen became somewhat distended. The clamp, which had sunk almost out of sight, now came away. There was more or less discharge which was thoroughly removed by gentle syringing. The temperature rose on the second day to the evening to 102.2° F., and then fell to 100.5°, where it remained till the eighth day, when it rose to 101.5°. The bed sore kept increasing and on the twelfth day she had a chill and died on the fourteenth day. As there was no autopsy, I cannot say what the exact cause of death was, but I suppose septicæmia, but whether from the bed sore or the hysterectomy, or both combined, I cannot say. With my added experience since I feel as if, possibly, the issue might be different to-day if I had it to do over again. At any rate, it was a proper attempt to save life and restore the woman to health.

CASE IV. — October 9, 1883, St. Margaret's Home; patient a single woman, thirty-five years old. Tumor discovered two years before operation; it had caused very severe pain and menorrhagia. I consented to operate on account of the excruciating pain. The tumor weighed eight pounds and was attached to the uterus by a pedicle about two inches in diameter and was, I think, treated intra-peritoneally.

The patient died on the fourth day, I presume of peritonitis.

CASE V. — November 3, 1883, St. Margaret's Home; patient forty-four years old, married. The menopause had occurred a year before, but the tumor had continued to grow rapidly; indeed it had only been discovered a year before the operation. There were ascites and general anasarca. Patient could not lie down and was beginning to have a bed sore. On opening the abdomen a solid red fleshy-looking tumor presented itself. It was adherent to the anterior parietes and to the transverse colon. There was more or less venous hæmorrhage when these adhesions were separated; the incision was several times enlarged until it measured thirteen and a half inches. The upper part of the tumor which had pressed the diaphragm into the chest was pulled out and various adhesions were clamped. A pedicle was found coming from the right horn of the uterus and was treated by ligature and canterization and dropped back. All bleeding points were carefully tied and the abdomen carefully cleaned. The tumor weighed forty-five pounds, and measured forty-five and a half inches in its longest circumference and thirty-four and a half in its shortest. Its diameters were thirteen and ten inches respectively. The patient died of shock twenty-four hours after the operation. This was an attempt to save life in a woman exhausted by the mechanical pressure and weight of the tumor. Without operation she might have lived days or perhaps weeks, but not long.

CASE VI. — June 12, 1884, St. Margaret's Home; married, thirty-six years old. Hæmorrhage from uterine almost constant and at times violent; severe unbearable pain. The tumor was found to be covered by the left broad ligament under which it glided when moved. I began to cut through the layers of the broad ligament and to enucleate the tumor, but this I abandoned. At the upper border of the tumor the intestines were adherent and I divided the serous covering of the tumor and clamped the cut edges. The wire of a Kæberle's serre-neud was passed around the tumor and pushed as far down in the pelvis as possible. The loop included the right ovary and tube but not the left, which latter I did not feel. The wire was tightened and drawn through the canula and screwed up, then another serre-neud (it is always well to have two) was passed round the pedicle and screwed up, after which the first one was removed. Pins were passed through the pedicle just above the wire, the wound closed, the stump secured outside the skin and painted with persulphate of iron. The portion of tumor removed was solid and weighed two and a quarter pounds, and contained half an inch of the cavity of the uterus. As much or more of the tumor was left behind. The after progress of the case was satisfactory. On June 20 the stitches were taken out and then began the very remarkable progress of this case. In a few days the remainder of the tumor began to be extruded through the stump and in ten days it had risen to a height of two inches above the skin. Severe pain now occurred at intervals. Rubber bands were put around the base of the tumor and kept on as long as their pressure could be borne; all this

<sup>2</sup> November 8, 1883. *London Lancet*, November, 1883.

time the tumor was not only being extruded from the abdomen but was growing perceptibly to the eye. On the nineteenth of July a silk ligature was tightly tied around the base of the tumor and the superjacent portion cut off. It weighed four pounds. This manipulation caused considerable constitutional disturbance and sent the temperature to  $104^{\circ}$ , but this subsided in twenty-four hours to  $98.2^{\circ}$ . On August 2d she went home. In November an abscess opened and discharged freely though the wound. She is now, February, 1885, well, hearty, strong, fat, working hard, and entirely free from pain. She menstruates every three weeks. Dr. E. G. Cutler described the tumor as a fibromyoma with cystic and mucoid degeneration. This is, so far as I know, a unique case.

CASE VII.—August 6, 1884. St. Margaret's Home. Patient single, twenty-six years old, healthy. Tumor growing rapidly. The tumor was not adherent. Koberle's serre-neud was secured around the body of the uterus on a level with the origin of the Fallopian tubes. The right ovary and tube were removed. The stump was secured outside and treated as in the former case. The tumor was a dense fibroid, ovoid in shape, and weighed seven and a half pounds. It was found that two and a half inches of the uterine cavity was removed with the tumor. In external appearance the tumor closely resembled the dura mater covering the brain, as it is seen when the calvaria is removed. The patient and her attendants made a good fight, but death occurred on the ninth day, I suppose from some form of septicaemia. At the autopsy the stomach was seen *wholly* filling the anterior abdominal cavity and being about sixteen inches in diameter. It contained much gas and seven pounds of black fluid. The intestines were not distended but seemed flat and narrow just above the ileo-caecal valve. No lymph, pus, nor fluid was in the peritoneal cavity; the wound had united and the intestines were glued to it. I suppose death occurred from septicaemia, but paralysis of the stomach and intestines had, I think, something to do with it.

CASE VIII.—St. Margaret's Home, December 6, 1884. A single woman, twenty-six years old. The urine was diminished in amount and contained a well-marked trace of albumen; at times she had required the use of the catheter. The tumor was first noticed eight months before and had grown rapidly during the past few months. On opening the abdomen the omentum was found to be adherent to the pubes and was tied above and below. A cork-screw was put into the tumor and its entrance was followed by a gush of clear yellow fluid from a cyst. The tumor was lifted out by this handle (a proceeding I learned from Mr. Tait) and Dawson's clamp was easily passed around its base. The clamp encircled the left half of the body of the uterus. The growth was cut through with Paquin's cautery (the platinum flaming) and the stump was secured exactly as I do in a case of ovariectomy and dropped back. There was no bleeding. The weight of the tumor was three and a half pounds, and included the left ovary and left Fallopian tube. On its surface were eight or ten little tumors, containing fluid and varying in size from a pea to a

horse-chestnut. The tumors were fibro-myomas, with cystic degeneration. The after progress was very satisfactory, except in regard to the rate and quality of the pulse, which varied between 110 and 140 for ten days and was extremely feeble and not at all consistent with the patient's muscular and vocal strength and comfortable condition. The urine at first contained more albumen than before the operation (less than one eighth per cent.). She went home on the first of January, 1885, and has since been in excellent health.

CASE IX.—February 5, 1885. East Montpelier, Vermont. Patient thirty-four years old, married. The tumor was first noticed in 1881. It was then the size of a lemon and in the left iliac fossa; it grew slowly until the spring of 1883, and since that time has grown faster, but especially fast during the last month (January, 1885). She was very irregular in her menstruation until marriage (about a year ago) and after her marriage was regular till October, 1884. Since that time she has suffered much from nausea and greatly from abdominal pain, and was supposed to be pregnant at the time of the operation. The tumor had grown very rapidly recently. In the tumor was a lymph-space (or cyst) containing eight pounds of clear fluid and the solid portion of the tumor weighed five pounds, making the total weight thirteen pounds. She could not be moved from her bed in a farmhouse in Vermont and I went to her home and operated. The reason for operating was the unbearable pain and soreness and constitutional irritation. This latter condition was probably partially occasioned by the presence of a decomposing fetus in the uterine cavity. Both ovaries and tubes were removed and Koberle's serre-neud was tightened around the base of the tumor, above the body of the uterus, in which it was supposed a fetus might be. The case progressed favorably for two days and terminated fatally by hemorrhage on the fourth. The wire had cut through the right side of the uterus, before sufficient coagula had formed to stop bleeding. The bones of a macerated fetus were found in the uterine cavity, which I had not opened at the time of the operation.

An autopsy was made by Drs. Chandler and Lazelle. The wound had united and the uterus was well held up (although the pin and wire had come away on the third day after the operation). There was slight peritonitis and an opening into the cavity of the uterus in which lay the separated bones of a fetus and about three pints of blood. I will add the concluding words of Dr. Chandler's account of the case: "Operation Thursday noon, February 5th. Friday morning very comfortable and moved in bed, she said, with less pain than before the operation. Friday night taken with pain in right side probably from peritonitis caused by slight bleeding from the lower and right side of the stump from the giving way of the tissue under the wire. Blood was found on Saturday on the dressing and the patient was not as well. At 5 p.m. the pin and wire came away and she died Sunday at 11 a.m. from hemorrhage. The leak had probably let the fluid out of the womb, but the bones seemed to lie against the inside of the abdominal walls, without their usual coverings, all separated from

each other so that each one could be picked up without any of the others."

CASE X. — February 14, 1885. St. Margaret's Home; patient fifty years old. The presence of an abdominal tumor had been known for six years. A distinguished London ovariotomist had examined the patient in 1882, and had told her that there were two bunches which would probably never trouble her and to dismiss the fact of their presence from her mind. This illustrates what I said in the early part of this paper that if we could only foresee what kind of tumors would be likely to grow, we could operate before they had attained the size of the present one and when a much shorter opening in the abdominal walls would be necessary. The incision was thirteen inches long, which contracted when sewn up to eleven. Tumor of a purple color, very dark in the neighborhood of the uterus where the right Fallopian tube and the neighboring parts stood up straight and stiff and turgid with blood like the comb of a cock. Quite a vascular adhesion to the omentum was clamped and tied. The tumor was about fifteen to eighteen inches long and twelve wide. It was raised and found not to be adherent except in the pelvis. The wire of a *serre-nœud* was passed around it and tightened, about two thirds of the tumor was then cut away (a solid fibromyoma). By further manipulation the remainder of the tumor was torn out of (enucleated) the left broad ligament which was clamped wherever a bleeding point was seen. The wire of another *serre-nœud* was passed around the uterus and right broad ligament and tightened. The left broad ligament was then tied *en masse* and separately wherever a bleeding point was seen. Some very large vessels (as will be seen in the description of the tumor) were tied; one of them was as large as the tip of the little finger. The neck of the uterus was then embraced in Dawson's clamp, tied and burnt off an inch and a half within the vaginal junction. I was careful to sear the stump thoroughly brown. The abdominal cavity had been but slightly soiled with blood, but it was carefully sponged out, and the incision closed and dressed antiseptically. The following is Dr. E. G. Cutler's description of the tumor:

"The tumor weighed thirty pounds. The shape was generally globular, here and there embossed with nodules the size of the fist and smaller. Large bloodvessels were seen ramifying on the surface. There were numerous slight adhesions to the surrounding viscera on the surface toward the pelvis; toward the abdomen an old large adhesion to the omentum had been tied. On fresh section the color of the tumor was mother-of-pearl and the consistency dense and elastic to the touch; one portion was softer and darker colored than the rest and there were dark thrombi in the vessels with staining of the surrounding tissue. This dark portion was as large as the closed hand and was evidently undergoing a degenerative change. A close inspection of the surface showed the tumor to be made up of bundles of fibres running in various directions, and some large vessels on the surface to be about a quarter of an inch in diameter. The whole tumor was unusually vascular for a fibromyoma. The uterus measured six centimeters from the fundus to the os internum, seven centimeters

from the origin of one Fallopian tube to the other, and its posterior wall was one and a half centimeters thick. The internal os and cervical canal were occluded and impervious by some old process. The mucous membrane of the uterine cavity was slightly thickened, reddened, and the two surfaces were adherent to each other, except in the centre, where a small red clot was found.

"The uterus had been removed just inside the os externum apparently. The right ovary and broad ligament were removed entire.

"The origin of the tumor was the posterior left lateral surface of the uterus near the junction of body and cervix. The length of the raw surface where the tumor had been removed was nine centimeters and its breadth five centimeters.

"Microscopic examination showed the tumor to be a fibro-myoma."

At the close of the operation the patient's pulse was eighty-eight per minute and strong, and her condition seemed quite encouraging. The second day was a very comfortable one, and there was no nausea nor vomiting. The second night was very comfortable and was passed in sleep, only one opiate of thirty drops of laudanum by rectum being required. The evening temperature was 98.9° and the pulse 102. On the third day she had vomited but once. On the fourth day the vomiting of black fluid began and continued at intervals. The evening temperature was 100.2°, and the pulse 118. A fifth of a grain of morphia subcutaneously gave her a very comfortable night, with continuous sleep. Occasionally she vomited on the fifth day, but her evening temperature was 98.4°, and this was encouraging. The pulse was 126 and the respiration 17. The pulse grew weaker through the night, and death took place on the sixth day; that is, five days after the operation of removing the tumor. An autopsy showed the cause of death to have been a moderate amount of peritonitis, caused partly by the sloughing end of the tied omentum and partly by the manipulation during the operation. The ureters were both found dilated, probably from the obstruction caused by the heavy tumor resting upon them. The right ureter was the larger and with the enlarged pelvis and calices of the kidney formed a cyst the size of the fist. The cortical substance of the kidney was thinned but seemed healthy.

This ends the record of my hysterectomies up to the present time. The percentage of recoveries is not as large as I wish it was. Of those who died, three were exhausted by the disease and two were bedridden and had bedsores. The four who recovered were rescued from a life of suffering and a lingering death. So far as these cases go, partial removal of the uterus by laparotomy seems as successful as total. In Case IX., Porro's operation would have been the proper one *if we had known before the operation all we know now*. It is easy to reason after the event. Case II., in which the remainder of the tumor was extruded through the abdominal parietes after the clamp had come off, and also grew visibly during this process, is perfectly unique, so far as I know. The result of the process was a perfect cure. The top of the uterus perfectly flat and covered with healthy cicatricial

skin fills the site of the abdominal wound. In regard to the treatment of the pedicle, I hope that in most cases some intra-peritoneal method may be found, perhaps by burning with the cautery. No rule can be made at present, however, and each case must be treated independently.

#### SOME CLINICAL OBSERVATIONS IN REGARD TO MONO-CHOREAS ASSOCIATED WITH INCREASED TEMPERATURE OF THE PART AFFECTED.

BY HOWARD AMORY HARE, M.D. (UNIV. OF PA.).

*Attending Physician to the Children's Dispensary of the University Hospital of Philadelphia.*

THE following cases are reported in order to call attention to what seems to be quite a common occurrence in mono-choreas, namely, an increase in the temperature of the member or part affected. So far as I know, such changes in temperature in this disease have not been reported; although, as every one knows, it is quite common in hemi-choreas to have a decrease in temperature of the side affected, accompanied generally by profuse perspiration. In the cases here reported the member affected was invariably hot, dry, and feverish. The color of the skin was more red than normal, the skin also had rather an injected appearance.

The coldness of the parts in hemi-chorea is probably due to some neurosis affecting the blood-supply and also to the constant evaporation of the perspiration, which is caused probably by some disorder connected intimately with the nerves governing the sweat-glands. It is entirely permissible to account for the increase of temperature noted in these cases by supposing that the neurosis may be such as to cause the contrary effect of that mentioned in regard to the coldness of the parts, namely, an increased supply of the arterial blood instead of a decreased supply. There is a possibility that this increase of temperature may be due to the constant muscular movements peculiar to the disease, but this is very improbable, since the heat developed by the movements in so few muscles would not be appreciable. It seems to me that the redness and injection of the skin point to the conclusion that the difference in temperature between the affected and unaffected members is due to the inordinate supply of arterial blood in the part. In one or two cases it was impossible to find the temperature of the part by the thermometer, since the hand was often hot and feverish and the axilla normal. As the thermometer used was the one commonly in use at the bedside, it was impossible to take the temperature of the palmar surfaces.

CASE I. Katy Burns, aged eight, came to the Dispensary of the Children's Hospital<sup>1</sup> of this city, suffering from a mono-chorea of the left arm. The child appeared strong and in good health, although the face was perhaps lacking in color. The mother stated that about one week previously she had noticed this peculiar and constant twitching of the arm, which kept up night and day, and had first

ascribed it to "nidgetyness" but had found that it could not be controlled by the will. The child has never had scarlet fever, diphtheria, or rheumatism. She had measles some years ago, but made a good and rapid recovery. On examining the hand and arm they were found redder than normal and the skin was dry, hot, and feverish. The temperature of the right axilla was 98.4°, while that of the left axilla was 99.8°, an increase of 1.4° over the normal side. The heat was normal, the appetite good, and the bowels regular. This case recovered entirely in the course of four weeks, receiving three drops of Fowler's solution three times a day during that space of time. There is no difference between the two axillae at this writing and the reddened appearance of the skin has disappeared, the two arms and hands having the same hue.

CASE II. Peter F., aged twelve, came to the Children's Dispensary of the University Hospital last fall, suffering with left brachial mono-chorea of a moderate type. Had a history of scarlet fever just preceding the choreic attack, which came on during convalescence; at least it was first noticed about this time by the parents. His heart was normal and his appetite generally quite good. His bowels were regular. There is a history of rheumatism in the family, although the boy seems never to have been a sufferer from it in any degree whatsoever. His condition was fair and there was very little, if any, anemia present. At that time he was put on Fowler's solution, and is still taking it, as he has not entirely recovered the control of his arm when certain movements are desired. As there seemed to be some slight loss of power he was given in addition to the Fowler a small amount of strychnia, about the fortieth of a grain, four times a day. When first examined there was a great deal of difference in temperature between the two arms and hands, the left hand feeling hot to the touch while the right was normal. The temperature in the axillae was 99° and 98.1° respectively. The difference between the axillae to the touch was scarcely noticeable, while, as already stated, the difference of temperature to the touch at the hands was marked. At present there is not much difference between the two members and the movements are not as severe as formerly, although it is doubtful whether they will ever cease entirely under his present mode of living and owing to the obstinacy of the disease in resisting treatment for so long time. The fact that the chorea followed scarlet fever would also point to an unfavorable prognosis. I forgot to mention that the affected arm in this case was also redder than normal.

CASE III. Lizzie D., aged ten, two years ago had an attack of scarlet fever from which she entirely recovered. During the stage of desquamation, however, the mother noticed that her right arm was beginning to twitch, and by the time she was up and about, the choreic movements had become quite severe. During the last two years the movements have been constant, being somewhat less severe at night than during the day, and varying in intensity at different seasons, as in the spring for example. There is no history of paralysis following the attack of scarlet fever nor is there any history of rheumatism. The heart sounds are

<sup>1</sup> I am able to mention this case through the kindness of Dr. Louis Starr, the physician in charge of the Dispensary at the time the patient presented herself.

normal, the appetite is good, and the bowels slightly constipated. The movements are increased if spoken of in her presence. The possibility of any reflex irritation owing to intestinal worms was dispelled by the administration of male fern, chenopodium, and injections of turpentine and sweet oil. There is no history of masturbation or other genital irritation of any kind. No history of fright or chorea prior to the scarlatinous attack. No anemia. The girl would generally be considered strong and sturdy and does not appear to be of a markedly nervous temperament. The hand and arm affected (the right) were warmer than the left. This difference was only appreciable by the touch, since the thermometer in the axillæ marked the same number of degrees in both cases. The right hand was hot, dry, and feverish, although the weather was cold and the child had come some distance. This case also recovered under the use of arsenic, the red hue of the hand and arm gradually disappearing as the patient's condition improved.

CASE IV. George N., aged thirteen, came to the Dispensary of the University Hospital suffering from an irregular form of chorea, which, at times, affects the whole body, but which is constantly present to a slight degree in the right arm, from which point the movements extend when he is suddenly frightened or greatly excited, as by the sight of a runaway horse or something of a similar character. The arm does not appear to be much warmer than normal unless the movements are about to extend to the rest of the body, when the boy will say to his parents, "It's coming, my hand is getting hot," and within the next few minutes the general attack comes on.<sup>2</sup> That this attack is not epileptic is shown by the fact that there is never loss of consciousness or frothing at the mouth. He keeps on saying what he wishes to say as if nothing was occurring, although his mother tells me that his words are not articulated clearly, owing to the movements affecting the muscles of his mouth. He never falls down during an attack and goes on with his work (sewing rag carpet) after the attack passes off as if nothing had occurred, although he is entirely conscious of his having had one. If asked a question during an attack he will invariably give a clear and lucid answer. The beginning of this trouble dates back six years. At that time, while at Atlantic City, he was forced by his parents to take a surf-bath although he was much averse to it, owing to fright. He no sooner reached the water than his kicking and screaming was replaced by rigidity. This alarmed the parents and they immediately took him out and dressed him. After a few hours the child seemed perfectly well. In the course of the next few weeks the mother noticed a slight twitching of the eyelids, chiefly affecting the left side. This was so slight that the father denied its presence. This, however, passed away at the approach of winter. The following spring the movements appeared in the right arm, and from this point have annually made further inroads on the rest of the system till the present condition has been reached. During the summer, when he is out of town, he becomes almost

entirely well. Sometimes the attacks come on without apparent cause, generally in such cases following several days of unusual quietude. One of the frequent causes of a general attack is an imperative call on the part of his father, to get up in the morning. The boy has improved slightly under the use of arsenic and tonics. He, however, is in every way, but that mentioned, healthy, strong, well-grown, and the possessor of a good digestion and appetite.

This case, although not that of an ordinary chorea, is very interesting, as showing the change of temperature which takes place just before and during the movements of the arm, which seems to be the focus of each attack.

CASE V. Robert P., aged nine. Came to the Dispensary suffering from a constant and incessant chronic movement of the eyelids.<sup>3</sup> To all appearance he is a strong, healthy boy and not of a neurotic temperament. He is only a little pale and would not be regarded as anemic. His mother states that last fall he had an attack of scarlet fever and this trouble came on during convalescence. The closest questioning fails to elicit any history of paralysis, or of this disease in any form prior to the attack of scarlet fever just mentioned. There are no abnormalities about the heart and there is no history of rheumatism. The appetite is good and so is digestion. The bowels are in good order. The eyelids, particularly the upper lids, are infected, redder than normal, hot and feverish to the touch. The boy also states that his "eyes feel hot," referring to the lids. There is no change in the eyes themselves, either in the manner of moving the ball or change of the pupil. Unfortunately the actual temperature could not be taken owing to the exposed position of the parts.

The treatment of this case consisted in the administration of Fowler's solution, the child recovering in about three weeks.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY.

#### SECTION OF OBSTETRICS AND GYNECOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

FEBRUARY 18, 1885. DR. JAMES R. CHADWICK in the chair.

DR. JOHN HOMANS read a paper entitled

#### TEN CASES OF REMOVAL OF UTERINE TUMORS BY LAPAROTOMY.

Dr. J. W. ELLIOT remarked that the reader was especially to be congratulated on his success in the last case mentioned. For other operators had found the mortality very high in this class of cases, that is, cases where the tumor grows more or less from the cervix and extends into the broad ligament.

Dr. Homans's conclusions in regard to the intra-peritoneal treatment of the stump were of interest because they were opposed to the conclusions one would draw from the statistics of other operators. In ovariotomy the pedicle was at first treated by

<sup>2</sup>The mother says that the hand felt hot to the touch and that the boy knew the approach of the attack, not by any change of feeling in the affected arm, but by the feeling which is conveyed to the normal hand of increased heat when the affected hand is grasped.

<sup>3</sup>This case is hardly one of mono-chorea, and is mentioned here merely because the movements were localized and accompanied by increase of temperature.

the extra-peritoneal method; this soon proved to be far inferior to the intra-peritoneal. One would naturally hope that the same advance could be made in the operation for fibroids. So far, at least, this hope has not been realized. Schroeder, of Berlin, has just completed his first 100 operations, with 32 deaths. He has had the largest experience in the intra-peritoneal method, and has much improved the operation by using the temporary elastic ligature, and by covering the stump with peritonæum. Yet his mortality is still very high. Martin, of Berlin, follows Schroeder's method, and reports 60 cases, with 20 deaths. He has tried to reduce the mortality by drainage through the vagina. Spencer Wells also uses the intra-peritoneal method, and has a mortality of forty to fifty per cent. The extra-peritoneal method has been practised more successfully by Hegar, who reports, in 1881, 12 cases with only one death; Keith, who reports, in 1883, 25 cases with two deaths; and Bantock, who reports, in 1883, 22 cases with two deaths. Thus, we see from these statistics that the intra-peritoneal method has a mortality of about thirty-three per cent. in the hands of the best operators, while the extra-peritoneal has a mortality of only eight to ten per cent.

If Dr. Homans can succeed in getting satisfactory results by the intra-peritoneal method it will be a great advance, for the advantages of this method in saving annoyance to the patient and trouble to the doctor are obvious.

The indications for the operation are as yet quite unsettled, and will, of course, depend largely on the mortality. It is an interesting fact that as this operation has been improved many fibroids which used to be removed per vaginam, with a very high rate of mortality, are now more safely removed by laparotomy. Koerberle, at the last International Medical Congress, said that only polypoid growths and fibroids that protruded into the vagina should be removed per vaginam, the rest by laparotomy.

Dr. Elliot thought that the cases best suited to removal of the uterine appendages were those of small fibroids. In such cases the weight of the tumor was unimportant, and the hemorrhage and its growth could usually be stopped by this operation.

DR. KIMBALL, of Lowell, said that Dr. Homans's operations stand better than the average in this line of surgery. In 1863 Koerberle, in a pamphlet entitled "Extirpation of the uterus by the supra-pubic method," gives a list of 51 cases. In 14 of these there was a wrong diagnosis; only nine of them recovered, and five died. He gives 20 pediculated cases, of which eight recovered and 12 died. In 1864 Caternault gave a record of 76 cases, with 53 deaths and 23 recoveries. In 1869 Pean gave 41 cases, with 30 deaths and 11 recoveries, and Pozzi 119 cases, with 77 deaths and 12 recoveries. Dr. Kimball himself had operated upon 12 cases, six of which recovered and six died. The 18 cases he had to add to the 119 already recorded by Pozzi are as follows:—

(1) Dr. Kimball, of Lowell. Solid fibroid, mistaken diagnosis; died on the eleventh day.

(2) Dr. Kimball. Solid fibroid; 30 pounds; cured.

(3) Dr. Kimball. Fibro-cystic tumor; died at the end of the seventh week from septicaemia.

(4) Dr. Kimball. Fibro-cystic; cured.

(5) Dr. Kimball. Fibro-cystic; died from septicaemia the third week.

(6) Dr. Kimball. Pediculated fibroid; 16 pounds; cured.

(7) Dr. Kimball. Solid fibroid; twenty pounds; died from shock on the fourth day.

(8) Dr. Kimball. Fibro-cystic; cured.

(9) Dr. Kimball. Fibro-cystic; cured.

(10) Dr. Kimball. Solid fibroid; 20 pounds; died the fourth day from peritonitis and septicaemia.

(11) Dr. Kimball. Solid fibroid; 12 pounds; died on the fifth day from peritonitis.

(12) Case in Vermont. Cured. Some months later died of brain disease.

(13) Dr. Thomas, of New York. Weight fifty pounds; died from hemorrhage the third day.

(14) Dr. W. H. Byford, of Chicago. Fibro-cystic tumor; died from shock.

(15) Dr. J. R. Chadwick, of Boston. Fibro-cystic tumor; died the eighth day from tetanus.

(16) Dr. Potter, Providence, R. I. Solid fibroid; cured.

(17) Dr. T. A. Emmet, of New York. Died from shock.

(18) Samaritan Hospital, London. Communicated by Dr. Keith, of Edinburgh; cured.

Such was the record eight years ago. Of course, it has been greatly enlarged since that time, and results correspondingly improved.

Regarding the question whether the pedicle should be kept outside or dropped back, Dr. Kimball said he generally prefers to keep it outside. The practice of Pean has been to draw the pedicle outside. His mode of procedure at the time Dr. Kimball saw him operate was as follows: He first brought the tumor to view by an incision five or six inches in length; then, seizing it with a vulsellum, he brought it firmly forward into the incision, thus preventing the escape of intestines through the opening. He next transfixed it with two long needles crossing each other at right angles, and applied behind them a ligature of annealed iron wire, drawn sufficiently tight by an *écraseur* to cut off the circulation; then, after cutting away so much of the tumor as had been drawn outside the incision, he proceeded to repeat the same process, namely, bringing forward the remaining portion of the tumor and cutting it away, slice after slice, till he finally came to the neck, or pedicle, which, after carefully ligating it with wire, he brought forward and secured at the lower end of the incision by a long, stout needle passed transversely through its centre.

The tumor shown by Dr. Homans weighs thirty pounds. Dr. Kimball spoke of removing one of the same weight from a lady living in Longmeadow, this State. In that case he transfixed the pedicle and tied the two halves with silk, and around the whole passed a ligature of annealed wire, and brought the pedicle up to the lips of the wound, the wire ligatures being kept outside, while those of silk were passed down and out by the vagina. The recovery was slow, and the ligatures were a very long time coming away.

The first case of uterine tumor he ever had he

diagnosed as ovarian. The patient died two weeks after the operation. In his next case he took out the uterus and both ovaries. The woman recovered. Dr. Kimball said that the most remarkable case that he had had anything to do with, as showing the *possibilities* of this kind of surgery, was that of a woman from Providence. She had a large fibroid tumor, which was pressed so firmly into the vagina that the os could not be felt, a case such as he considered ought not to be touched, but upon telling the patient so she became very indignant. Two weeks after returning home she induced her family physician to operate. The tumor, which was extensively adherent to the adjacent parts, was transfixed and tied in sections. In the course of the operation the bladder was cut into to the extent of one and one-half inches, and so was the intestine to the same extent; both of these openings were closed with silver sutures. This patient finally recovered, and the sutures came out one after another in every direction, some of them through the bladder and others through the wound. The woman is now perfectly well.

One of Dr. Kimball's rules is not to remove a uterine fibroid when it is crowded down into and involves the vagina. It is oftentimes very difficult to decide what to do in these cases, but, as a rule, he refuses to operate, for they are always exceedingly unpromising. He had a case of this kind in Vermont. The operation was performed according to Pean's method, that is, of slicing it off, piece after piece, and finally embracing the pedicle in a ligature of annealed wire, drawn tight by an *écraseur*, which also served by its connection with the *écraseur* to keep the pedicle outside. The actual cautery was used at first as a guard against secondary hemorrhage; afterward, as there was considerable oozing of blood, persulphate of iron was used very freely. The bleeding was finally controlled by further tightening the ligature with the *écraseur*. In this case the intestines were not exposed. The wound healed up slowly, but perfectly, and the patient recovered from the operation, but two months later died from disease of the brain.

He does not believe it a wise plan to operate unless the patient can be completely under the surgeon's control. He uses the antiseptic precautions from first to last. Dr. Keith is understood to have had already eighteen or more cases, with only two deaths. He has certainly had wonderful success. He takes entire care of his cases, which are usually in a private establishment only two or three doors from his own house. Dr. Kimball never operates on a woman merely because she has a tumor and desires to have it removed, because frequently these tumors can be carried for a lifetime with no very serious inconvenience. One of Dr. Kimball's first operations for the removal of a fibroid tumor occurred in Connecticut. He had been sent for to remove an ovarian tumor. He found, instead of an ovarian, a fibroid tumor of the uterus. The patient was suffering from excessive uterine hemorrhages, was anemic to the last degree, and so feeble as to be unable to turn herself in bed. Her menstruation was regular, and she was within three days of the next period, which she felt sure would prove fatal. As a last resort, it was proposed to

remove the uterus. After frankly stating to the parties interested the great risk attending such a procedure, the proposition was unhesitatingly accepted, and the organ removed. The patient made a slow but perfect recovery. Dr. Kimball saw her several years after the operation, enjoying excellent health. She has gained sixty pounds in weight since the operation. This, he believed, was the first operation of the kind ever deliberately proposed and successfully executed in connection with a correct diagnosis.

The operation was severely criticized at the time by a distinguished professor in one of our New England medical colleges, and his criticisms were repeated from time to time, until it was finally announced to his class that the patient was in a fair way of recovery. In this case both ovaries were removed with the tumor.

Dr. MARCY was reminded, by Dr. Kimball's report, of the first case of hysterectomy he had ever seen. It was ten or more years ago. He had assisted Dr. Kimball in the removal of a large ovarian cyst. There was an interstitial fibroid, the size of a goose's egg, in the fundus. The wire loop of the *écraseur* was applied to the cervix, and the portion above removed with scissors. Hemorrhage was controlled by the retention of the *écraseur* in the wound. Tetanus supervened the third day. The autopsy showed the complication of septic peritonitis. Dr. Marcy had performed hysterectomy three times at his private hospital in Cambridge. The first time for a multiple myoma, and he removed uterus and ovaries. The patient made an easy and rapid recovery. The second was for cancer of the fundus, in which operation he was assisted by Dr. Kimball. The patient died the fifth day of septic nephritis. The autopsy showed a clean, healthy peritoneal cavity, but in the stump of the cervix there was a small abscess. The third case was the removal of a large fibroid, about eight pounds in weight. The patient was exceedingly anemic from severe and repeated hemorrhages. Death occurred on the fourth day, preceded by continued vomiting, prior to which everything had appeared to progress favorably. The autopsy revealed no local cause of death. The stump was large, but no hemorrhage had occurred, and repair processes had already commenced.

Dr. Marcy entered at some length into the discussion of the treatment of the pedicle. The advantages of the intra-peritoneal method are obvious. Granted, its security from hemorrhage, with an aseptic condition of the peritoneal cavity, the complete closure of the abdominal wound, with proper dressings, puts out of account the greatest danger of all, septic poisoning. The extra-peritoneal method of treatment of the stump had the advantage of keeping the wounded surfaces, liable to bleed, under easy observation and control. However carefully dressed, the wound is one kept aseptic with much difficulty, and danger usually supervenes from this cause.

It had occurred to Dr. Marcy some years since that the method used by dentists in protecting a carious tooth from contamination from the fluids of the mouth might be used with advantage in the protection of the abdominal cavity and viscera in the

removal of uterine and other tumors. This is effected as follows: A sheet of pure gum rubber, medium bandage thickness, about one yard square, has a circular opening in the centre of about three inches in diameter. This is reinforced by a ring of pure rubber about one fourth of an inch in diameter, which not only greatly strengthens the opening, rendering it less likely to tear, but after it has been crowded quite down to the base of the tumor, makes a most efficient point of support for the elastic ligature. This pure rubber cord is applied in one or more turns, as may be sufficient to control hemorrhage about the base, and the tumor is removed. The stump is cut in a double flap, and the edges approximated so that the peritoneal surfaces may be brought together, and it is carefully closed by the over-and-over continuous suture of animal tendon. First, however, the base of the stump just above the elastic ligature is sewed through and through by a continuous suture, shoemaker's stitch. This is effected by a strong needle set in a firm handle, with the eye near the point. The needle has a rounded, not a cutting, point. Threaded with a strong kangaroo, chromicized tendon, the stump is transfixed, unthreaded, and the opposite end of the tendon threaded and withdrawn. In this manner stitch after stitch, in as fine subdivision as may be judged wise, is repeated until the entire stump is sewed through. Treated in this manner it is believed necrosis of the enclosed portion does not take place, the tissues of the stump being only in a moderate degree devitalized. If true, it is a manifest gain over the various methods of ligature, cauterization, etc., now more generally in use, since necrosed tissue, even if aseptic, is, like any foreign body, to be avoided if possible. Dr. Marcy had used this method of procedure in a considerable variety of operations for a number of years with the greatest of satisfaction. He first described it at the International Medical Congress in London in 1880, and afterward at the American Medical Association at St. Paul, and it is published at length in the *Transactions*.

If trustworthy, the advantages are certainly marked. It renders the operation, usually dreaded because of severe hemorrhage, nearly bloodless. It protects the abdominal cavity from contamination and manipulative irritation. With proper precaution the operation is not likely to be followed by septic poisoning. The abdominal wound is closed, and resultant treatment thereby is greatly simplified.

DR. J. R. CHADWICK said that his experience had been even less fortunate than that of Dr. Marcy, as he had had but three cases, all of which were fatal. The first<sup>1</sup> was in 1875, when he had removed by abdominal section a fibroid tumor occupying the body of the womb, and weighing four pounds; the pedicle, which consisted of the cervix uteri and broad ligaments, was secured externally by the clamp. The woman escaped all the ordinary risks, and was convalescent, when tetanus set in on the seventh day, and she died on the eighth. The autopsy showed commencing cicatrization of the wound, and freedom from peritonitis, septicaemia, and other lesions.

The second case was in a French Canadian, who came to his private hospital in 1880 for the removal of an abdominal tumor, supposed to be ovarian. The uterus was imbedded in the mass, weighing about twenty pounds, so that it was removed down to the vaginal insertion. The pedicle, consisting of the cervix and broad ligament, was very large, and was tied by many stout sutures, and cauterized by perchloride of iron. She died of secondary hemorrhage a few hours after the operation. A cystic degeneration of the right kidney was observed at the time of the operation.

The third case occurred last winter. Dr. Chadwick tapped the woman at his private hospital, and drew off thirty pounds of ascitic fluid, when a hard, rounded tumor was discovered filling the lower abdomen, and continuous with the uterine body. Two months later she returned with the abdomen more distended than before, and demanded a radical operation. Although Dr. Chadwick gave a poor prognosis, as he suspected, from the rapidity of the tumor's development and the presence of the ascites, that the growth was malignant, he drew off fifty pounds of ascitic fluid, and three days later (June 13, 1884) operated. The tumor involved the whole body of the uterus. At its upper end entered a large bundle of enormous blood-vessels, the origin of which was uncertain, perhaps from the omentum. These were tied and cut. The pedicle was the cervix uteri enlarged to the size of one's wrist; this was transfixed and tied with stout cord. After the tumor was cut away the pedicle had to be transfixed many times before all hemorrhage was arrested. The patient died of shock thirty hours after the operation. The tumor weighed four pounds; its structure was at first pronounced by Dr. W. F. Whitney to be sarcoma, but he was subsequently inclined to look upon it rather as an ordinary fibro-myoma than as a sarcoma. From this opinion its clinical history and gross appearances oblige Dr. Chadwick to differ. He believes that it was sarcoma.

A few operators have had exceptionally good results after this operation, but in general the prognosis is still much less favorable than in ovariectomy. We are consequently led to seek relief to our patients by such operations as Hegar's—the removal of the ovaries, and Tait's—the removal of the ovaries and Fallopian tubes. In both of these operations, especially in the latter, the greater part of the broad ligaments and their vessels is tied. He has long entertained the belief that we might ultimately find that merely tying the ligaments, and thus cutting off most of the blood-supply to the tumor and womb, would prove to be the essential step of these operations, and that all cutting might be dispensed with. To this opinion he has been led by an attempt that he made several years ago to extirpate, by Freund's method, a universally cancerous womb. He was compelled, by various complications, to desist from the extirpation, but before closing the abdomen he tied both broad ligaments. The woman survived the operation for a year, and he was gratified to note that the severe hemorrhages to which she had been subject did not recur. Had the disease been non-malignant he thinks it might have been arrested. He has had no opportunity to

<sup>1</sup> Boston Medical and Surgical Journal, November 4, 1875.

test his theory. If it should prove true, it seems as though it might be feasible to encircle the vessels in the broad ligament by a ligature, with the aid of an aneurism needle introduced through the walls of the vagina, and thus the danger of opening the abdominal cavity would be avoided.

Dr. Elliot is probably correct in his belief that Tait's operation is most successful with small tumors, but in view of the slow growth of most fibroid tumors and the little inconvenience that they cause the patient, Dr. Chadwick is strongly opposed to subjecting patients to the danger, even of that operation, when the tumor is still small. He has been surprised to find in how many of these growths he has been unable to detect any enlargement, even when followed for years.

Dr. KIMBALL remarked that we should consider if there was any method other than laparotomy that could be resorted to with a fair degree of success to stop the growth or lessen the size of fibroids. For this purpose Dr. Atlee, of Philadelphia, tried the muriate of ammonia, given in doses of ten grains three times a day, continuing it in some cases for months and even for years, and claimed for it many cures. Dr. Kimball had not had satisfactory results from its use. In one case, however, where he used it the woman was perfectly well in the course of a single year. Another way by which these growths have sometimes been arrested is by an incision through the parietes covering the tumor, thereby creating an impression, either by shock or otherwise, which is followed by a suspension of its further development. He mentioned a case which was supposed to be ovarian, but upon cutting down to the tumor a uterine fibroid was brought to view. The operation was discontinued. Years afterward the attending physician informed Dr. Kimball that the tumor had ceased to grow after the operation. Still another case of fibroid which had been diagnosed as ovarian was cut down upon and the tumor exposed. The wound was closed at once, peritonitis supervened, the woman recovered, and the tumor finally disappeared entirely. Dr. Green, of Portland, made a similar mistake in diagnosis. The tumor was exposed by an incision through the parietes, and the woman got well, the tumor disappearing soon after. Another peculiar case of fibroid was one that Dr. Kimball cut down upon, but the tumor was found to be so firmly adherent that it could not be dislodged. The wound was closed. It finally healed, but not till she had suffered severely from peritonitis. The justification for the operation was that the woman had had several frightfully severe hemorrhages. After the operation they ceased entirely, and she continued in comfortable health for more than twenty years, and finally died about one year ago from some other disease.

Dr. Kimball said that he has tried electrolysis, and sometimes with good results. Formerly he punctured the tumor through the abdominal wall, introducing the electrodes at a distance of about three inches from each other. Now he introduces one electrode into the uterus, and places the other outside, over the abdomen. The results have been so directly connected with this operation that he believes that great benefit is oftentimes derived from it. He mentioned a case in particular, where

he passed a galvanic current into the tumor through the abdominal wall and the tumor disappeared entirely within a year. Another case got entirely well after submitting to the electro-galvanic treatment. More than a year after the operation he examined the woman and found no trace of the tumor. Many other instances might be given when the passing a galvanic current through a fibroid tumor has been followed by equally satisfactory results.

Dr. HOMANS said that Dr. Keith has just reported eighteen cases of hysterectomy, with three deaths, in addition to the thirty-five cases he reported about two years ago. Dr. Keith owes his success to his careful, patient operating, and to the fact that he blames himself if his patients die, and not the climate, or the spray, or the surroundings. Dr. Keith uses the actual cautery in securing the ovarian pedicle, and does not use the ligature, and Dr. Homans believes that Dr. Keith expects much from the cautery in the treatment of uterine tumors by hysterectomy.

#### NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, March 16, 1885.

##### ÆTIOLOGY OF STILL-BIRTHS.

Dr. JOHN SHRADY read a paper on the ætiology of still-births, in which he said that statistical tables, which varied greatly in the summing up of the average mortality, did not throw much light on the true causes of death. Besides, for prudential reasons in the suppression of crime, health boards and bureaus of registry in large cities required the burial of the fetus of any age, and thus the accounting certificate, classifying the return as a still-birth, necessarily swelled the death-rate more than the facts warranted. Again, no statistics could discriminate between the conservative and the reckless practitioner, much less determine how many lives have been saved by the obstetric art. Who could, in his own judgment, he asked, draw the line, so far as any of these reports were concerned, between a proper waiting upon nature and the resort to more decided measures? Still, the fact could not be gained that still-births are uncomfortably frequent, nor in our calculations with wide columns of figures could we hope to materially reduce the number.

In the front rank of devitalizing agencies, of course, stood syphilis. Abortion, when this taint was present, usually took place from the fifth to the seventh month of utero-gestation. Having narrated a number of interesting cases occurring in his own practice, he said that he desired to draw attention to the fact that in these citations the maternal system was thoroughly saturated with the syphilitic virus, and the fetal inoculation was also necessarily complete. Might it not be safely assumed, he asked, that the female is more likely than the male to transmit syphilis to progeny? Again, he went on to say, without claiming too much for the iodide-of-potassium treatment, he could not pass over with justice the query of the late Dr. E. R. Peaslee, whether the success of ultimate maternity may not

be due to the gradual wearing out of the syphilization, as manifested by the occurrence of abortions at necessarily longer intervals, say the third, fourth, and fifth months. He could recall an instance in which a mother, after twelve expulsions of fetuses of various degrees of development, crowned her hopes in her forty-fifth year by giving birth to a healthy boy at full term. In this case chlorate of potassium, in combination with the tincture of chloride of iron, was persistently employed during the last three months of pregnancy.

He then alluded to other maternal dyscrasie acting as factors in causing still-births, such as malarial and uræmic poisoning, the concurrence of eruptive fevers, the implication of vital organs, and the supervention of nervous shocks. Of all these uræmia seemed to be the most prolific of danger, and when this condition existed, as a rule, despite the resources of our art, mother and child were likely to perish together. In scarlet fever in the lying-in chamber, according to his own experience, the child born during the incubation stage of the maternal disease finally escaped contagion altogether. Whether phthisis was essentially a devitalizing agent to the unborn he thought was to be doubted. On the contrary, the generative function expended all its energies in saving the new and jeopardized life.

Passing from the consideration of developmental to that of local causes, with especial reference to fetal deaths occurring before labor, he said it was found that metritis holds a prominent place as a disturber of nutrition. How this was possible could readily be seen, since the uterine mucous membrane was to the placenta what periosteum was to bone, and when metritis was chronic in form the ovum was not likely to retain its vitality any number of months. Malformations of the uterus, although relatively rare, were likewise mentioned as productive agents in the blight of the ovum at any stage of development, but presumably at an early date.

He went on next to discuss disease of the placenta, in regard to which Lusk, in his work on Obstetrics, said: "Many authors dispute its very existence, contending that the morbid changes hitherto referred to placentitis are simply due to retrogressive metamorphosis in extravasations. Other writers affirm its existence, assign to it ætiological relations with metritis and endometritis, and describe its pathology under the following heads: (a) congestion, (b) hepatization and induration, (c) suppuration." Chief among the frequently mentioned causes of still-births was fatty degeneration of the placenta. The term had undoubtedly been abused in the desire to offer the readiest explanation of many phenomena, and had sometimes been adopted to conceal ignorance. The question had been raised in the minds of some, is not the fatty placenta the product of fetal death, and is it not in accordance with the general law in all retrogrades from a higher to a lower organization, as, for instance, in the case of cicatrices, where the reparative method falls away from the standard of the original structure? A certain amount of fatty degeneration was present in any placenta at about the eighth month of utero-gestation, and was, in

some respects, analogous to the process of involution in the uterus itself, or at best, to condense the words of Paget, existed as a defect, rather than as a disease, of nutrition. In this connection, he referred to a paper entitled "Degenerations of the placenta," read before the New York Academy of Medicine by Dr. Charles A. Leah, in which the author adduced some very striking instances that seemed to corroborate the affirmative side of the question. He also read the report of a case to the Cincinnati Academy of Medicine January 19, 1885, by Dr. E. S. McKee, in which a patient who had a number of abortions, due, apparently, to fatty degeneration of the placenta, was treated so successfully with chlorate of potassium, in combination with tincture of the chloride of iron, that she gave birth to living children at full term in two successive pregnancies.

Having referred, in passing, to the alleged condition of tubercles in the placenta, and calcareous, fibrinous, and waxy degenerations, he stated that a certain class of cases were to be regarded as mechanical, both in their origin and effect. To direct blows, falls, and the like, had been attributed many a still-birth, but the number of mothers who had escaped this catastrophe could never be counted. He was inclined to doubt the efficiency of these means in the production of such results, certainly to such an extent as to qualify any direct testimony in a medico-legal examination. Prolapsed funes had contributed their quota toward fetal mortality, this being especially the case when the accident had occurred before the arrival of the physician.

Thus far the matter had been discussed, he continued, from the maternal side; but, as the late Prof. George T. Elliott intimated, there was a side to the question which had never claimed the attention it deserved, and that side could never be fully investigated except in the light of autopsies. The pathology of fetal life was still obscure, and yet he thought its elucidation would probably afford a clue to many a vexed question in this department of medical science. Except when a medico-legal question was raised, autopsies upon still-born children were exceedingly rare, the opposition of the family usually presenting an insuperable barrier to such investigations. Many unexpected conditions were liable to be found in post-mortem examinations of still-born infants, and to a number of these Dr. Shrady now referred. In one reported case no less than two quarts of urine were found in the bladder, and in another there was an umbilical hernia which contained within its sac the liver and almost all the intestines. The condition of the brain explained by far the greater number of cases; intra-cranial effusions of serous character or apoplectic clots of various sizes being found at the autopsy.

The discussion of the paper having been opened by the President, DR. LEAH, in a few preliminary remarks, in which he called attention to some of the special points treated by Dr. Shrady, among those who participated in it were Drs. Janeway, C. S. Wood, Wm. T. White, Hubbard, Buchanan, Oberndorfer, Hartmann, and Manly.

DR. JANEWAY referred to a form of degeneration of the placenta that was sometimes met, which had

not been mentioned in the paper, namely, myxomatous. He thought it well to call attention also to another cause of still-births which had not been alluded to, and which he believed to be a very frequent one in New York. This was the use of ergot by incompetent midwives. When one of the Commissioners of the Board of Health he had made a careful investigation of this matter, and had found that the use of ergot constituted a pretty large factor in the etiology of still-births in all cases attended by midwives. Another prominent factor was the fact that in difficult cases of labor the midwives usually waited too long before sending for skilled assistance. These matters he considered important in view of the fact that about one third of all the cases of confinement in New York were attended by midwives.

The discussion was devoted to a large extent to the relations of malarial poisoning to miscarriages, and the question whether it was safe to give quinine to pregnant women. While two or three expressed the opinion that there probably was some danger in the latter practice, and that it was advisable to use quinine, when the drug was indicated, in small doses, but at comparatively frequent intervals, the greater number said they had never seen any injurious effects from quinine, and believed that it could be used with the same freedom in the case of pregnant women as in that of other individuals.

At the conclusion of the discussion the President called attention to chronic obesity as a cause of still-births. Although the pelvic diameters were ample, there might be such obstruction offered by the soft parts of the mother that the child could not be born alive at term, and he related a case in which he had successfully delivered the patient of a living child by resorting to the induction of premature labor.

DR. SHIRADY had also seen cases in which chronic obesity was the cause of the death of the child.

DR. CHARLES A. DOREMUS exhibited

#### A NEW AND SIMPLE APPARATUS FOR DETERMINING THE QUANTITY OF UREA IN THE URINE.

DR. A. FLINT, JR., said that it was always a matter for congratulation when any addition was made to the simple methods at our command of obtaining important results, and he thought that no more important matter could be brought to the attention of the practitioner than such a one for determining the quantity of urea as Professor Doremus had just demonstrated. If looked at from a practical point, excessive accuracy was not called for, and in regard to the few important facts that it was necessary for the practitioner to know about the urine, there were now, with this latest achievement of Dr. Doremus, simple methods in the hands of the profession which could be employed by all with the greatest facility. In connection with the determination of the quantity of urea in the urine he referred to the tests for albumen and sugar.

#### RARE PATHOLOGICAL SPECIMENS.

DR. JANEWAY then presented two specimens of great interest. The first one, which, he said, illustrated a point in doubt, was from a case of perforating ulcer of the œsophagus, which occurred in a

young child who died of dysentery. The ulcer, which was round, and half an inch diameter, was situated about one inch above the entrance of the œsophagus into the stomach, and not in the posterior, but the left lateral, wall. The point of interest in connection with the case was the fact that the existence of such a peptic ulcer of the œsophagus before death has been denied; and in his recent work on diseases of the throat and nose, including those of the œsophagus, Morell Mackenzie stated that a case of his own which he had reported some time ago as "simple ulcer of the œsophagus," as well as one of Dr. Benson, were too incomplete to be relied on. Mackenzie thought they were open to the objection that the disease may have been of malignant nature, the ulcerated surface not having been submitted to the test of microscopic examination. This, however, he believed was a case of true peptic ulcer, such as was met with in the stomach, and due to the action of the gastric juice upon the mucous membrane. It was a difficult thing to prove just what changes occurred before death, and which were postmortem, in a case of this kind; but the ulcer here in the œsophagus presented precisely the same appearances as those found in the stomach, which were acknowledged by all to give rise to perforation, peritonitis, and death. In the present instance there was inflammation not only of the connective tissue surrounding the œsophagus, but also of the pericardium and left pleura. Again, the odor of the parts was entirely different from the sour odor characteristic of post-mortem gastric digestion. During life, however, so far as could be ascertained, the child presented no signs of pericarditis, pleurisy, or perforating ulcer of the œsophagus.

The other specimen, Dr. Janeway said, was from a case illustrating a rare method of sudden death. It was that of a child who had a mass of enlarged glands on the right side of the trachea, giving rise to tracheal stenosis, and died very suddenly from asphyxia. At the autopsy, a cheesy gland was found at the bifurcation of the trachea, which had produced ulceration, while, occluding the stenosed passage, was a white mass which had become detached from this. In addition, there was a fibroid induration of the upper lobe of the right lung, and a thickening around the bronchi. In connection with the case Dr. Janeway remarked that this bronchial and tracheal stenosis was not uncommon in children.

#### THE DEATH OF DR. E. S. GAILLARD.

On motion of DR. A. FLINT, JR., the following resolution was adopted:—

*Resolved*, That in the death of our late associate, DR. E. S. Gaillard, the profession has lost a bright ornament, medical journalism an able exponent, and a prominent object of our Association—"the maintenance of the honor and character of the medical profession"—an earnest advocate and defender.

—The original lectures delivered by Harvey at the College of Physicians are to be published in autotype from the manuscript in the British Museum, accompanied by a transcript.

CHICAGO GYNÆCOLOGICAL SOCIETY.<sup>1</sup>

REGULAR meeting, February 20, 1885. The President, DR. H. P. MERRIMAN, in the chair.

PROF. CHRISTIAN FENGER, M.D., presented the following report of his anatomical investigation into Prof. W. H. Byford's

"TWO CASES OF MURAL PREGNANCY."<sup>2</sup>

The exact anatomical diagnosis, or minute classification, of an extra-uterine pregnancy is easy enough in the early stages of the disease, but becomes more and more difficult in the latter half and toward the termination of the pregnancy. In the early months it is only by accident that a pathological specimen is found. In the third to sixth month the hemorrhage from rupture brings some specimens to light, postmortem or by operation, and here the diagnosis is yet comparatively easy. In the latter half, from the sixth to tenth month, the diagnosis, namely, exact location of fecundated ovum, becomes often extremely difficult, next to impossible, on account of secondary changes after partial destruction of Fallopian tubes and ovaries, and still further difficult if a fatal peritonitis has further contributed to mask the normal anatomical features of the organs in question.

The two specimens sent to me for examination belong to the class of late, and consequently difficult, cases, and in one of them decomposition was advanced. Nevertheless, I think that a close examination of the specimens permits of a comparatively exact classification of the two cases in question. Before describing and demonstrating the specimens, permit me to recall to your memories the different forms of extra-uterine pregnancy.

The ovum is arrested somewhere in its normal passage from the Graafian follicle down to the *cavum uteri*, or drops out of the passage, without or after rupture of the latter, into adjoining cavities or spaces.

## (1) Ovarian pregnancy.

The ovum remains in the ovary. Epiovarian pregnancy: the ovum develops upon the ovary, having left the Graafian follicle.

## (2) Abdominal (or peritoneal) pregnancy.

The ovum drops down into the peritoneal cavity, and does not reach the Fallopian tube at all.

## (3) Tubal pregnancy.

## I. Tubo-abdominal, or tubo-ovarian, pregnancy.

## II. Tubal pregnancy (proper).

## III. Tubo-uterine, or interstitial, or mural pregnancy.

IV. Extra-peritoneal pregnancy (in the broad ligament, after rupture of the Fallopian tube).

(1) Pregnancy on one side of a *uterus bicornis*.

(5) Secondary abdominal or peritoneal pregnancy. Ovary, tube, or even uterus (normal or *bicornis*) is ruptured; the fetus slips into the peritoneal cavity, but remains in connection with the primary sac.

I shall first describe and demonstrate Dr. Byford's case No. 1. The uterus is large, four and a half inches long, three inches broad at the fundus; the

cavity also considerably enlarged. In left side of uterus and vagina I find an incision three and a half inches long, united with silk sutures, leading from the uterus and vagina into the sac, or, as certain members of the Society called it, the adventitious uterus. The sac can only be seen in fragments. Its wall is one to two lines thick, the outside partly covered with peritoneum, partly adherent to surrounding organs, namely, bladder, uterus, omentum. The rectum I do not find. The right ovary and Fallopian tube are missing. The left Fallopian tube shows the following conditions: The uterine portion of the tube is of normal size, passable only for a thin probe, .0005 mm. in diameter; at the distance of half an inch from the fundus it is wider, one eighth of an inch in diameter, and so it continues for four inches; then it suddenly dilates to one inch in diameter, continues so for one inch, and thereafter opens into the fetal sac, the wall of the latter going continuously over into the wall of the tube. The left ovary cannot be found. Large shreds of the sac of the ovum, namely, amnion and chorion, adhere to the sac here and there. The inside of the sac is of dark-brown color, spotted, the color of decomposed blood. This condition is most pronounced in the part of the sac that covers the posterior wall of the bladder and the anterior and posterior wall of the uterus. On the uterus the sac is thinner and more adherent (no subserous connective tissue) than on the bladder, where the wall of the sac is about two mm., firm and movable against the bladder.

From the condition in which we find the left Fallopian tube I think it safe to conclude that the ovum has developed in its outer half, near the abdominal end of the tube. The funnel-shaped dilatation of the tube in this place, and the thickening of its wall, which uninterruptedly continues as the wall of the fetal sac, proves the connection between the two cavities, and this case of extra-uterine pregnancy would thus be of the *tubo-abdominal variety*. I believe that the ovum has commenced its development in the tube, and then, with or without rupture of the latter, has formed its sac on the surface of the pelvic and surrounding abdominal organs. In that respect it might be classified as a secondary abdominal or peritoneal pregnancy, originating in the abdominal end of the tube.

Dr. Byford's case No. 2. This case has a greater interest, partly because the specimen is in a good state of preservation, and partly because some of its features seemingly point to another of the varieties of abdominal pregnancy. In this case, it will be remembered, laparotomy was performed; part of the cyst and the upper two thirds of the uterus were removed. The child I shall not undertake to describe here, as it is irrelevant to the matter in question. We find the uterine appendices of the right side, namely, broad ligament, round ligament, Fallopian tube, and ovary, normal.

The uterus, amputated about the middle of the neck, is of normal size, namely: the cavity one and a quarter inch between the two uterine orifices of the Fallopian tubes; further down, one inch broad; still further down, half an inch broad; and in the neck, a quarter of an inch broad. The average thickness of uterine wall, three fourths to half an inch.

<sup>1</sup> Reported by W. W. Jaggard, M.D.

<sup>2</sup> Chicago Medical Journal and Examiner, January, 1885.

To the left and behind the uterus, and in uninterrupted connection with the surface of the uterus, is the sac, or adventitious uterus. From the anterior surface of the sac, a quarter of an inch from the left corner of fundus, is the left round ligament; it is enlarged a quarter of an inch in diameter. On the upper surface of the sac, behind and to the left of the *fundus uteri*, is a pocket covered with peritoneum, two and one-half inches broad, three to three and one-half inches deep. The upper free border of the pocket, or broad ligament, forms a somewhat thickened ridge, which runs in an arch just to the left, backward, then to the right, then divides into two branches, a lower one that runs around and to the right, and an upper one that runs forward to the left, pointing toward the left corner of the uterus. The ridge contains the left Fallopian tube (the tube is seven inches long, the same as the right tube). It runs to the left backward, in an arch, and then bends to the right downward and backward; here it leaves the broad ligament, and the canal enters the wall of the sac. How it terminates, if on the inside of the posterior wall or not, cannot be surely made out, because the sac is cut off here; but there are no fimbriae, and it does not appear outside of the sac, and has undoubtedly opened into the fetal cavity. The uterine portion of the tube is of normal size, permitting the passage of a very fine probe only; the median portion of the tube is normal, perhaps slightly dilated, three to five lines, six to ten mm. wide. The termination of the tube in the wall of the sac is an oval opening a quarter of an inch in diameter, the borders of which are perfectly smooth: no fimbriae anywhere visible. Of the left ovary no trace can be found. The sac is, on the outside, clad with peritoneum and smooth; the wall of the sac is from one to four to eight mm. thick, white, and firm; the thickest part of the sac is, right behind the fundus of the uterus, a quarter to half an inch thick, and there the tissue, namely, fibres of the uterine tissue of upper surface of fundus, is continuous with the wall of the sac; however, on the posterior surface of neck and fundus, the tissue of uterus is *not* continuous with the sac, but the latter is separated from the uterus by a short layer of connective tissue, which permits of dissection, and leaves the posterior surface of uterus and wall of sac with smooth areas; this is the place where the placenta was situated. The inner surface of the sac has an uneven, ragged, or velvety appearance; most ragged over the placental site, close to and behind the neck of the uterus. Outside of this place there are numerous islands of ragged, uneven appearance, with more smooth parts between them. Several large vessels, a quarter of an inch in diameter, partly free, partly adherent, are found on the inside of the sac.

A microscopical examination of the wall of the sac shows the following:—

(a) In the placental site: (1) an inner layer of free cotyledons or fimbriae; (2) a layer of maternal tissue, with cross-section of the cotyledons; (3) a heavy layer of connective-tissue bundles interspersed with some organic muscle bundles; (4) peritoneum.

(b) A portion of the wall near the peripheral opening of the Fallopian tube into the sac, which

I examined for ovarian tissue, presents exactly the same appearance as (a).

(c) A thick part of the sac, some distance from the placental site, and tube, gives the following:—

(1) An inner layer of areolated connective tissue without cotyledons.

(2) A median heavy layer of connective-tissue bundles, and bundles of organic muscle fibres.

(3) Peritoneum.

(d) A thin portion of the sac presents the same layers as (c).

In considering the anatomical diagnosis of this case, I shall have to take into consideration mural, ovarian, and tubo-abdominal pregnancy.

(1) Can it be a mural or interstitial pregnancy? The continuity of the sac (in the placental site) with the upper surface of the fundus belongs to the signs of mural pregnancy.

The uterine portion of the Fallopian tube is of normal length and width. Consequently the fecundated ovum could not have lodged and developed here. However, a persisting "Gärtner's duct" might perhaps form a lateral branch of the tube, branching off and running in the wall of the uterus. And Baudeoque, the nephew, claims that a mural pregnancy can take place when the fecundated ovum lodges in this blind duct. Kleinwächter in his article, "Tubal pregnancy," in Eulenberg's Encyclopædia, remarks that this statement of Baudeoque has yet to be proved. But supposing a mural pregnancy had taken place here, and consequently the uterine portion of the tube could be found open outside of the sac, then we lack in this case one essential confirmatory proof, namely:—

The abdominal end of the tube together with the ovary must be found on the outer wall of the sac somewhere, and opening into the peritoneal cavity. Supposing that the ovary, for some reason, was not found and the peripheral end of the tube was obliterated and buried in the wall of the sac, we might yet have had a mural pregnancy. In this case, however, the tube opens into the wall of the sac: if it has opened into the fetal cavity, it cannot be seen on the specimen (however, it looks as if it had done so). The round ligament in mural pregnancy is expected to be pushed outward away from the side of the uterus. This might be different if the ovum could develop in the posterior wall of the uterus; but this possibility has never been proved. Gärtner's duct runs, not in the posterior wall, but from the parovarium, first in the broad ligament (in the same fold as the tube), then in the muscular substance of the lateral border of the uterus and down on the side of the vagina, where it terminates blindly. The sac can be dissected off from the posterior wall of neck and *fundus uteri*, which speaks for the development on the posterior surface of, and not in, the posterior wall of the uterus. Thus, although the positive proof against mural pregnancy, namely, the opening of the tube into the fetal cavity, is wanting (the fault of the specimen), all the signs of mural pregnancy, except the apparent continuity of sac and uterus, are absent, hence I shall declare against mural pregnancy.

(2) The next question then is, is it a tubo-ovarian, tubo-abdominal, or ovarian pregnancy? Of an ovarian pregnancy, we require: (a) that the tube

do not participate in the formation of the sac (Kleinwächter); (b) that ovarian tissue be found in the wall of the sac; (c) that there be a connection between the sac and the uterus through the *ligamentum ovarii*. Nowhere is any trace of ovarian tissue to be found in the walls of the sac.

(3) Of a tubo-ovarian pregnancy, we would require: (a) that the peritoneal end of the tube participate in the formation the sac, that is, opens into the sac; (b) the ovary may be intact, but it may also have been used up in the formation of the sac and have disappeared either entirely or only remnants found in the wall of the sac. (It is easy to see how difficult it might be to find microscopic remnants of ovarian tissue in the wall of a sac one hundred times or more the size of a normal ovary.)

As near as we, in my opinion, are able to come to an exact diagnosis in this case, I should pronounce it a *tubo-ovarian pregnancy*. The exact location of the spot where the fecundated ovum has commenced development, it is, of course, impossible to prove to satisfaction. Still there is one interesting feature in this case, which, in my opinion, throws some light on this point. This is the pocket, the blind pocket, on the upper wall of the sac, behind the uterus. As before stated, the upper ridge of the posterior wall of the pocket, namely, the *ligamentum latum*, or the Fallopian fold of the ligament, forms a circular figure commencing at the left border of the fundus and terminating at about the same point; from the junction of the middle and outer third, a branch goes off downward and to the right. The tube is contained in the first two thirds of the ridge and in the branch. The final third of the ridge, that does not contain the tube, but runs back toward the left corner of the uterus, would, in my opinion, correspond with the *ligamentum ovarii*. The formation of the pocket, clad with the peritoneum and having as upper border the above-described ridge, can, in my opinion, be explained if the ovum has been arrested and commenced development in the ligamentum infundibulo-ovarium (Hentle) between the fimbriae that line the sulcus leading from the distal end of the ovary to the *ostium abdominale* of the tube. If the ovum is developed here, it can, (1) with the vessels of the chorion, reach the abdominal ostium of the tube, and thus permit the tube to open into the sac; (2) it may reach down on the lower or posterior surface of the ovary and thus during its growth lift up the ovary at the same time as it destroys it, but in lifting it up preserve and enlarge the peritoneal fold or pocket that is normally existing between the posterior surface of the peritoneal fold, containing the tube and the anterior surface of the peritoneal fold, containing the ovary and *ligamentum ovarii*. In case the fecundated ovum, from the ruptured Graafian follicle, had dropped down below the ovary, and had been arrested, or had taken hold on the peritoneal surface of Douglas's fossa or on the posterior surface of ovary; if a development in such a way and place is possible, the pocket could be formed of course, but we could not expect to have the tube run into or open into the wall of the extra-uterine sac. Whether the pocket in question is formed in cases

where the ovum has been arrested in the peripheral end of the tube, I do not know.

On motion, Professor Fenger's report was accepted.

DR. W. W. JAGGARD presented, for Dr. E. C. Dudley, an intra-mural leiomyoma of the uterus. The fundus was more particularly involved: the cavity of the uterus was but slightly enlarged, and the *endometrium* was normal. The tumor weighed about fifteen pounds. Both tubes and ovaries were removed with the uterus. The ovaries had undergone extensive cystic degeneration.

The tumor was removed by abdominal section in the median line with supravaginal amputation of the vaginal portion of the uterus, both ovaries and tubes, on Friday, February 20th, in Mercy Hospital. The pedicle was surrounded by *craseur* and rubber ligatures before amputation; subsequently, the pedicle was secured in Dawson's clamp, and treated after the extra-peritoneal method. The peritoneum was carefully stitched around the lower angle of the incision and the parietal peritoneum was in this manner united to the visceral peritoneum.

DR. HENRY T. BYFORD then read a paper entitled

#### FUNCTIONS OF THE MEMBRANES IN LABOR.

The writer discussed the possibility, probability, and utility of the preservation of the membranes from rupture, until they dilate, or aid in dilating, the vulvo-vaginal orifice, as well as the cervix. [Reserved for publication.]

#### DISCUSSION.

DR. JAMES H. ETHERIDGE thought the paper well-timed.

DR. W. W. JAGGARD, while not prepared to accept the thesis of the paper as a universal proposition, thought the attention to the functions of the membranes, advised by Dr. Byford, would go far to prevent cervical, vaginal, and perineal lacerations, in many cases.

DR. D. T. NELSON said that the membranes, when adherent to the cervix, as pointed out by Dr. DeLaskee Miller, delayed labor. Under these conditions puncture of the membranes was indicated. In practice he tried to find out whether or no the membranes were adherent to the cervix. If adherent, he punctured the membrane; if free, he always waited for spontaneous rupture.

DR. PHILIP ADOLPHUS agreed with the author of the paper in his conclusions, except in case of hydræmia. Under such pathological conditions it was frequently necessary to rupture the membranes in order to secure uterine contractions.

DR. J. SYDNEY KNOX was in the habit of aiding dilatation of the vaginal os with the finger. He was under the impression that the membranes were seldom operative in the dilatation of the vulvo-vaginal orifice.

DR. EDMUND J. DOERING had followed Dr. Byford's suggestion during the past year, and believed the method had prevented perineal lacerations in many cases. Premature detachment of the placenta was a possible danger from delayed rupture of the bag of membranes.

DR. EDWARD WARREN SAWYER believed that the membranes should not be punctured until the os uteri was dilated to the extent which the pelvis, in the concrete case, would permit. The function of the bag of waters in labor was the dilatation of the os uteri. He ruptured the amnion in one half his cases. There was as great variation in the development of the uterine muscular tissue as in the development of the biceps. Retardation of rupture of the bag of membranes might lead to uterine inertia, or to premature detachment of the placenta. To follow nature's suggestions was a beautiful theory; but nature caused the membranes to be ruptured, in the majority of cases, before dilatation of the vaginal os. He was in the habit of aiding dilatation of the cervix by the introduction of one or two fingers within the canal of the cervix; he also tried to peel off the membranes around the internal os, and was conscious that he had materially influenced, in a favorable direction, the process of parturition. The periphery of the os uteri was less than the periphery of the vaginal orifice. It was inconceivable, under such physical conditions, that the bag of membranes, protruding through a smaller, could dilate a larger, orifice.

DR. CHARLES WARRINGTON EARLE agreed with Dr. Sawyer that natural processes should be imitated in the puncture of the bag of membranes after complete dilatation of the os uteri.

DR. H. P. MERRIMAN thought Dr. Byford's paper contained excellent advice for the young practitioner. The thesis could not be accepted as a universal proposition. Dr. Sawyer and Dr. Earle had pointed out the conditions in which the application of the method was contraindicated.

DR. HENRY T. BYFORD, in conclusion, said that he had distinctly pointed out, in his paper, that the retardation of rupture of the membranes was advisable only in perfectly physiological labors. The members of the Society had called attention to pathological conditions to which the method did not apply.

Dr. Sawyer had read a paper on "Occipito-posterior positions" before the American Gynecological Society during October. A plausible explanation of the fact that anterior rotation did not occur in Dr. Sawyer's thirty-nine cases might be found in the premature rupture of the membranes.

The inaugural thesis of Charles Caldwell A.M. (Dartmouth), M.D. (Harvard), entitled

#### TWO INTERESTING CASES IN OBSTETRICS,

was read by the Secretary.

Adjourned.

### Recent Literature.

*A System of Human Anatomy; including its medical and surgical relations.* By HARRISON ALLEN, M.D. Professor of Physiology in the University of Pennsylvania, etc. Section VI. Organs of Sense, of Digestion, and Genito-Urinary Organs. Philadelphia: Henry C. Lea's Son & Co. 1883.

The volume before us completes Dr. Allen's Anatomy. It contains, in addition to the description of the parts named above, chapters on super-

ficial and topographical anatomy, on embryology and on the methods of making post-mortem examinations. We are struck, as we were in our study of the earlier volumes, by the vast labor the author has given to the work. This is shown by the condensations of the writings of a multitude of investigators and by references to scattered and not easily accessible papers on both anatomical and clinical questions. There is much to praise in the way this knowledge is presented.

Professor Allen appears to take particular pleasure in the parts that treat of the pharynx, the mouth, the teeth, and the soft palate. The remarks on the tongue are good and interesting, but we miss a description of the interlacing muscles that compose it. The remarks on the liver that follow the account of its structure contain much from Ludwig Mayer's work on the wounds of the liver and gall-bladder. He reproduces five figures of frozen sections that show the liver with its relations. We must remark, however, that figure 180 representing a sagittal section in the mammary line certainly does not show the normal liver of an adult. Mayer's tables showing what viscera are wounded by projectiles passing between certain points on the surface are very instructive, though these points are not always defined as accurately as could be wished. This remark applies even more forcibly to the section on penetrating wounds from the same work. What do we learn by being told that a knife-wound of the right side of the abdomen three inches long and three quarters of an inch wide wounded the liver? We would mention Professor Allen's remarks on the effect of the movements of the viscera on the bile-duct as a happy instance of applied anatomy.

We notice a very annoying mistake concerning the action of the crico-thyroid muscle. We are told that it has a fixed point in the cricoid cartilage and draws the thyroid down, and a foot-note explains that formerly the opposite opinion prevailed and that the views given in the text are based on the researches of Dr. F. H. Hooper. The fact is that Dr. Hooper showed that the thyroid is the fixed point, which was contrary to the then generally received theory. It is evident that this error is the result of an oversight. We have now and then to regret a want of accuracy. It is not stated whether the main fissure of the lung ends in the anterior or the inferior surface. The vexed question of the origin of the bile capillaries and their relation to the liver cells is practically ignored. We are surprised that in a work of this scope so little is said of the skin. Nothing is said of the direction of the hairs, nor of the direction in which the skin retracts when cut in different regions. There is a slight allusion to the ridges formed by papillae, but none to Dr. Warren's fat columns.

The chapter on Superficial and Topographical Anatomy does not treat of the positions of most of the internal organs, as this matter has been discussed in the course of the work. The author takes occasion to defend in a foot-note the statement made in an earlier volume that in lumbar colotomy the quadratus lumborum may be divided with advantage and quotes Dr. L. McEzane Tiffany in support of his view, which is undoubtedly correct.

We must disagree with him, however, when he states that the fold of the buttock corresponds with the border of the gluteus maximus in tonic contraction. It has been shown that in the cadaver the border of the muscles forms a considerable angle with the fold and we cannot conceive that any amount of contraction should make them coincide.

There is much of interest in the chapter on embryology and malformations. Here again the subject is not treated as a whole, for a good deal has already been said on the development of organs, and it appears to be the author's purpose to give a general view of the plan of development which should serve as an introduction to the study of malformations. He quotes at considerable length from Foster and Balfour.

The index at the end of the book is twofold. There is first a general index and then a clinical one.

It remains for us to sum up our criticism on the work as a whole. It is good; it deserves perhaps even stronger praise, but yet we cannot deny a feeling of disappointment. Professor Allen's plan was a great, indeed a gigantic one. It involved nothing less than a complete treatise on anatomy presenting at once its scientific and clinical aspects; a work that should be at once a textbook for the student and to some extent an encyclopedia for the practitioner. To achieve perfect success in such an undertaking would imply writing one of the most remarkable works on anatomy that the world has ever seen. To fall even considerably short of this is not discreditable. We do not believe that this book will take the place of the well-known textbooks now in use, which have reached their present degree of perfection by the gradual improvement of successive editions; but it will find its place in the library, not only of the teacher of anatomy, but in that of the well-read practitioner.

T. D.

#### MORE TELEPATHY.

*Mr. Editor.*—As another contribution to the long array of cases illustrative of this phenomenon, I wish to add one from my own experience.

In 1879 I was a passenger on the late notorious steamer *Queen*, and bound for Liverpool. In my stateroom was a lounge or sofa, with a rattan seat, which was placed under the ports. I was lying on this sofa one afternoon just before dinner, thinking of nothing in particular, when I heard distinctly the voice of one of my young children, at home in Philadelphia, calling "Papa! Papa! help me!" The occurrence startled and distressed me, and as it was impossible for me to hear from my family for at least a week, I had an anxious voyage, although gradually the circumstance ceased to affect me so strongly.

I was reassured ultimately by a letter from my wife, written subsequent to the occurrence, in which no mention was made of any calamity, and on my arrival home and comparing the hour, with due allowance for difference of longitude, I found that at the precise time my children were at their dinner and the call I heard "Papa! help me!" was but another instance of that want of good manners in children, which we all deplore but find it so difficult to correct.

Yours respectfully,

A. CARVER.

## Medical and Surgical Journal.

THURSDAY, APRIL 2, 1885.

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### PROTECTION OF THE PURITY OF WATER-SUPPLIES.

The latest reports — reports which if not true are in all probability only premature — indicate that cholera has broken out in Southern Russia and reappeared in Toulon. Of the importance of guarding water-supplies from sewage or other contaminations at all times, but especially at the present moment, there can be no question. Unfortunately, the difficulty in thickly settled regions of preserving the purity of these supplies is even more generally realized. No problem in the near future in our older States will demand more wisdom on the part of Legislatures or more discretion and good sense on the part of constituency than this one of protecting water-supplies.

An important decision has just been rendered by Mr. Justice Allen, of the Massachusetts Supreme Court, in the case of *Martin vs. Gleason*, or in other words, the *City of Boston vs. the Town of Natick*, which illustrates the difficulties of these problems, and the sort of dangers to which modern water-supplies expose large centres of population. As in Massachusetts, so in all our thickly settled States it will be found that, in this matter, the interest and convenience of the large cities and the country towns, of the dense centres of population and the scattered hamlets, farmhouses, and factories, are antagonistic. This antagonism makes itself felt in the Legislatures to the disadvantage of the large cities.

The town of Natick, a place of about 10,000 inhabitants, many of whom are devoted to shoemaking, has been in the habit, for years, of emptying the refuse of its water-closets and shoe-shops into Pegan Brook, a small stream, which presently, after a course of less than half a mile, empties into Lake Cochituate or Long Pond, from whence the city of Boston takes, and has taken for many years, a considerable portion of its water-supply. The medical fraternity have felt that, apart from the aesthetic view of the question, the inhabitants of Boston sup-

plied with Cochituate or Long Pond water were at the mercy of any case of typhoid fever in Natick which might empty its faecal evacuations into Pegan Brook, and with possibilities of cholera the uneasiness would have been greatly increased.

Under the law of 1878, Section 96, Chapter 80, of the Public Statutes:—

"No sewage, drainage, or refuse or polluting matter, of such kind and amount as either by itself or in connection with other matter will corrupt or impair the quality of the water of any pond or stream, hereinafter referred to, for domestic use, or render it injurious to health, and no human excrement, shall be discharged into any pond used as a source of water-supply by a city or town, or upon whose banks any filter basin so used is situated, or into any stream so used, or upon whose banks such filter basin is situated, within twenty miles above the point where such supply is taken, or into any feeders of such pond or stream within such twenty miles."

The State Board of Health was given general supervision of all streams and ponds used by a city or town as sources of water-supply, with reference to their purity, and upon application of a city or town to the State Board, alleging the pollution of its water-supply, by the violation of any of these provisions, the Board was to give notice and grant a hearing, and upon proof of the violation issue orders enjoining the continuance of the nuisance. A right of appeal, however, from such an injunction to a sheriff's jury was reserved. As such a jury was necessarily taken from the neighboring inhabitants, the injunction issued by the Board was invariably dissolved and the act rendered practically inoperative as far as the grievances of the large cities were concerned.

As Boston found the existing law inadequate to protect her, additional legislation was sought, and, in the meantime, measures were taken to dam off and filter the waters of Pegan Brook. The same sort of difficulties were encountered in obtaining new legislation as in enforcing the provisions of the old statute. The lawmakers from country towns are, of course, largely in the ascendant in any Legislature, and good care was taken that they should be given their full proportion of representation upon the committee for water-supply and drainage. It was, therefore, difficult to get before the Legislature.

Under these circumstances the legal adviser of the city bethought himself of the ingenious device of applying to the Committee on Public Health, for the regulation of water as a "beverage." The committee entertained the application, but finally, in consideration of much opposition and dissatisfaction on the part of the Committee on Water-supply and many members of the Legislature, the question was referred to the Committee on the Judi-

ciary, which a year ago reported an amendment, subsequently passed, to the following effect:—

"The supreme judicial or superior court, in term time or vacation, upon the application of the mayor of a city, or the selectmen of a town interested, may grant an injunction against any violation of the provisions of section ninety-six of chapter eighty of the Public Statutes."

At the same time, the question was removed from the jurisdiction of the Board of Health and of sheriff's juries.

Under this amendment suit was brought by the city of Boston against one Gleason, an inn-keeper, emptying his refuse into the brook. An injunction was obtained and was granted by the court in the decision of Mr. Justice Allen above referred to. Whether this decision will convince the inhabitants of Natick that they will not be allowed to pollute the water-supply of Boston, or whether further injunctions and possibly further legislation will be required, remains to be seen. At least a considerable, and at the present moment especially gratifying, step has been taken in advance toward the protection of water-supplies.

The difficulties and delays encountered in reaching the present position in Massachusetts are liable, as we have said, to occur elsewhere, where the interests of country districts and large cities clash—as they sooner or later must—and the history of this struggle between Boston and Natick may offer some useful hints in the future.

#### CURARE—JUCUNDE.

WHEN the great Asclepiades gave his classical definition of the object of medical treatment he was too wise not to insert the adverb *jucunde*. Nor, we may believe, was it added merely as an after-thought. Indeed, it is not unlikely that it was intended to form a climax with the *cito* and the *tute*. If his disciples have sometimes erred in not giving due weight to the æsthetic element in their prescriptions there is evidence that they are beginning to awake to its importance. When we have seen a great popular medical delusion grow and thrive on the mere foundation that sugar is sweet and water has no taste, we recognize the potency of the palate, and think we see a new force in the words of the apostle who compared the *tongue* to the small helm by which the great ships are turned about "whithersoever the governor listeth."

Nor is it to be wondered at that persons of delicate sensibilities, especially under the depressing influence of sickness, should be acutely susceptible to the influence of the palate. With such persons it becomes a matter of more than æsthetics, of actual therapeutics, to administer all the *mgesta*, medicinal as well as dietetic, in an acceptable form.

There are happy exceptions to the general standards of taste. We have all seen patients who enjoy a clean, sharp bitter. An occasional child, brought up on the *oleum morrhue* as upon his mother's milk, takes it with gusto, and even rolls it as a sweet morsel under his tongue. But, unfortunately, nature has invested many of her most useful medicaments, which, from the very fact that they have capacities for good, have also corresponding capabilities of harm, with a taste sufficiently pronounced and disagreeable to put men on their guard against recklessly partaking of them. It has been suggested that, as the pain sense is to give warning of physical injury, so nausea is a danger-signal of poisons and active drugs. This may be, and yet there are certainly some exceptions. Arsenic is tasteless, and so is calomel. (Was the old-time abuse of this drug, by the way, due to its lack of taste?) Doubtless much can be done to render palatable most of the remedies in common use by suitable vehicles and methods of combination.

A recent correspondent of the *Therapeutic Gazette* gives expression to what we think is beginning to be widely felt, namely, the importance of making prescriptions palatable. He demands with considerable force more definite instructions from our therapeutic teachers on this point. The accomplished editor of the journal referred to has something to say upon the subject, enough to show the scope and possible value of a more extended treatise in this field, which we should hail with pleasure. For instance, he points out that the citrate of potassium can be largely masked by the free use of lemon juice. Muriate of ammonia is largely covered by licorice, provided the latter be added in such quantity that there will be ten to fifteen grains of it for every ten grains of the muriate. The addition of glycerin to a mixture containing an ammoniacal or other irritant salt often has the most happy effect in obviating the acidity. It must not be forgotten, however, that glycerin throws out of solution most alkaloidal salts. This is essentially important in connection with the fact that the addition of glycerin to the tincture of the chloride of iron is most advantageous from the æsthetic point of view. We are very apt to combine tincture of chloride of iron with salts of quinine, strychnine, or other alkaloids. Even when such solution is very strongly acid, glycerin precipitates the organic principle. Syrup of squills, syrup of ipecac, and most other sweet expectorants, can readily be masked by the syrup of wild-cherry bark, provided cyanide of potassium (at least one twentieth of a grain to a dose) be added to intensify the prussic-acid taste. The excessive sweetness of these mixtures is disagreeable to some individuals; this, of course, can readily be obviated by the addition of lemon juice or other acid.

It is also pointed out that it seems to be a tradition of the profession that cough remedies should

be administered in mixtures, while there is no reason why they should not be given in pill form. Expectorants as well as cathartics could be given in pills, and there seems no reason why copiba should not be enclosed in capsules when prescribed for chronic bronchitis, as when given for gonorrhœa.

A practice often complained of, and with considerable reason, by our most competent dispensing pharmacists, namely, the specification in physicians' prescriptions of the preparations of some particular manufacturing chemists, rests largely upon the fact of the greater palatableness of such preparations. Druggists say with justice that they can make equally agreeable combinations if the prescriber will only give his directions, or even if left to themselves. But permissive prescriptions, allowing the dispenser to select his own vehicle and method of combination, and prescribing only the active remedy or remedies desired and the strength per cc., while they might under occasional circumstances be allowable, have yet certain great and obvious objections in the too great responsibility placed upon the dispensing clerk and the possibility of his introducing as a mere vehicle what has a medicinal influence. So that it is as a rule desirable that the physician should either direct or know the entire composition of every medicine his patient takes. Palatable magistral prescriptions to be filled by the dispensing apothecary require just such knowledge on the part of the physician as the correspondent above referred to asks for. A work on this subject would come most naturally from an accomplished pharmacist, and while it should contain correct examples sufficient to make clear the principles laid down, should be much more than a mere medical receipt-book. Of the latter we have already more than enough. Pharmacodynamics is doubtless the highest branch of therapeutic science, but for those who practise the art of medicine it is as important to answer the question how, as what or why.

#### THE CARNEY HOSPITAL.

In the year 1863 the late Andrew Carney, of Boston, purchased, at a cost of \$13,500, the piece of ground where the Carney Hospital now stands, and presented it to the community of Sisters of Charity, that it might be used for its present purpose. It stands upon one side near the summit of the famous Dorchester Heights, from whence Washington forced the evacuation of Boston by the British troops. The superb view on all sides and the pure air and sunshine which reach it from all quarters indicate the spot, though in close proximity to a poor and thickly settled portion of a great city, as admirably adapted to the purposes to which it has been devoted. The present brick building was erected in 1865 at a cost of \$108,000, Mr.

Carney having added \$56,700 to his original gift, and represents only one wing of the proposed structure. Additional land was purchased some years ago by the Sisters to secure an unbroken frontage on three streets, a purchase which increased the debt which they were compelled to assume upon the building itself.

They have carried on their hospital all these years with constantly increasing success and usefulness in the absence of any endowment through periods of prosperity and adversity, under temporary discouragements which would have disheartened less zeal than theirs, and this year, in their annual report, make the gratifying announcement that the hospital is at length entirely free of debt. This consummation, however, seems to be only an incitement to fresh exertions, and the Sisters now appeal to the community to aid them to realize the original plan of the building by completing the other wing.

In addition to the usual medical and surgical wards and out-patient departments, the Carney Hospital, in its private rooms, offers unusual facilities not to be found elsewhere. Any patient occupying a private room can be treated by the physician of his choice, whether a member of the Hospital staff or not, provided he be a regular practitioner of medicine. Such a provision is often of great convenience both to doctors and to the sick.

The situation of the building has proved especially favorable to the success of surgical operations, and, through the generosity of Dr. C. G. Weld, formerly connected with the hospital, it is now provided with a complete set of surgical instruments of the most recent and approved pattern.

One other feature of the Carney Hospital which should commend it to the public is that it receives and cares for chronic cases, a class for which the provision in every community is always too limited. Although the majority of the patients in the wards are Roman Catholics, no discrimination is made on account of race, color, or religion: in this sense the Sisters proclaim themselves as truly Catholic.

#### MEDICAL NOTES.

— Dr. Lucas Champonnière recommends (*Journal de Médecine*, 1884), in the treatment of epistaxis, the introduction into the nasal fossa of a bit of finely cut sponge saturated in vinegar or lemon juice. The patient is then made to lie on the abdomen and the blood, instead of trickling back into the pharynx, flows upon the sponge and forms a clot.

— Dr. W. S. Playfair, in a recent lecture on Emmet's operation of Trachelorrhaphy, says, with regret, that he thinks his countrymen have not given the operation sufficient consideration, but, prejudiced by the too great enthusiasm with which Americans

have regarded it, have resorted to the opposite extreme of distrust. Dr. Playfair thus sums up his own views upon it: "In bringing this subject before you my object has been to direct your attention to a means of cure not to be often resorted to, not a panacea, but an occasional resource in obstinate cases of the utmost value, which has been strangely underestimated amongst us. I am no fanatical supporter of the operation, and am quite sure that it is only in a fractional proportion of cases of even marked laceration that it should be performed. It is not because a cervix is lacerated, even badly, that it should be done, but only because such lacerations are accompanied by serious troubles, in which other means of cure have been persistently tried in vain."

— Cocaine has been used with good effect by M. Boncht in difficult dentition. It is mixed with a suitable vehicle and rubbed on the painful gums four times a day.

#### NEW YORK.

— On the steamer City of Para, of the Pacific Mail, which arrived at quarantine March 24th, two fatal cases of yellow fever occurred: one among the cabin passengers and one among the steerage, during her voyage to New York. On the nineteenth of March, three days after leaving Aspinwall, both patients died and were buried at sea. As there had been no sickness on board after that date, the vessel was allowed to come up to her dock in the city on the 25th, after having been detained at quarantine for a day and having been thoroughly fumigated.

— The certificate of incorporation of the Sanitary Aid Society of the Tenth Ward was filed in the county clerk's office March 21st. Its objects are "to improve the sanitary condition of the tenement-houses and the comfort of the tenement-house population of the city of New York, beginning with the tenth ward, by a system of inspections and reports, for the purpose of encouraging a stricter observance of sanitary regulations, and by such other similar and concomitant means as may be legal and conducive to such business and objects." The tenth ward is selected to begin in, as being the most crowded with tenements and in the worst sanitary condition. The Board of Health has ordered a thorough house-to-house inspection of the entire city, and, in order that the work may be done more systematically and satisfactorily, the city has been divided into fifteen districts. The inspectors having charge of it, who are selected from gentlemen already connected with the Health Department, and the boundaries of the districts, have just been announced in a circular issued by Dr. Moreau Morris, chief of the First Sanitary Division.

The Ladies' Health Protective Association held a mass meeting at Steinway Hall on Saturday evening, March 28th, at which Judge Noah Davis pre-

sided, and addresses were made by General Alexander S. Webb, president of the Tenth Ward Sanitary Aid Society; Dr. John C. Peters, sanitary engineer; Charles T. Wingate, and others.

—A petition signed by a large number of the wholesale butter merchants has been sent to Albany in support of a bill amending and making more effective the act of last April, to suppress the manufacture of oleomargarine, as it has been found not sufficiently stringent.

—Thomas Cabot, aged one hundred and three years, died at the Home for the Aged, in Brooklyn, March 25th. He was born in Dublin, and came to this country fifty-three years ago.

## Miscellany.

### THE BEES AND APOLLO.

A MEDICO-PHARMACEUTICAL FABLE.

ONCE upon a time the Busy Bees were gathering honey from a flowery field on famed Hymettus. Suddenly, one Bee was heard to buzz much more loudly than the rest of his companions, who, upon listening, heard that he had found a new process for extracting a superior Honey of remarkable medical properties. He had also at the same time invented a very ingenious way by which he could with Comparative Ease make his Buzz sound four times as loud as that of the ordinary Bee. By means of these inventions he soon disposed of large quantities of Honey at a High Price. But one day Apollo, who was experienced in the matter of Honey and its medical properties, came that way seeking some good sample for the use of his friend Diana who was a little ill. He looked at the new preparation which was put up in soft capsules and called Honeyne, and at another kind which was put up in chocolate tablets and called Honeydea. He also listened to the new Buzz. "I think," he said, finally, "that the Buzz is much more wonderful and effective than the Honey; I will take it to Diana, who is fond of buzzing."

Some days later, Æsop, on hearing this story, remarked that the Moral which he would add was that the Art of Advertising a new medicinal preparation is of more importance than the Art of making it.

M. S.

### EPITAPH

On a gravestone in a country churchyard in England, on Mrs. Arabella Greenwood, who died in childhood; written by the Rev. Mr. Greenwood. D.D.:—

O Death! O Death! thou hast cutte down  
The fairest GREENWOOD in all this towne;  
Her virtues and good qualities are such,  
That shee might have married a lord or a Judge,  
But such was her condescension, and such her humilitie,  
She chose to take mee, a Doctor of Divinitie,  
For which herolcke acte, she stands confesse  
Above all others the Phoenix of her sexe,  
And like that blisful one younge shee did begett,  
That she might not leave her sexe disconsolate,  
My griefe for her is so verie sore  
I can onlie write two lines more:  
For this, and everie good woman her sake,  
Never let a blisster be putte on a lyinge in-woman's backe.  
—Boston Weekly Magazine, December 17, 1803.

### AUTO-CÆSAREAN SECTION.

The British Medical Journal (February 21st) publishes an astonishing and wellnigh incredible case, which, however, was vouched for by Dr. von Guggenberg, who, in fact, exhibited the patient at the last annual meeting of Bohemian physicians at Tetschen.

On September 28, 1876, he was summoned at two in the morning to see a woman, who was said to have cut open her abdomen. He found the patient lying in a miserable house, on a wretched and dirty bed, exhausted and bloodless, and only capable of making affirmative and negative signs. On removing a dirty petticoat which covered her, an incised wound was seen on the right side of the abdomen, passing downward and inward, from which a somewhat large coil of intestine protruded, the greater part of which, covered with dried blood, rested upon a dirty blood-soaked straw sack. Hemorrhage seemed to have ceased from every part of the wound, and the uterus was contracted to the size of a child's head. A fully developed, but dead, male child lay between the patient's knees.

Clean linen was procured from a neighboring house, and, with a piece soaked in oil, the protruded intestines were carefully wiped and returned, and the wound sewed up, the peritoneum being included with the skin. The incision was about three and one-half inches long, and slightly S-shaped. It was dressed with a five per cent. carbolic solution, fixed with strapping, and the abdomen was carefully bandaged. By the afternoon the patient was able to speak, and next day the history was taken. She had had seven children previously, four of whom had been born without medical assistance, two with forceps, and one after craniotomy. The pains began between September 24th and 25th, ceased in the afternoon, and came on again on September 26th, when the midwife stated that she felt the presenting head on vaginal examination. On September 27th, convulsions came on, according to the patient's account, accompanied by agonizing pain and great distension of the abdomen, the movements of the child ceasing. The pain and distension became so severe that the patient determined to perform Cæsarean section, of which she had heard. She, therefore, took a razor, and divided the skin slowly; she then made a second and third incision; and finding the child not yet appearing, made another cut, which caused a large jet of blood to escape, and exposed the placenta; this she removed.

One foot of the child came into view, which she seized and pulled upon until the whole of the body came through the wound, the head requiring the exertion of all her force. She divided the umbilical cord, laid the child (which she believed to be dead) beside her on the bed, and threw the placenta on the floor. She had passed neither urine nor feces since September 21th. The progress of the case was very good; urine was passed on the afternoon of September 28th, but the first stool not till October 2d. The pulse reached 120 on the day after the operation, but was never again so frequent; the temperature is stated to have not been very

high; and, although there was a considerable amount of exudation from the wound, it had united by October 3d. The patient soon returned to work, and has been ever since in perfect health.

## Correspondence.

### ROLLER-SKATING.

DAYTON, OHIO, March, 1885.

*Mr. Editor.*—I noticed in your issue of March 5th, a communication headed "Roller-Skating.—An opportunity for collective investigation," etc., signed "Questioner." I desire to call the attention of the profession in general, as well as that of Questioner, through your valuable columns, to a recent experience I have had with the so-called "exercise" of roller-skating. Mrs. L. consulted me about two of her little girls, Anna, aged ten, and Eva, aged twelve years. The mother called my attention to a leucorrhœal discharge which she lately observed on their clothing. An examination of the parts verified the mother's statement. I told her I could not account for it, as I had already seen it in children younger than hers, but the lady, who is of rather extraordinary intelligence, advanced a theory that their recent excessive indulgence in roller-skating brought on their affliction. Certainly, I partly coincided with her sentiment. When she returned home and spoke to other ladies about the matter it brought out the fact that there were many others afflicted the same way. In fact, I examined nine children in forty-eight hours, whom I found affected with leucorrhœa. These children were all roller-skaters, from nine to sixteen years of age. Their mothers steadfastly maintained that they were not afflicted before they commenced the so-called exercise. I have reason to believe that the practice of roller-skating exercise is injurious to young females by reason of the excessive movements of the lower extremities, especially of the pelvic organs, including the walls of the vagina. I trust the profession everywhere will record cases of this nature that may come under their observation, which will, I am sure, reveal many valuable pathological changes, caused by the exercise of roller-skating.

Very truly yours,

CARL H. VON KLEIN.

### THE LECTURE SYSTEM.

HANSON, MASS., February, 1885.

*Mr. Editor.*—From time immemorial it has been the custom, in medical schools, to teach by means of lectures. Is this the best method? I think, and shall try to prove, that it is not.

A man, in order to graduate, must buy tickets for two courses of lectures, but is this proof of study or knowledge? No, far from it; it is not even proof that the student has attended the lectures. It is not an uncommon thing for a man to buy the tickets and then neglect to attend a part, or even the whole, of the course. And if the student attend every lecture, is that to be accepted as proof of any knowledge of the subject? No; many devote the lecture hour to whittling a stick, or the seat, carrying on a whispering chat with a chum, or taking a nap; and the student who apparently is a most attentive listener, perhaps is thinking about the good time he had last night, or is to have to-night. If the teacher is a rapid lecturer, the student has not time to give a point a second thought in order to thoroughly understand it or to

commit it to memory; and if he tries to take notes, he can get but a word or two here and there.

In some schools the lecturer speaks very slowly, just as fast as a man can conveniently write and the students take every word. Here the student is so engrossed with the mechanical effort of copying every word that the lecture has done him little good. At the end of the course, the student has produced a few poor textbooks, when he might have bought good ones for a few dollars, and much of his time and money has been thrown away. Of course the slow lecturer does not get over much ground in an hour.

All needed medical knowledge can be found in our textbooks.

If this *must* be read aloud, why can it not as well be read by one of the students or even by one who has no knowledge of medicine? Why is it necessary to employ a man at a salary of one or two thousand dollars? Some will say, this man has had experience. So has the writer of the textbook.

The objections to a reliance upon lectures, for instruction, are many.

What the student does not at once understand, he must pass over; he does not have time to reflect upon a thought, and then commit it to memory. When the lecturer makes a statement, if the student does not catch it, and in an instant understand and remember it, it is lost to him. What he reads in a book, he can read over and over again until he understands it, and can remember it, and even if he forgets it he knows where to find out all about it, and our education is rather to teach us where to find things, than to remember everything.

Medical instruction should be given by means of textbooks, instructors or teachers, daily recitations of stated lessons, and laboratory work. Each teacher should not have any more students in his class than he can hear recite in an hour. He should have a pack of cards containing the names of the students, one name on each card. He should shuffle the cards, deal off the top one, and call the name for that student to recite. In this way he finds if any are absent; he cannot give a favorite the easy part of the lesson. The student does not know what part he will be called to recite, so must learn the whole. He does not know when he will be called, so must keep his mind on the recitation all the time. The student should be allowed to ask any relevant question, and the teacher should devote a third or one half of the hour to explaining, showing specimens, illustrating by blackboard diagrams, etc.

Now, when daily recitations are not enforced the students hang around the college building, attending such lectures as especially interest them, until about time for the examinations; then they look over the old examination papers and find out about what kind of questions are asked, and just how much they must know in order to squeeze through; then they cram day and night until the examination. Many know nothing of the minutæ.

Recitations are much better than lectures, but laboratory and clinical work is much better than recitations. Anatomy (normal and pathological), chemistry, physiology, and materia medica should be taught almost entirely in the laboratory. The student should study the *thing* rather than the book; yet the book should be studied enough so that the student will be familiar with every part of it, as he will not always have the specimens to refer to. Surgery, theory and practice, and obstetrics should be studied, mainly, in the operating-room and at the bed-side. The recitations should be upon the textbook, laboratory, and clinical work.

Although I object to the schools obliging the students to pay men large salaries to read their lectures which they could read much better in their own rooms, the teacher who hears the recitation should be a man learned in his own department, that he may explain

any point which may arise and not be caught napping by a brilliant student, and the students could afford to pay such a man a good salary. Every student should be required to attend every recitation and not be excused from any clinical or laboratory work. Many will refer to German schools to show the benefit of the lecture system. All will admit that a large part of the German students are negligent and idle. The judgment of many of the most intelligent professors and

educators in Germany is in favor of modifying the lecture system by introducing instructions by recitation to a large extent. Nothing is more unsatisfactory in the judgment of one who sees beneath the surface, than the superficial habits and narrow culture of the students in those schools in which the instruction is given chiefly by lectures.

Very truly yours,  
FLAVEL S. THOMAS, M.D. (Harv.).

REPORTED MORTALITY FOR THE WEEK ENDING MARCH 21, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York	1,340,114	700	296	16.10	26.04	6.34	1.26	2.80
Philadelphia	927,995	440	136	13.25	13.00	5.00	1.75	.25
Brooklyn	644,526	302	109	14.85	25.41	4.62	2.92	2.92
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	169	60	10.03	22.54	3.54	3.54	—
Baltimore	408,520	156	51	7.04	12.80	3.84	1.28	—
St. Louis	400,000	124	—	12.15	16.20	4.05	1.61	1.61
Cincinnati	272,400	113	45	8.00	11.20	2.40	1.60	1.60
New Orleans	234,000	148	33	7.00	9.80	3.50	.70	—
Buffalo	201,000	72	22	12.24	10.88	8.16	2.72	1.36
District of Columbia	194,310	103	42	20.37	13.58	1.94	9.70	.97
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	44	21	11.35	18.16	4.54	—	—
Providence	119,405	54	23	9.25	18.50	—	7.40	—
New Haven	62,882	20	3	20.00	10.00	—	20.00	—
Nashville	54,400	20	2	15.00	10.00	5.00	—	—
Charleston	52,286	32	5	—	12.52	—	—	—
Lowell	71,447	25	13	32.00	8.00	8.00	4.00	4.00
Worcester	69,412	17	2	5.88	23.52	—	—	—
Fall River	62,674	41	20	17.08	17.08	2.44	—	—
Cambridge	60,995	23	9	8.70	17.40	4.35	4.35	—
Lawrence	45,516	24	8	20.80	4.16	4.16	—	—
Lynn	44,895	22	6	—	18.20	—	—	—
Springfield	38,000	22	10	4.55	—	—	—	—
Concord	31,450	22	1	—	14.28	—	—	—
Holyoke	30,515	9	4	33.33	—	11.11	—	—
New Bedford	30,144	19	12	5.26	36.82	—	—	5.26
Salem	29,503	10	2	10.00	—	10.00	7.69	—
Chelsea	24,347	13	3	23.07	15.38	—	—	—
Taunton	22,693	10	—	10.00	—	10.00	—	—
Gloucester	21,400	7	3	—	14.28	—	—	—
Haverhill	20,965	8	3	25.00	25.00	—	—	—
Newton	19,421	5	2	—	—	—	—	—
Brockton	18,323	8	1	—	25.00	—	—	—
Malden	15,273	—	—	—	—	—	—	—
Newburyport	13,947	2	1	—	—	—	—	—
Fitchburg	13,433	4	1	—	75.00	—	—	—
Waltham	13,568	1	0	—	—	—	—	—
Northampton	13,165	—	—	—	—	—	—	—
102 Massachusetts towns	—	91	20	7.63	15.26	3.27	2.18	2.18

Deaths reported 2,876: under five years of age 969; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 351; consumption 442; lung diseases 532; diphtheria and croup 137; scarlet fever 59; measles 40; typhoid fever 33; diarrheal diseases 25; whooping-cough 20; cerebro-spinal meningitis 18; malarial fevers 11; puerperal fever 13; erysipelas 12. From typhoid fever, Philadelphia 12, New York, Brooklyn, and Baltimore three each, St. Louis, District of Columbia, New Haven, Nashville, Worcester, Fall River, Lawrence, and Haverhill one each. From diarrheal diseases, New York seven, Brooklyn five, Lowell three, St. Louis, Lawrence, and Chelsea two each, Boston, District of Columbia, Milwaukee, and New Haven one each. From whooping-cough, New York 11, Philadelphia four, District of Columbia two, Boston, St. Louis, and Providence one each. From malarial fevers, New York nine, Brooklyn two, Philadelphia, New Haven, and Fall River one each. From cerebro-spinal meningitis, New York and Philadelphia four each, Fall River three, Holyoke two, St. Louis, Cincinnati, Lowell, Springfield, and Haverhill one each. From erysipelas, New York five, Philadelphia, Brooklyn, and Boston two each, District of Columbia one.

One case of small-pox was reported in St. Louis; scarlet fever 46, measles 30, diphtheria 22, and typhoid fever four.

In 123 cities and towns of Massachusetts, with an estimated population of 1,417,895 (estimated population of the State 1,355,101), the total death-rate for the week was 19.30 against 19.48 and 17.75 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,416, for the week ending March 7th the death-rate was 20.6. Deaths reported 3,515; infants under one year of age 851; acute diseases of the respiratory organs (London) 374; measles 133; whooping-cough 112; scarlet fever 42; fever 33; diarrheal 28; diphtheria 24; small-pox (London) 46; Liverpool and Manchester two each, Birmingham, Birkenhead, and Sunderland one each) 25. The death-rates ranged from 11.8 in Brighton to 37.6 in Cardiff; Birmingham 17.7; Blackburn 19.0; Bradford 21.7; Leeds 19.1; Leicester 22.2; Liverpool 22.5; London 19.1; Manchester 20.9; Nottingham 21.4; Sheffield 17.6; Sunderland 15.2. In Edinburgh 18.5; Glasgow 29.1; Dublin 32.7.

For the week ending March 7th in the Swiss cities there were 37 deaths from consumption, lung diseases 32, diarrheal diseases 18, diphtheria and croup eight, small-pox, measles, and typhoid fever three each, erysipelas and typhoid fever two each, scarlet fever, and whooping-cough one each. The death-rates were: at Geneva 19.2; Zurich 17.5; Basel 23.1; Berne 30.6.

The meteorological record for the week ending March 21st, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barom-eter.	Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.25 A. M.	3.25 P. M.	11.23 P. M.	Daily Mean.	7.25 A. M.	3.25 P. M.	11.23 P. M.	7.25 A. M.	3.25 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount, in Inches.		
March, 1885,																			
Sunday, 15	29.708	34.7	40.5	22.3	61	87	89	79.0	S	S	W	8	22	11	O	C	O	—	—
Monday, 16	29.805	34.7	41.0	24.5	59	68	62	63.0	W	W	W	20	18	4	O	R	C	—	—
Tuesday, 17	30.074	15.4	33.8	10.7	50	41	61	50.7	W	W	W	16	9	12	C	C	C	—	—
Wednes., 18	29.966	14.6	23.1	5.0	54	77	73	68.0	N W	N	N	11	12	16	C	W <sup>2</sup>	C	—	—
Thurs., 19	29.580	21.4	31.5	12.0	63	54	67	61.3	N W	W	W	15	13	13	C	C	C	—	—
Friday, 20	29.559	14.4	22.0	9.8	64	39	89	60.6	W	W	W	27	27	23	C	C	C	—	—
Saturday, 21	29.976	13.2	20.0	6.7	55	39	50	48.0	W	W	W	28	26	18	C	C	C	—	—
Mean, the Week.	29.817	20.5	30.3	13.0				61.5										17.10	0.37

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening. <sup>2</sup> Light snow.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 21, 1885, TO MARCH 27, 1885.

HAVARD, VALERY, captain and assistant surgeon. Leave of absence extended one month. S. O. 65, A. G. O., March 21, 1885.

RAYMOND, H. I., first lieutenant and assistant surgeon. Assigned to duty at Fort Gaston, Cal., post surgeon. S. O. 30, Department of California, March 20, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDED MARCH 21, 1885.

SAWTELLE, H. W., surgeon. Detailed as chairman of Board for physical examination of officer of the Revenue Marine Service. March 17, 1885.

ARMSTRONG, S. T., passed assistant surgeon. Granted leave of absence for thirty days. March 16, 1885.

AMES, R. P. M., passed assistant surgeon. Detailed as recorder of Board for physical examination of officer of the Revenue Marine Service. March 17, 1885.

#### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The *Section for Clinical Medicine, Pathology, and Hygiene* will meet at 19 Boylston Place, on Wednesday, April 8th, at 7.45 o'clock. The following papers will be presented: Dr. F. F. Douglass, "Metallic Poisoning from Canned Foods, with a Report of Six Cases of Poisoning from Canned Tomatoes." Prof. E. S. Wood, Asst. Prof. Wm. B. Hills, Dr. Charles Harrington, Dr. S. W. Abbott, Dr. S. H. Durgin, and Dr. C. F. Folsom are expected to take part in the discussion. Dr. T. A. De Blois, "Two Cases of Retro-pharyngeal Abscesses." Drs. F. L. Knight, S. W. Langmaid, and F. H. Hooper will open the discussion.

ALBERT N. BLODGETT, Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

Remarks on Typhoid Fever in the Young. By A. Jacobi, M.D., etc. etc. (Reprint.)

Seventy-first Annual Report of the Trustees of the Massachusetts General Hospital and McLean Asylum. 1884.

The Physician Himself and what he should add to his Scientific Acquirements in order to secure Success. By D. W. Cathell, M.D. Fourth Edition. Enlarged. Baltimore: Cushing & Bailey. 1885.

A Clinical Lecture on the Mechanical Treatment of Pott's Disease. By Charles F. Stillman, M.S., M.D., of New York. (Reprint from the Journal of the American Medical Association, January 31, 1885.)

Review of the Drug Trade of New York for the Year 1884. Prepared by D. C. Robbins, Esq., New York.

Massage: The Latest Handmaid of Medicine. By Benjamin Lee, A.M., M.D., Ph.D., Philadelphia. (Extracted from the Transactions of the Medical Society of the State of Pennsylvania for 1884.)

The New Local Anæsthetic, Hydrochlorate of Cocaine (Murate of Cocaine), and Etherization by the Rectum. By Lawrence Turnbull, M.D., Ph.G. Illustrated. Philadelphia: P. Blakiston, Son & Co. 1885.

Études sur les Scissures Encephaliques Primitives de l'Enfance. Par le Dr. H. Richiardi. Paris: G. Steinheil, Editeur. 1885.

Du Traitement Chirurgical des Néoplasmes Mammaires. Par le Docteur Emile Valende. Paris: G. Steinheil. 1885.

Des Ruptures Uterines pendant le travail à terme. Pathogénie et traitement. Par le Dr. Labusquière. Paris: H. Laurey, libraire éditeur. 1884.

Le Basistrie Tarnier. Par le Docteur A. Pinard. Eleven Figures. Paris: G. Steinheil, Editeur. 1885.

Inaugural Address delivered before the New York Academy of Medicine. By A. Jacobi, M.D., President of the Academy. (Reprint from the Medical Record, New York.) 1885.

Seventh Annual Report of the Presbyterian Eye, Ear, and Throat Charity Hospital, Baltimore. 1885.

The Direct Influence of Gradual Variations of Temperature upon the Rate of Beat of the Dog's Heart. By H. Newell Martin, M.A., M.D., D.Sc., Professor in the Johns Hopkins University, Baltimore, U. S. A. (From the Philosophical Transactions of the Royal Society. Part II. 1885.)

Experimental Researches on Coagulation in Bloodvessels after Ligation. By N. Seum, M.D., of Milwaukee, Wisconsin. (Extracted from the Transactions of the American Surgical Association. Vol. II. 1884.)

Controlling Sex in Generation. The Physical Law influencing Sex in the Embryo of Man and Brute, and its Direction to produce Male or Female Offspring at will. By Samuel Hough Terry. New York: Fowler & Wells Co. 1885.

The Cure of Writer's Cramp. By A. de Watterville, M.A., M.D., B.Sc. (Reprint from the British Medical Journal, February 11, 1885.)

Annual Report of the Carney Hospital for the Year 1884. Boston. 1885.

Martin's Directory of the Druggists of the United States and Canada. 1885. Containing Lists of Druggists, wholesale and retail, etc. Advertiser Publishing Company. 1885.

Experiments upon the Heart of the Dog with reference to the Maximum Volume of Blood sent out by the Left Ventricle in a single beat, and the influence of variations in venous pressure, arterial pressure, and pulse-rate upon the work done by the Heart. By William H. Howell, A.B., and E. Donaldson, A.B., M.D. (From the Philosophical Transactions of the Royal Society. Part I. 1884.)

De l'Aphasie et de ses diverses formes. Par le Dr. Bernard. Paris: Publication du Progrès Médical. 1885.

Lectures on Diseases of the Nervous System, especially in Women. By S. Weir Mitchell, M.D. Second edition. Revised and enlarged. With five plates. Philadelphia: Lea, Brothers & Co. 1885.

## Original Articles.

AN ENORMOUS FALSE ANEURISM IN THE LEFT FLANK COMMUNICATING WITH A TRUE ANEURISM OF THE ABDOMINAL AORTA.<sup>1</sup>

BY GEORGE B. SHATTUCK, M.D.,  
Visiting Physician Boston City Hospital.

The interest of the case which I have to report lies in the question of diagnosis and in the pathological specimen to be shown subsequently.

The diagnosis lay between a vascular semi-fluid or gelatinous growth of a malignant character and an aneurism probably of the so-called false or diffused class. The opinions of those gentlemen who saw the case were pretty evenly divided between the two, and with some varied occasionally at different periods of the case. Fortunately the question of treatment was not involved, as there could be but one termination, and that a speedy one.

J. C., a currier, fifty-one years old, entered the City Hospital on February 2d. His general health had been fair, and he had continued work until eight weeks before entrance when he began to suffer from pain in the left lumbar region extending down the thigh to the leg and foot. I subsequently learned from him that he thought he had had varying pain in the back and especially in the left lumbar region nearly two years before. These pains had increased in severity. For two or three weeks he had been unable to lie in any position except upon the left side, and there was a commencing bed sore over the left trochanter. Four days before entrance the dispensary physicians, who had been summoned on account of the pains in the leg, called patient's attention to a large hard tumor between the ribs and the brim of pelvis, and advised removal to the hospital. When admitted the man was pale (almost cachectic), worn looking, and almost emaciated; there was no jaundice; the examination of the heart, lungs, and urine gave a negative result.

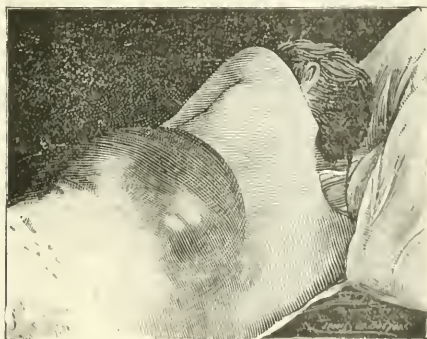
The tumor in the left side, according to my dictated notes in the record-book, "presented a hard mass, extending from the cartilages of the ribs above to beneath the crest of the ileum below, and from two inches to the left of the umbilicus in front to near the spinous processes of the vertebra behind. It was immovable, rather tense, smooth on the surface, though not entirely regular in outline, and dull on percussion. A pulsation, which at entrance was but little marked, became in a day or two, with improved nutrition, very noticeable both to the eye and hand, especially at two points: one in front midway between spine of ileum and pubes and two inches above Poupart's ligament, the other at the back between the crest of ileum and lower border of ribs, four inches outside of the spine. Pulsation at each point being very marked as that of an aneurismal sac with thin walls. There was no thrill or bruit, but a slight murmur over the point referred to at the side. The pulse in the femoral and popliteal arteries was feeble. There were enlarged glands in the left groin above and below Poupart's ligament." There was no apparent ascites, and no abdominal tenderness except over the swelling.

The tumor continued to increase in size and tension, the pulsation becoming more pronounced and more general, until it assumed the appearance of a good-sized watermelon lying across the left flank with an ill-defined sulcus at one part and a smooth, though not quite regular, surface; the end under the ribs being discolored and suggesting an impending slough.

February 15th I inserted a hypodermic syringe and obtained a dark bloody fluid mingled with pus. March 1st I used the aspirator; the needle being inserted one and one-quarter inches no fluid followed, but when pushed in two and one-half inches a dark-colored, quickly coagulating bloody fluid flowed through the tube, the last of which was of a brighter color. Four ounces were withdrawn, which, under the microscope, showed nothing but blood. The needle at no time gave the sense of being in a cavity.

The girth of the body across the umbilicus was frequently taken, but little value was attached to the measurements as indications of growth owing to the variable distention of the intestines by gas. February 25th, the tape showed thirty-four inches. March 5th, thirty-five and five-eighths inches.

March 9th, the photographs which I first passed round were taken, the other two being taken in the autopsy-room. The patient died on March 19th, six weeks and a half after admission, from exhaustion, having refused nourishment, and been delirious at times, for several days previously. The duration of the case was, therefore, seven weeks from the time the man's attention was first called to the tumor, three months from the time he gave up work, and nearly two years from the time he thought he first noticed pain in the back.



From Photograph taken March 9th.

The question of aneurism was entertained and that diagnosis was the first suggested. I could not, however, reconcile the history and conditions present with my experience or knowledge of aneurismal tumors. The previous history, the situation of the tumor, its apparent fixation beneath the ribs above and the ileum below, the want of any record of shock, the vagueness of previous and present symptoms except those referred to, pressure upon the lumbar nerves and their branches, the constriction across the growth, the absence of thrill

<sup>1</sup> Read at the Boston Society for Medical Improvement, March 23, 1885.

and emit, the appearance of the patient, the absence of the sense of being in a cavity with the aspirating needle but rather in soft tissue, led me to regard with more favor, though without entire satisfaction, the diagnosis of semi-solid vascular malignant disease. A diagnosis which latterly became less tenable as the wall of the sac at its abdominal extremity became more tense and sharply defined, and the apparently enlarged glands beneath Poupart's ligament became softer. My colleague, Dr. Mason, through whose courtesy I retained charge of the case after my term of service ended, was wiser in adhering steadily to the opinion that the tumor was a sac of blood and probably a dissecting or a false aneurism.

I think such a case, viewed from the clinical standpoint, must be rare, and the books have but little to say on the subject. Stokes, in his classical treatise on the Heart and Aorta, gives by far the most satisfactory discussion of the phenomena which I have encountered, and reports one or two cases somewhat resembling this one.

Stokes, in his recapitulation of diagnostic points at the end of his chapter on "Aneurism of the abdominal aorta," lays down, among thirty-eight other propositions, the following:—

That the first development of a murmur low down in the abdomen should incline us against the diagnosis of aneurism.

That the abdominal tumors which most simulate aneurism are those whose consistence is semi-fluid.

That while the progress of an aneurismal tumor is generally from above downward, that of the solid tumor is more often from below upward. That the first appearance of pulsation, at some point low down in the belly, indicates that it is communicated to, rather than adherent in, the tumor.

It is hardly to be conceived that rupture of any other artery than the abdominal aorta could have produced a tumor of this character in this situation. To satisfy clinical record and the pathological conditions found to exist postmortem, we have then to suppose antemortem a true aneurism of the abdominal aorta situated just beneath the diaphragm in the immediate neighborhood of large nerves and nervous ganglia, attaining the size of a closed fist without much inconvenience or attracting attention, rupturing through a rent large enough to admit several fingers, without shock, and first making itself known by a swelling larger than an ostrich's egg in the left flank, which continues to grow for seven weeks at least without terminating the life of the patient, who finally dies from exhaustion after the tumor has attained the size of a large watermelon.

Autopsy, by Dr. W. W. Gannett, twelve hours after death, March 20, 1885.

Body of medium size, well developed, much emaciated. Marked lividity of dependent portions; rigor mortis present. Abdomen distended; the left half much more prominent than the right, with a soft, fluctuating area just posterior to the lateral line, above the crest of the ileum. Skin over this area dry and black. Right leg much enlarged; oedematous throughout. Diaphragm on both sides at fourth rib. Pericardium contained about ten cc. of clear fluid. Subpericardial fat considerably di-

minished in amount, of a gelatinous consistency, and of a pale saffron-yellow color. Heart of usual size. Left ventricle tolerably firmly contracted. Right ventricle and both auricles distended with partially coagulated blood. Aortic and pulmonic valves sufficient; mitral admitted tips of three, tricuspid tips of four, fingers. Valves and cavities not remarkable. Muscular substance pale in color. Inner surface, particularly the papillary portion, showed a variegated appearance, due to numerous opaque yellow spots on a pale red-brown. Pleural surfaces on both sides free from adhesion. Pleural cavities on both sides contained about ten cc. of clear fluid. Left lung retracted partly on removal of the sternum; they were of a gray color, inelastic, downy; numerous alveoli the size of a pin's head could be seen beneath the surface. Kidneys of usual size, pale, slightly yellow in color. Capsule detached with ease, leaving a smooth surface beneath. On section, ratio of cortex to medulla as usual. Glomeruli distinct as glistening points. Region of convoluted tubules and pyramids of a pale, saffron-yellow tint. Microscopically; glomeruli contained a little blood; tubules contained considerable pigment in the form of granules and discs. Bladder not remarkable.

On opening the peritoneal cavity the descending colon was found to be situated beneath the transverse colon, and extending diagonally across the abdominal cavity. The left half of the abdominal cavity was occupied by a large fluctuating mass, the upper wall of which was formed by a muscle, the fibres of which were nearly transverse. On incising this muscular wall, a cavity was disclosed, with irregular walls, filled in part with fluid blood, in part with laminated coagula, in part with soft, dark-red clots. The posterior wall was formed in part by the inner surface of the ileum, which was exposed in its upper portion and eroded; in part by the tissue lying immediately beneath the origin of the quadratus lumborum muscle. This large cavity communicated below through the femoral canal with a cavity in the upper part of the thigh, the size of the first, having a smooth wall, and coagulated blood for contents.

Just below the arch of the diaphragm the aorta was dilated so as to form a sac the size of a closed fist. The posterior wall was formed by the bodies of the last dorsal and first lumbar vertebrae, both of which were eroded about half their depth. From the anterior wall were given off the phrenics and the coeliac axis. In the lower portion of the sac, just to the left of the vertebral column, was a slit-like opening, with smooth edges, large enough to admit four fingers; it communicated directly with the large sac of blood previously described.

The aorta showed throughout, in the intima, numerous opaque, yellow, elevated patches. The oesophagus, stomach, and intestines showed nothing remarkable. Liver of usual size, pale yellow in color, opaque, and doughy.

#### DIAGNOSIS.

Fatty degeneration of muscular substance of heart. Vesicular emphysema of lungs. Blood pigment in the tubules of the kidneys. Aneurism of the abdominal aorta, rupture behind the peritoneum and

transversalis muscles, with the formation of a large false aneurism, occupying the whole lumbar region on the left side, and extending into the groin. Erosion of the vertebrae.

### THE CONSTRICTOR URETHRAE MUSCLE.—ITS RELATIONS TO URETHRAL PATHOLOGY AND TREATMENT.

BY A. T. CABOT, A.M., M.D.

BETWEEN the anterior and posterior layers of the deep perineal fascia, better known as the triangular ligament, lies the membranous portion of the urethra surrounded by the constrictor or compressor urethrae muscle.

This muscle occupies the greater part of the space between the two layers of the fascia. Its fibres, arising from the ischio-pubic rami and the tendinous parts about, run transversely across the sub-pubic arch, separating to go above and below the urethra. Besides these transverse fibres, there are others that run obliquely across the same space, and others still that encircle the canal.

Thus the membranous urethra is embedded in a muscle which, by its contraction, forces together the walls and closes the calibre of the tube. This constrictor is also known as the external or urethral sphincter and as the cut-off muscle. It is to a great extent under the control of the will and acts as the voluntary sphincter of the bladder. A brief review of the mechanism of micturition will help us to understand its functions.

As the bladder fills with urine a point is finally reached at which the internal pressure is great enough to overcome the strength of the band of elastic and involuntary muscular fibres about the urethral orifice (internal sphincter) and the urine forces its way into the prostatic urethra where its presence causes the sensation which is recognized as a "call to urinate"; its further escape is then only prevented by the contraction of the constrictor muscle.

If now no opportunity offers for micturition the compression and closure of the urethra is made more thorough by a conscious effort of this muscle, and, at the same time, the prostate closes down, pressing the urine back into the bladder, and the inclination to urinate passes away. Later, however, the urine, accumulating in still greater quantity, again enters the prostatic urethra, and, if urination is now desirable, the constrictor relaxes and the bladder empties itself.

Physiological micturition is thus easily accomplished. When, however, these parts concerned in the act are altered by disease, normal urination may be variously interfered with. An inflammation affecting the prostatic urethra renders it extremely sensitive, so that the presence in it of a few drops of urine brings on an almost irresistible desire for micturition; hence the frequency of the act which is so marked a symptom in disease of the neck of the bladder.

When the inflammation reaches to the parts about the constrictor it causes a more or less irritable condition and spasmodic contraction of this muscle. A parallel to which condition is found in the action of the sphincter and when the parts about it are

ulcerated or inflamed. The obstruction to the passage of an instrument which is usually met with at the membranous urethra in cases of chronic prostatitis is caused by, and is evidence of, this action of the urethral sphincter. A spasmodic stricture of this sort is also the not uncommon accompaniment of an inflammation affecting the bulbous portion of the urethra just anterior to the constrictor.

Now the contraction of this sphincter divides the urethra into two parts, an anterior portion, extending down to the triangular ligament, and a deep part, the prostatic portion. Indeed, the muscle in its ordinary state of tonicity makes this division, but the separation of the two parts of the canal is much more complete when it is in a state of increased contraction. And this is not a matter of interest to the anatomist alone, but, on the contrary, it is especially of importance to the surgeon, for the position and action of this sphincter exercise an important influence upon the pathological processes occurring in the canal on either side of it.

If the anterior portion of the urethra is the seat of inflammation, the contraction of the muscle protects the deeper parts and hinders the passage of discharges and the extension of the inflammatory process backward to the prostate and bladder.

When, on the other hand, the inflammation is posterior to it, the constrictor acts as a dam, and by preventing the ready escape of pus outward and by offering an obstruction to the passage of the urine, it tends to aggravate the morbid process behind it just as an anterior stricture prolongs and intensifies inflammation of the deeper parts.

From a consideration of these facts it will be apparent that when a urethritis exists in front of the constrictor muscle the passage of an instrument through it should be avoided if possible, in order that the discharges, especially when of gonorrhoeal character, may not be conveyed on toward the bladder. If in such a case the use of a catheter becomes necessary a preliminary irrigation of the canal may, by removing the discharges, lessen the chance of infection of the parts behind the sphincter.

In the other class of cases, when the inflammation is posterior to the urethral constrictor and is, as has been said, aggravated by the obstructive spasm of this muscle, the passage of sounds, and dilatation of it, is a most important part of the treatment; and the acknowledged value of sounds in cases of inflammation about the neck of the bladder is largely due to the stretching of this muscle effected by them.

Occasionally, in these cases, the spasm of the constrictor and the consequent obstruction to the passage of the urine is so great that while the bladder is laboring to relieve itself of its contents the pressure in the sensitive prostate becomes so excessive as to cause a pain that is scarcely to be endured. The patient strains and assists the bladder with all the abdominal pressure he can muster; until finally a few drops trickle through and the spasm slowly relaxes.

This condition of things is well illustrated in the following cases:—

CASE I. C. D., a young man of thirty-two, with chronic prostatitis of gonorrhoeal origin, was suffering at the time

I first saw him with attacks of pain which occurred two or three times in every twenty-four hours, more commonly at night, or when the urine had been held for a longer time than usual. In one of these paroxysms he would be seized with a severe pain referred to the rectum, or to the region between the rectum and bladder, and sometimes shooting out through the penis. This would be accompanied by an urgent desire to urinate, which, however, could not be accomplished, even by the most violent straining efforts. As he said, "it felt as if the water were blocked."

Finally, by drinking large quantities of water and walking the floor, he would gradually overcome the resistance, and the urine would begin to come, drop by drop, although still with great pain. After waiting a little longer he would be able to pass more, in a larger stream, and so the attack would gradually pass off, the pain diminishing as the stream enlarged.

These attacks disappeared immediately after beginning the systematic use of sounds, and the prostatitis slowly yielded under treatment by deep injections of nitrate of silver.

CASE 11. F. S., a young man of twenty-four, was referred to me in the autumn of 1883 by Prof. Henry J. Bigelow.

In 1877 he had been attacked by cystitis, which followed scarlet fever, and lasted several years, never, in fact, having wholly left him.

When I first saw him he was suffering from frequent and painful micturition, and had a slightly enlarged and tender prostate.

At times he would have paroxysms of pain when attempting to pass water, and these were often so severe that he would crouch on the floor, and, seizing his penis, would squeeze it with all his force in the effort to obtain relief. The urine was always difficult to start, and he had "to strain to keep it going."

The meatus admitted only a No. 26 (French) bulb, which met with resistance at the constrictor muscle, and after passing this was quite firmly grasped upon its return.

With Professor Bigelow's concurrence he was etherized, the meatus was freely cut, and sounds up to No. 32 (French) were passed into the bladder without meeting with any obstruction except a sense of resistance, easily overcome, at the membranous urethra.

After this he was relieved of the paroxysms of severe pain, the urine passed readily and in a good stream, but the frequency of micturition, accompanied occasionally by some burning sensation, continued.

The histories of these patients illustrate very well, not only the symptoms consequent upon this sort of spasm, but also the great and immediate benefit to be derived from the passage of sounds and stretching of the constrictor muscle. When, for any reason, in a case of this sort, the use of instruments is impossible or unadvisable, much may be done in the way of palliation.

The benefit of heat under these circumstances is familiar to all, and frequently a hot bath or hot fomentations about the perineum will cause a relaxation of the muscle. A good dose of gin is sometimes of service, and a full opiate or a few whiffs of ether will occasionally succeed when heat has failed to overcome the spasm.

If the constriction amounts to a complete stoppage which none of the simple expedients mentioned overcomes, the catheter must be resorted to. The instrument used in these cases of prostatic inflammation should be of large size, and great gentleness should be exercised in its introduction. When the muscle is reached, steady, persistent pressure will overcome its resistance.

Besides this spasm of the sphincter urethrae, dependent upon neighboring inflammation, we see, also, at times, a spasmodic action of this muscle, brought about by purely nervous causes. A familiar example of this is the stoppage of urine, which occurs after an operation or during an inflammatory condition about the anus.

Uitzmann<sup>1</sup> says: "Not seldom we find spasmodic contractions in both rectum and urethra at the same time, when the lesion can be detected in

but one of these. Thus we find spasm of the rectal muscles in cases of catarrh of the neck of the bladder and *vice versa*. This is explained by the fact that both regions are supplied by the same nerves, namely, the middle and inferior hæmorrhoidal."

Irregularities in the action of the constrictor may also depend upon psychical causes: Thus, some people cannot urinate in the presence of others, and, at times, the muscle seems to be affected with a really choreic condition which causes an uncertainty of micturition, that has been well described by Paget<sup>2</sup> as "stammering with the urinary organs."

Paralysis of this sphincter is sometimes the result of disease or injury of the spinal cord and is ordinarily associated with paralysis of the muscular walls of the bladder. The natural obstruction in the urethra due to the elasticity of the tissues is usually enough to cause the bladder to become distended, and, unless the urine is regularly drawn, the overflow finally forces its way through and escapes as a constant dribbling.

Occasionally incontinence occurs in a seemingly healthy man without loss of the expulsive power of the bladder. This seems to be due to a direct failure of the constrictor, and may be usually remedied by a tonic course of treatment with the use of electricity, which may be applied either from pubes to perineum, or, better, with one electrode in the membranous urethra and the other upon the pubes. The incontinence of childhood arises from inattention to the call to urinate, to which is often added an increased sensitiveness of the prostatic urethra, rather than from any incompetence of this muscle.

Finally, in regard to the effect that the position and action of the constrictor has in modifying our methods in the local treatment of urethral disease,<sup>3</sup> The normal tonic contraction of this muscle is usually of sufficient strength to prevent the passage through of an ordinary urethral injection unless it is thrown in with considerable force, or unless anaesthesia has caused relaxation.

In the use of injections for gonorrhœa, however, it is not uncommon, as an additional safeguard, to still further compress the deep urethra by causing the patient to sit on a folded towel or upon the arm of a chair during the injection. This method is objectionable in that the bulbous urethra, which is a favorite lurking-place for gonorrhœal virus, is also compressed by this procedure, and the injection fluid is thus prevented from entering that portion of the canal where it is most needed.

It is a better plan, therefore, instead of using an ordinary urethral syringe, to make the injection through a small, red rubber catheter, introduced as far as the bulb of the urethra. The constrictor is of sufficient strength to turn the fluid back and to cause it to escape alongside of the catheter, and the whole canal anterior to the muscle is thus thoroughly washed by the medicated solution. Care should be taken, of course, not to push the catheter through the sphincter, and this may be guarded against by marking the catheter at a distance of six

<sup>1</sup> Uitzmann lectures.

<sup>2</sup> For a full consideration of the question of local treatment in the urethra, see Pyuria, by Uitzmann, translated by Dr. Platt. New York, D. Appleton & Co. 1884.

<sup>3</sup> Pyuria. See below.

to six and one-half inches from the point and never allowing this mark to pass the meatus.

When now the injection is to be applied to the prostatic urethra it must be conveyed through the constrictor by means of a metallic catheter, of which the best is that devised by Ultzmann. The end of this instrument should be placed just beyond the sphincter, and the fluid, when thrown in, thus washes out the prostate and flows on into the bladder, where, if non-irritating, it may be left, or from which it may be withdrawn by slightly advancing the catheter. To determine when the point of the catheter is in the prostrate is ordinarily easy to one accustomed to make these applications, for the sensation of a slight resistance at the constrictor is easily perceived, and, as soon as this is passed, the instrument is in correct position. In case of doubt, the catheter may be advanced till it draws water and then withdrawn into the prostate.

In conclusion, I would say that I have endeavored not to overstate, and do not think I have overestimated, the importance of this constrictor muscle in relation to the pathology and treatment of the inflammations of the urethra and neck of the bladder, and I believe that a correct appreciation of its action is of the greatest importance for the proper application of local treatment to these diseases.

#### REPORT OF A CASE OF MONOMANIA.<sup>1</sup>

BY E. S. BOLAND, M.D.

Miss X. consulted me in September, 1883, for what she recognized as a third attack of insanity. Aged thirty-one. She is the youngest of five children. There is no insanity in the family as far as known. She is a Catholic. Naturally amiable, sociable, and intelligent. A graduate of one of the city grammar schools, she declined a proposed normal course and began to learn dressmaking with an older sister.

She is of rather slight build, but is fairly well-proportioned and has pleasing features. Her hair began to turn in her teens and is now quite gray. Menstruation began about the age of twelve, but was always scanty and the periods painful. At fourteen or fifteen there was amenorrhea for a year or more, for which she was treated locally with some benefit. With this exception her general health has been good except during the two former attacks, which shall be referred to later.

When she presented herself she had for some years been employed as a saleswoman in a large dry-goods house. Beginning to feel unequal to her work she took a vacation, but received no permanent benefit. She complained of failing general health and inability to fix her mind on her work. She had an involuntary and irresistible impulse or conception to repeat every act, word, or thought five times. This occupied all her waking hours, to the exclusion of almost every other mental operation.

This symptom was present in both former attacks and she has learned to fear it. The first of these attacks she recovered from at home in four or five

months, the second attack lasted over a year and was recovered from in the Boston Lunatic Hospital. Along with the imperative repetition of everything in series of fives there was complete menstrual suppression and dreamless sleep. Both these symptoms had again recurred. She knew too well their significance and was in dismay at the prospect of months of suffering before her. There was some loss of flesh, poor sleep, and great mental suffering. She knows the absurdity of her counting and felt that it is a great annoyance to her family and yet she was totally helpless to resist it.

Hospital treatment was advised but was not acted on and she was treated at home. A liberal diet, wine, and rest was ordered, and iron quinine and strychnine in tonic doses was prescribed and various combinations of sedatives given for the relief of her broken sleep.

After several weeks of this treatment, no improvement could be seen. In fact she seemed to get worse. The counting continued on every occasion, the sleep was poor, appetite deficient and irregular, and from standing and debility her feet and ankles became edematous at night.

Still, her ordinary intelligence was not markedly affected, her memory was good, her hope of recovery persisted, and she was keenly aware of her unfortunate and troublesome condition. Hospital treatment was again urged. The friends would gladly have sent her to the hospital, but it was then crowded and they refused to have her sent to a State hospital. She would not go voluntarily, as she dreaded the surrender of her own way, which commitment implied. She was ordered to bed, and no evidence of heart or kidney trouble being found, the treatment before instituted was continued, both as to medicine and diet. For three months she gradually grew worse. She ate irregularly, sat up in bed, counted, and compelled the rest of the family to count, or repeat anything said or done. If she moved her hand or her body once she had to repeat the act five times. If she swallowed saliva once she had to do so five times. She had grown so persistent and noisy that she was kept in an attic room. Here, if she heard the front door closed, she would give the family no peace until it had been closed five times. When I called and took her pulse or examined her tongue she would manoeuvre to have the operation repeated five times.

With failing general health the dominant idea grew stronger. She resisted noisily every effort for her care. Her toilet, her meals, her bedmaking, etc., became occasions of great trouble to her family. She wet the bed, refused food except at night, and kept an elderly aunt, who had the immediate care of her, so busy counting and repeating acts, that she was almost worn out. She opposed any disturbance or change in her clothing, etc., and grew exceedingly dirty and disagreeable-looking. The family were worn out by her exactions and the neighbors complained to the police of the noise she made.

She was conscious of her state and actually loathed it, showed mortification at being seen in such a plight, but was so inert bodily and mentally she would not try to help herself. There was no turning against any of the family and she realized what a nuisance she was at home.

<sup>1</sup> Read before the Boston Medico-Psychological Society, December 18, 1883.

At this time, May, 1884, a vacancy occurring in the Boston Lunatic Hospital, she was regularly committed. When told she was to go to the hospital she protested, but made less trouble than was expected. She was able to walk up to her room with some help and was put to bed.

She still counted, sat half erect in bed, and was opposed to any change in room, bed, attendants, etc. She rather protested against toilet requirement, but less so than at home; in fact, was never noisy after admission. She was rational in her talk and very grateful for what was done for her. Extra diet, tonics, and some sedatives were used, and, as soon as possible, she was made to sit up and go out, but this was not until she had been in the hospital a month. About this time her reflexes were taken, and she wanted the tests made five times. When gotten up she always sat bolt upright in her chair with a hand on each knee, and her face as set and body as motionless as an Egyptian deity in stone. To propose another place or chair was to distress her very much, and she would always protest and say: "Just wait a while till I get better."

The tormenting *fices* still controlled her thoughts and actions. It differed from the self-imposed posture, phrase, or trick of the hysterical or demented patient. She realized its absurdity and regretted her submission to it, but is apparently as powerless to resist it as is the epileptic to suppress his fit or automatism. Ordinarily ladylike and stylish she was now negligent of her appearance, would not use a toothbrush and would sit or go out in a wrapper.

There was a slight general improvement for some months but she was all the time sensitive to any change and shrunk from notice. During October there was a gain in weight and the acne disappeared from her face and her sleep was better.

November 7th, she suddenly felt the cloud lifted and found herself in excellent spirits. The counting was suspended and she was happy as a child. This respite lasted almost two days when she dropped back again, but not so bad as before.

At this date she has almost regained her usual weight, looks bright, talks readily and well, and goes to chapel but does not yet read or work. She begins to dream at night as is her habit in health. She still has to count some at times. She has all through this attack evinced a desire to wait rather than work for her recovery, which she seems never to have doubted would come and which we think will be complete in a few months.

The case might be regarded as simply one of hysterical mania in a girl of a degenerative type, for there has been recurrence and there is presumably imperfect sexual development and premature gray hair, etc., but the persistence of the dominant symptom—involuntary counting—hardly admits of being classed among the well-known and shifting vagaries of the hysteric. That she is wilfully indulging this freak of counting I do not believe. She does not parade it, regards it with disgust, and shows genuine pleasure at its disappearance. Viewed in any light these features of her case will strike the observer:—

Her type of constitution; three attacks of gradually increasing severity in which these three

symptoms recurred: amenorrhea, dreamless sleep and imperative impulse to count in *fices*; mental and physical inertia; loss of thought-control; dread of change; hope of recovery.

## REPORT ON CARE OF THE INSANE.

BY WALTER CHANNING, M.D.

### SUICIDAL PATIENTS IN INSANE HOSPITALS.

DR. SAVAGE writes<sup>1</sup> of the dread that the public have of the commission of suicide. He himself thinks that the consideration of how suicides can best be avoided in lunatic asylums should be secondary to the care of curable cases.

In the Bethlem Asylum, of which he is superintendent, from twenty to thirty per cent. of the patients are described as suicidal, on admission. If this large number were to be placed under inspection the asylum must cease to exist as one in which patients have separate rooms and are treated in a homelike way. The number of actively suicidal patients, however, probably does not exceed five per cent.

Among the most dangerous are those patients with hallucinations of hearing, those who are persecuted, or whose relations are persecuted, those with profound mental misery, etc.

The "persecuted" man is often more at peace if left in a room by himself, and often, also, young, plastic girls, who will be made more suicidal by association with others. Even patients who have attempted suicide, and who come of suicidal stock, can best be relieved from the thought of suicide, "though with some risk," in single rooms.

Dr. Savage says he does not consider constant watching of benefit to the patient. Patients have often told him, that when constantly watched, they felt as if they were dared to do a thing, and naturally set themselves to work to evade their tormentors.

It doubtless gives the superintendent a feeling of security to know that a patient is constantly watched, but the chances of recovery, though attended with greater risk, will be better in single rooms.

When a patient is admitted to the Bethlem Hospital with "suicidal" against his name, Dr. Savage puts him for a few nights in strong clothes and strong sheets in a single room. He examines the patient to decide whether this is necessary, and very often he accepts the statement of the patient, that he will exercise self-control. By encouraging self-reliance the patient very generally gets well, which he believes would not be the case if he were not trusted.

### GERMAN IDEAS OF INSANE-ASYLUM BUILDING AND MANAGEMENT.

Dr. Hasse, director of the insane asylum at Königslutter, in the Province of Brunswick, writes entertainingly on this subject.<sup>2</sup>

<sup>1</sup> Constant Watching of Suicidal Cases. By George H. Savage, M.D., Journal of Mental Science, April, 1884.

<sup>2</sup> *Einiges über Irrenanstalten*. Von Med. Rath Dr. Hasse. Allg. Zeitschrift f. Psychiatrie, 41. Band, 1. Heft.

First, he describes the building of an addition to his institution for seventy-four patients. He traveled through Germany, Switzerland, and England for the purpose of getting suggestions as to buildings and finally decided to put up four pavilions.

These pavilions are each separate and entire by themselves, and a short distance from the parent institution, yet they are near enough to be easily managed. Everything is open and free in them, so that patients can go in and out as they please.

The buildings are of stone, after an agreeable style of architecture.

In the basement are the bathing arrangements, in the men's department there being a swimming-basin.

The pavilions for the men and women of the first and second classes have four single rooms on the first story. These rooms open into large rooms, which are the dining-room and parlor, the latter room being connected by large doors. The parlor for the men contains a billiard-table, and that for the women a grand piano. There is also a room for employees in this story. In the second story there are more single rooms for patients and an attendant.

The arrangements in the pavilion for the patients of the second and third classes are quite different in regard to sleeping and day rooms.

In these pavilions the patients pass the day in the first story, and sleep in the second. Each dining-room has a capacity for twenty-five patients and two attendants. On each side are large halls for reading, conversation, amusements, etc. Connected with these halls is a room with two beds for any case of sudden sickness during the day.

Dr. Hasse gives quite a glowing account of the Morning-side Asylum, yet he is honest in his criticisms, and says it has its weak side, like everything else in the world. In several of the buildings the corridor is in the middle, and so shut in by the rooms on each side that it can only be lighted by light from above. One could become melancholy with such surroundings, if not already so.

The single rooms are all too small, and the buildings for the rich patients are poorly situated.

The infirmary is remarkably complete in all its details, being provided with everything necessary for bodily sicknesses.

The Englishman loves to decorate and carpet every nook and corner of his house, rather more than is necessary according to the German idea, but this infirmary presents a "luxurious simplicity."

The Morning-side Asylum has had the reputation of having reached the highest point of development of the "open-door" system, but this is an error. Perhaps the only asylum which can lay claim to having reached this point is that at Lindsay, in Glasgow. Even here, however, the system is not absolutely carried out. In the first place the wards at Lindsay are not opened until 10 o'clock, and are closed again at 5 o'clock. At 7 o'clock all of the patients are put to bed. " . . . The wards are all opened — yes; but those patients who for one reason and another are not considered in a proper condition to associate with the others will be locked in their rooms in their own wards."

These exceptional cases destroy the principle of an open-door system, in the sense of being open to every patient.

In the asylum at Königsutter the open-door system is also available for all such patients as are fit to be trusted; further than that they do not go. Both at Lindsay and Morning-side the open-door system is used much more extensively than in most German institutions.

Dr. Hasse closes his remarks on the open-door system as follows: "When, in London, I talked with Crichton Browne, one of the Commissioners in Lunacy, in regard to the open-door system, as it was now being forced (*poussée*) in Scotland, he laughingly shrugged his shoulders. That I also do." "Die Realame darfnoch nirgends fehlen."

#### INSANE INSTITUTIONS OF BOHEMIA.

Dr. H. Dagonet, the medical head of the St. Anne Asylum for the Insane in France, gives a clear description of a late visit to the new Bohemian asylum at Dobran.<sup>3</sup>

Bohemia, the important Austrian province, contains a population of 5,500,000, of whom two fifths speak German. There are twenty-two hundred insane patients inclusive of idiots, which gives about one lunatic to twenty-five hundred inhabitants. The French Department of the Seine, which includes Paris, has a proportion of about one to three hundred, a difference easily explained by the different character of the people.

There is at Prague an institution for one hundred idiots, and others are boarded out in families.

The principal lunatic asylum of Bohemia is at Prague, and contains eleven hundred inmates. Connected with this is a department for incurables, at Kosmanos, a few miles distant, containing five hundred patients.

The new asylum at Dobran has been opened four years and a half, and is on the Pilsen and Eisenstein railway. It is constructed on the principle of separate pavilions, and cost 3,300,000 francs. Three principal detached buildings form the front of the asylum, the middle one being used for administrative purposes, and one on either side for the quiet men and women. Behind these are buildings for the partially excited, and other buildings for the excited, the sick, and suicidal. There is a building for dirty paralytics; a farm for the workers; a pavilion for the divers professions and trades, and buildings for the baths, laundry, employees' families, and an isolated building for contagious diseases. Most of these buildings are connected by corridors. The building for the quiet has the paying patients on the first floor and the paupers on the second floor.

Each story has two dormitories for ten patients, separate chambers, cabinets, bathrooms, parlors, etc. The chambers open on a corridor, in which the patients walk. In some ways convenience is sacrificed to architectural effect. The asylum is placed on a high, barren hill, which is very inconvenient and calculated to depress the patients.

Dr. Pick, the medical director of the institution, is a well-known alienist, and may be selected to take the chair of psychiatry at the University of Prague, which has been refused by Dr. Krafft-Ebing.

<sup>3</sup> Une Visite à l'Asile d'aliénés de Dobran. Par M. le Dr. H. Dagonet. *Annales Médico-Psychologiques*. Forty third Year, No 2, 1885.

Dr. Pick has under him a steward, steward's assistant, and clerk, to look after the business details.

One family at Prague has charge of the catering for the different hospitals and asylums of Bohemia, and the cook at Dobran is a member of this family! A certain fixed amount is paid for each patient's ration, and there is a special tariff for extra diet ordered by the physicians.

Under the medical director there are three medical assistants, who are paid only 1,200 florins annually. There is one nurse to seven or eight patients. Restraint is used as little as possible. Camisoles and locked gloves are used in the rarest instances. Consultations are allowed with outside physicians at the request of the patient's friends. Within forty-eight hours of the admission of a patient, the court must be informed and an official visit the patient.

The insane of Bohemia principally have quiet forms of insanity. Aside from puerperal mania, the cases among women are chiefly of melancholia. Among men, insanity from alcohol and general paralysis are the chief forms observed. The proportion of the former is about twenty in one hundred, and there are twenty-five cases of general paralysis in one hundred among the men, and eight in one hundred among the women. The duration of general paralysis is longer in the female cases than the male. Seventy patients in one hundred are occupied. Paraldehyd is used instead of chloral, in doses of six to eight grammes. Morphia and hyoscinamine are used hypodermically, in doses of one to three milligrammes. Baths of two hours are employed, and the douche is used as a means of moral treatment. "A woman resists no more after she has had the douche, Dr. Anton (the assistant) told me; I do not believe this simple means would suffice in our asylum!"

#### CONDITION OF THE EYES OF THE INSANE.

Drs. Wigglesworth and Bickerton<sup>1</sup> have recently published their conclusions on the condition of the eye in the insane. With the proviso that it is necessary to draw a clear line of distinction between the disease known as general paralysis of the insane, and other forms of insanity, they find (1) that in insanity proper (including all other forms than general paralysis) changes are found in a small minority of cases. Making allowance for changes depending upon associated constitutional conditions, errors of refraction, etc., the number of cases in which a connection between the mental (cerebral) state and the accompanying change in the fundus oculi can be so much as suspected is very small.

As a corollary from this it may be said

(2) That in insanity proper no connection can be traced between the condition of the fundus oculi and the patient's mental state.

(3) That in the majority of cases of general paralysis the fundus oculi presents a perfectly healthy appearance.

(4) That in a minority of cases clear and precise lesions are found.

(5) That these lesions fall into two main classes, the one tending in the direction of slight neuritis, the other in that of atrophy.

(6) That in the former class the affection declares itself as a hyperæmia of the discs, the edges being softened and indistinct, so that in some cases they can be traced with difficulty or not at all. These conditions tend to be replaced by atrophy, if the patient live long enough, and complete disorganization of the nerve may take place. The changes are essentially chronic.

(7) That, though atrophy of the optic nerves may thus succeed to a slight chronic interstitial neuritis, it is also not infrequently primary *at the disc*; the atrophy may be complete, the patient becoming quite blind.

(8) That the pathological basis underlying the appearances of a slight neuritis may be broadly characterized as a tendency to overgrowth in the connective elements of the nerve; the trabeculae not only getting greatly hypertrophied, but the neuroglia corpuscles becoming very large and numerous; these parts thus grow at the expense of the nervous elements, which subsequently atrophy.

(9) That in cases of primary atrophy the pathological appearances eventually reached, though somewhat similar, may possibly take place in the reverse order *at the disc*; the nerve fibres being the first to dwindle, and the fibrous elements, trabeculae, etc., subsequently taking on increased growth.

(10) That in a considerable proportion of the cases, in which atrophy of the optic discs is met, spinal symptoms are prominent in the disease, these symptoms pointing in the direction of posterior or lateral sclerosis of the cord; but that the connection is by no means invariable.

#### CHANGES IN THE URINE IN FASTING INSANE PERSONS.<sup>2</sup>

Herr Tuezek has made some investigations in this direction in two patients who went without food for some time. The first patient, who was thirty-two years of age, fasted for twenty-three days. During eight days nothing was taken into the stomach, and during the remainder of the time only water. The second patient, who had delusion of poisoning, fasted for twenty-eight days, during fourteen of these days taking nothing.

In the latter case the urine excreted in the twenty-four hours amounted to only nine grammes. The specific gravity increased with the increased concentration, grew less at a later period, then rose again. Indican was absent during the gradual diminution in the amount of the urine and appeared only when food was again taken.

The amount of albumen excreted during fasting, as shown in these investigations, is very small.

The loss of weight in the fasting is particularly due to the diminution of water.

According to Herr Tuezek's investigation, the proper way to prevent great loss of weight in fasting subjects is by warmth and rest rather than by forced feeding.

The above remarks are interesting as bearing on the subject of forced feeding of the insane, to which attention was called last year in this report.

Now far we may be inclined to follow the suggestions of late German writers in administering food is for each one to settle for himself. Undoubtedly, feeding has been often pushed too far and at any

<sup>1</sup>On the Condition of the Fundus Oculi in Insane Individuals. By J. Wigglesworth, M.D., and T. Bickerton, L.R.C.P., Bradn, July, 1884.

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<sup>2</sup>Centralblatt, July 15, 1881.

rate carried out empirically, but we shall hesitate for some time before we allow two, three, and four weeks to elapse without giving even a small quantity of water.

#### BLOOD OF INSANE PERSONS.

Dr. Macphail has made a very thorough study of this subject at the Garlands Asylum, Carlisle, of which institution he is the assistant medical superintendent.<sup>6</sup>

In examining the blood for clinical purposes there are three points to be considered: (1) Its richness in corpuscles. (2) The richness of the corpuscles in hæmoglobin; (3) The amount of water diluting the corpuscles.

For determining the richness of the blood in corpuscles, Macphail used Dr. Gower's hæmacytometer, and for ascertaining the amount of hæmoglobin, the hæmoglobinometer.

The total number of his observations was four hundred and twenty.

Dr. Macphail's general conclusions, which we have only room to present here, were in part as follows:—

(1) While there is no evidence to show that anemia is in itself a cause of insanity, yet an anemic condition is often associated with mental disease.

(2) The blood in masturbating patients is deteriorated to a marked degree.

(3) The blood is below the normal standard in general paralysis, and most so in the active and completely paralyzed stages.

(4) While there is a deficiency in epileptics, it is not so marked as in demented at the same age.

(5) Prolonged and continuous doses of bromide of potass. do not cause deterioration in the quality of the blood.

(6) The blood of the average number of patients is deteriorated on admittance to the asylum.

(7) In patients who recover, it is not below normal on discharge.

(8) There appears to be a close connection between gain in weight, improvement in quality of blood, and mental recovery.

(9) Improvement in mental condition is most marked under tonic treatment.

(10) The four tonics which proved most efficacious in restoring the quality of the blood were in the order named: (a) iron, quinine, and strychnine; (b) iron and quinine; (c) iron alone, and (d) malt extract.

(11) Arsenic proved of little value as a blood-tonic and observations with cod-liver oil and quassia were not satisfactory.

(12) The close connection which exists between improvement in the quality of the blood, increase in weight, and mental recovery, the converse which exists in cases of persistent and incurable dementia, and the marked improvement under the use of remedial agents, show that this line of clinical research, more especially with reference to the curative treatment of the insane, should have more attention paid to it than has hitherto been the case.

#### DRUGS IN THE TREATMENT OF INSANITY. OPIUM.

The use of this drug in treating the insane has been alternately extolled and condemned. Many of the older insane-hospital superintendents have used it through thick and thin, passing through the chloral, bromide of potass., hyosciamine, and other sedative waves, comparatively untouched. The utility of small doses of opium or morphia in melancholia has been generally recognized, and this plan of treatment pursued when the drug was used in no other way.

Within the last year or two, however, the opium treatment in all forms of insanity has shown a new lease of life and Dr. H. Engelien, among others, speaks of it in the highest terms.<sup>7</sup> Narcotics to overcome the condition of pain of all kinds are of the highest importance, and opium is the first and best of all of these.

There have been many failures in the hands of physicians who have seen little of mental diseases and do not carry out the opium treatment thoroughly.

Schille, at Hlenau, has had great success with injections of morphia, more particularly in cases of melancholia. The injection plan of morphia has a certain amount of fashion and prestige about it, but is not so well adapted for cases in private practice. Neither is morphia so successful in overcoming mental and physical irregularities as opium with its numerous alkaloids, and Dr. Engelien gives up the injections in hospital treatment. The advantage of opium consists largely in its easily recognized tonic and nutritive properties.

In some cases improvement immediately takes place, in others it is much protracted. Many cases have been recorded where improvement was marked from the first dose. Dr. Engelien has seen no case where improvement has not taken place.

The dose should be great enough to produce a light but decided narcotic effect. A dose of this sort lessens the neuralgic pain, so often present, as well as the feeling of weariness.

In most of the cases of the cerebral neuroses, two to three tenths of a gramme given daily in divided doses will be a sufficient quantity. In some cases of extreme violence or very intense melancholy larger doses for a short time may be necessary.

When the proper sized dose has been found the treatment must be persisted in until complete recovery is nearly reached, and then the doses can be diminished gradually, great care being exercised in so doing. First, the dose may be lessened by a quarter or a third, the patient being then carefully watched for a period of eight days. If no ill effect is observed, a slight further reduction may be made. If at any time a relapse is observed, the dose must be increased to the next highest dose.

Small doses are of no effect. Large doses given twice daily are alone of any service.

With great excitement the opium will not produce sleep until it has produced an effect on the brain irritation. In such cases sedatives, such as chloral, given for a few nights in moderate doses, may be necessary.

<sup>6</sup> *Allg. Zeitschrift f. Psychiatrie*, 11 Band, 1er Heft.

<sup>7</sup> *Clinical Observations on the Blood of the Insane*. By S. Rathford Macphail. *Journal of Mental Science*, October, 1881, and January, 1885.

An equally strong endorsement of the virtue of morphia is found in the recent observation of Auguste Voisin.<sup>8</sup> He has persisted in the opium and morphia treatment of insanity since 1867. His success was first interfered with by the obstinate vomiting, but learning from Roller that, notwithstanding, the dose must be increased, he was ultimately successful. He has treated mania, melancholia, criminal insanity, and moral insanity with good results. He uses the hydrochlorate of morphia hypodermically.

In the initial dose, he does not exceed one to three milligrammes. Light cases are sometimes relieved by a daily dose of five or six centigrammes, but in other cases the dose has to be increased to seventy centigrammes a day.

The influence of the medicine is shown by redness of the face and conjunctivæ, nausea, vomiting, general sensation of heat, lassitude, sleep, loss of weight, diminution of arterial tension. Later the color improves and there is a gain in weight.

The presence of a congested condition of the cerebro-spinal system presents an absolute contraindication to the use of morphia, as well as epilepsy and general paralysis.

#### ERGOT.

Dr. Nebel<sup>9</sup> has recently been led to try ergot in a somewhat new way after the suggestion of Dr. Luton, in the *Bull. de Théor. c.*, p. 254, 1881, who gave his patients a mixture of tincture of ergot and phosphate of soda, which he called "mixture exhilarans," because of its similar effect to laughing-gas.

The writer records his observations for the purpose of giving renewed vigor to the use of ergot in cases of insanity. He regards ergot as a valuable drug in arterial and blood changes, exerting a considerable influence on the cerebral circulation.

He used in his experiments a mixture of tinct. secale cornu 4.0, natii phosphor 1.5, aque 15.0, giving this amount daily.

The results of his observations to a certain extent confirm those of Dr. Luton. The mixture often produces a condition of exhilaration, similar to that of intoxication, within a period of one hour. In most of his cases there was improvement, which seemed to be decided in character, and many of these cases were ones in which no change had taken place for a long time.

Dr. Jaekel, in a note, or postscript, to Dr. Nebel's paper, details briefly the conclusions of Dr. Adam, interne d'asile d'aliénés de France.

Dr. Adam gave only a few single doses in each case, fearing the effects of the intoxication produced. His cases were principally of melancholia.

He concludes: (1) That the mixture exhilarans can in certain cases modify condition of depression, but only for a short time and is not to be entirely relied on; (2) Laughing attacks (described by Luton) he has not met. (3) Doses of nine grammes of the tincture of ergot and two and seven-tenths grammes of phosphate of soda would produce vomiting and bad feelings and

are too large. (4) It is to be supposed that the long-continued use of the mixture would produce injurious effects.

The two latter conclusions are directly opposed to those of Nebel, who gave large doses for months at a time, and never saw any indication of ergotism as well as no interference with menstruation.

#### PARALDEHYD, NITROGLYCERIN, AND JAMAICA DOGWOOD.

Dr. J. B. Andrews,<sup>10</sup> superintendent of the Insane Asylum at Buffalo, New York, presented this interesting paper at the meeting of insane-hospital superintendents in May last.

His experiments were carefully made, and largely with the aid of the sphygmograph.

PARALDEHYD, with which we have become familiar during the past year more especially, was first introduced to the Italian medical profession, by Cervello, of Palermo, and in September, 1882, was reported on, at a meeting of the Italian Medical Association, by Morrello and Bergesio.

It is formed from an aldehyd, by the action of an acid. Its symbol is  $C_6H_{12}O_3$ . When acted on by chlorine, it is said to be converted into chloral.

It has a pungent, unpleasant taste (far worse than chloral). It is miscible in eight times its bulk of water.

Its use is that of a sedative and hypnotic.

Dr. Andrews gives nine cases in which he used paraldehyd experimentally to ascertain its physiological effects. In these cases one to three drachms was the size of the dose. The result showed that even large doses were not capable of producing with certainty a hypnotic effect.

The number of clinical cases in which the drug was prescribed was ten. In five of these cases the results were satisfactory; in the other five no benefit was derived.

The effect of a large dose was like a stimulant in a narcotic dose. When sleep was produced from a small dose, it was pleasant and natural.

The effect of the medicine was at its height in from thirty to forty-five minutes.

Paraldehyd is antiseptic like chloral.

Dr. Andrews concludes that, while this drug possesses undoubted hypnotic powers, its bad taste, the large amount of water needed to dilute it, and its similarity, but inferiority, to other hypnotics, contraindicate its general use.

NITROGLYCERIN, or GLONOXIN. The theory of the action of this drug is that it reduces arterial tension by paralyzing the vaso-motor nerves, and thereby dilating the bloodvessels.

Dr. Andrews first tried glonoxin to ascertain its physiological effects, and then gave it to demented with cold extremities, and epileptics. The dose he used was from three minims upward.

The conclusions from his experiments were: (1) they sustain the theory given of its action; (2) it has no beneficial effect in dementia, as claimed, other than to temporarily relieve the congestion of the extremities; (3) in many cases of epilepsy it has a positively injurious effect.

JAMAICA DOGWOOD (*PISCIDIA ERYTHRINA*). In

<sup>8</sup> *Léçons Cliniques sur les Maladies Mentales*, 1883. Jour. Am. Med. Association, vol. III, p. 247.

<sup>9</sup> *Ein Beitrag zur Wirkung der Ergotins bei Psychosen*, Hyster. Band. 3ter Heft, 1884.

<sup>10</sup> Report on New Remedies. By J. B. Andrews, M.D. American Journal of Insanity, October, 1884.

880 Dr. James Scott published in the *Therapeutic Gazette* a few notes on the use of this drug as a substitute for opium in the treatment of a class of cases characterized by excitement and restlessness, which morphia and other preparations of opium have failed to control. The effects, as described by him, were remarkable. In some cases sleep was produced. On awaking, the patients were comparatively quiet and tranquil. In more severe cases it was necessary to repeat the dose until the narcotic effect was manifest.

Dr. Andrews concludes, from his own experiments, that dogwood is a hypnotic of uncertain power, and that to gain any benefit it must be given in larger doses than recommended by the makers, from a drachm and a half to two drachms. In such doses nausea is frequently produced. It is not a remedy to be relied on in insanity, but may prove useful in some nervous and hysterical cases where opium is contra-indicated.

THE LENGTH OF THE TIME OF REACTION (OR REFLEX ACTION) IN THE ACOUSTIC HALLUCINATIONS OF THE INSANE.

Guicciardi and Tanzi<sup>11</sup> have recently published an interesting paper on this subject. Hallucinations of hearing have been chosen because of the great clearness and brilliancy with which they are repeated, and their subjects are often possessed of a considerable degree of intelligence.

The reflex are can be divided into five portions: (1) peripheral apparatus of sense; (2) the centripetal avenue; (3) the portion of conscious elaboration; (4) the centrifugal avenue; (5) the peripheral apparatus of motion. In these tracks variations occur, which are incomparably more numerous in the conscious portion than any other, as in the latter are comprehended perceptive and motor determination, these being affected by attention and will.

The experiments made by the writers were upon both sane and insane individuals, for the sake of comparison. Of the latter, six were men and eight women, most of them being cases of persecutory and ambitious paranoia. Fifty observations were carefully made with the chronoscope, the results being expressed in minimum and maximum groups of figures. From these observations it was found that reaction was more intense, more perfect, with a greater degree of attention, than in sane individuals in the earlier observations. These conditions disappeared, however, as outside interruptions and distractions increased.

The writers were led to conclude that the concrete sensation of a given object is formed either without any centripetal action of the peripheral sensorial apparatus, or by an action of the latter which is inadequate to the forming of an image.

There takes place in the first case a hallucination purely perceptive, which is nothing but an image, mnemonic or mental, reproduced with an uncommon degree of intensity, and hence of reality (morbid irritability of the sensorial centres of the cerebral cortex, analogous to that which epilepsy of cortical origin produces on the motor centres).

In the second case the hallucination partakes of the nature of an illusion, and depends on the erroneous interpretation of a peripheral stimulus.

Jolly found in five cases a hyperæsthesia of the acoustic nerve, which enabled Brenner to subject hallucinated persons to an advantageous treatment with electricity.

Guicciardi and Tanzi end their paper by saying that "however little importance the promptitude of reflex action may have as an expression of the degree of intelligence preserved, nevertheless, the presence of the promptness in cases of paranoia confirms the generally accepted belief that in this form of insanity there is no tendency to a real intellectual weakening."

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

MARCH 23, 1885. The President, Dr. F. W. DRAFER, in the chair.

Dr. GEORGE B. SHATTUCK reported a case of

ENORMOUS FALSE ANEURISM OPENING FROM THE ABDOMINAL AORTA.

Dr. W. W. GANNETT described the appearances found at the autopsy. There was an aneurism of the abdominal aorta just below the diaphragm, the size of a closed fist. From its anterior surface the two phrenic arteries and the celiac axis were given off. Its posterior wall was formed by the bodies of the twelfth dorsal and first lumbar vertebrae, which had been eroded to half their depth.

The aneurism had ruptured, by a slit-like opening wide enough to admit the tips of four fingers, into the tissues posterior to the peritoneum, dissecting off the transversalis and quadratus lumborum muscles, on the left side, from the deeper-lying muscles, pressing these forward and forming an extra peritoneal cavity the size of a watermelon, which was filled in part by laminated, pale coagula, in part by dark, soft coagula and fluid blood. In other words, a false aneurism, or hæmatoma.

The blood in its course had separated the iliacus from the left ilium over its upper third, and there was considerable erosion of the bone. The blood had extended through the femoral ring on the left side into the tissues of the upper part of the thigh, where there was a cavity the size of a fist, with smooth walls, and filled with coagulated and fluid blood.

The tumor formed by this extravasated blood occupied about half of the cavity of the abdomen.

The descending colon had been pushed over to the right side of the abdomen, and the left kidney lay transversely on a level with the spleen.

Dr. J. C. WARREN made some interesting remarks

ON THE HEALING OF ARTERIES AFTER LIGATION,

and showed specimens.

Dr. A. T. CANOT read a paper entitled

<sup>11</sup> Il Tempo di Reazione negli allucinati acustici. *Paranoie del Dottor Giuseppe Guicciardi ed Eugenio Tanzi. Rivista sperimentale di Freniatria. Anno X., Fascicolo IV., 1885.*

## THE CONSTRICTOR URETHRÆ MUSCLE: ITS RELATION TO URETHRAL PATHOLOGY AND TREATMENT.

DR. GEORGE H. TILDEN said that Dr. Cabot had not overstated the importance of the constrictor urethræ muscle, an importance which in general is not sufficiently appreciated. One of the most striking methods of demonstrating the existence and influence of this muscle is to pass an instrument upon the cadaver, after post-mortem rigidity has set in, when it will be found impossible, without exerting considerable force, either to pass the instrument into the bladder from the meatus or in the reverse direction from the bladder outward; the reason of this being the resistance offered to the passage of the instrument by the post-mortem rigidity of this constrictor muscle, the membranous urethra being thereby closed. Of course after this resistance has been once overcome the instrument passes readily back and forth. The action also of this muscle during life enables us to tell in which of the three divisions of the urinary tract the end of a catheter may be, and to apply injection to any one of the three. When a soft catheter is introduced into the urethra, and fluid injected through the instrument, if the fluid returns at the side of the catheter and comes out of the meatus, we know that the end of the catheter is somewhere in the anterior urethra, on the distal side of the constrictor muscle. If the fluid which is injected does not return at all, either at the side of the catheter or through it, we know that the end of the instrument is somewhere in the posterior urethra, between the constrictor muscle and the internal vesical sphincter; and if the fluid injected returns not by the side of the catheter, but through it, it shows that the eye of the instrument has passed the internal vesical sphincter and is in the bladder. The action of the constrictor muscle influences the diagnosis of urethral disease as well as its pathology and treatment, and it is of the highest importance in any case to determine which region of the urethra is affected, for the secret of the treatment of gleet is to know exactly what you want to do and then to do it. As Dr. Cabot has said, the tonic contraction of the constrictor urethræ muscle causes the retention of any purulent secretion which takes place behind it, and this is discharged only during micturition. When the patient is directed to urinate into two glasses and the urine in the first glass is cloudy and contains pus, while that in the second glass is perfectly clear and free from pus, it only shows that there is no inflammation of the bladder, but does not indicate which portion of the urethra is affected. The converse of the above does not hold good, namely, if the urine in both glasses contains pus, it does not follow that the bladder is affected, for the reason that purulent secretions from the posterior urethra may work back through the internal and involuntary sphincter into the bladder, there to mix with the urine, to be eliminated with it during micturition, and thus be present in the urine passed into each glass. The best way of determining whether there is any inflammatory affection of the posterior urethra, by examination of the urine, is to pass a soft-rubber catheter into the bulbous urethra as far as the constrictor muscle, and thoroughly wash out the anterior urethra in its

whole extent, until it is perfectly clean. Any discharge from the anterior urethra is thus eliminated from consideration, and if the patient immediately urinate in two glasses and the urine in the first glass contains pus, while that in the second glass is clear, it is positive evidence that there is inflammation of the posterior urethra somewhere between the two sphincter muscles. Other evidence, of course, is to be derived from the subjective sensations of the patient, frequency of micturition, etc., which, however, are often entirely wanting; from microscopical examination of the urinary sediment, and by examination of the urethra as to sensitive regions and thickenings of the mucous membrane, by means of instruments. The best treatment for the thickened and inflamed patches of urethral mucous membrane, which are so commonly the cause of gleet, is the passage of large-sized sounds, that is, not merely large enough to pass the meatus, which must often be enlarged, but large enough to fully distend the urethra to its individual and normal calibre; and also the application of an aqueous solution of nitrate of silver. In giving injections or making applications to the urethral mucous membrane, it is not a good plan to use fat or vaseline in order to lubricate the instruments employed, as these substances furnish mechanical protection to the mucous membrane and interfere with the full action of the solution used, but glycerin should be employed for this purpose. Cases of gleet sometimes resist treatment with surprising tenacity, and in such cases it is not irrational to suppose that an implication of some of the follicles of the urethral mucous membrane, by the inflammatory process, has taken place. One occasionally sees, during the course of gleet, the development of a very small sinus, not large enough to receive even a bristle, and which opens very near the meatus, within a sixteenth of an inch of it. Such a sinus keeps continually discharging minute quantities of pus, is extremely difficult to close, and is probably caused by the extension of inflammation into one of the mucous follicles just within the meatus. The process forms by extension an opening outside the meatus on the glans penis, thus constituting a fistula of minute size. There is no reason why a similar process should not take place deeper down in the urethra and thus indefinitely perpetuate a slight gleet discharge. This idea receives confirmation from the fact that one sometimes meets with a peri-urethral abscess during gleet, the starting-point of which can hardly be anything but follicular inflammation.

DR. F. B. GREENOUGH said that he had been much interested in the paper, and would only say that he would like to confirm Dr. Tilden's statement that some cases of gleet are very obstinate.

DR. ARNER POST said that he was glad to see so much importance attached to the constrictor urethræ muscle, as it is a point usually neglected. The common division of the urethra into prostatic, membranous, and spongy portions is not entirely satisfactory when considering disease of the part; and knowledge of the existence of this external sphincter clears up cases not otherwise explainable, such as the sudden extension of disease to the neck of the bladder after the passage of sounds. At the present day the bladder is often washed out with

a syringe after the method of Dr. Bigelow, and the ease with which it is done suggests that the constrictor may be forced by even a gonorrhoea syringe, provided it is a little too large or is too energetically used. In this way Dr. Post explains cases of sudden inflammation of the posterior urethra, occurring so early that ordinary extension of the disease would not have taken place, even if there were no constrictor.

The speaker also showed a plate from Guion representing the urethra of a seven years' gleet, split open so as to show its abrupt limit at the constrictor and its gradual shading off toward the meatus.

DR. CABOT remarked that in Dr. Bigelow's use of the syringe the patient is etherized. He did not remember seeing it used otherwise, and under ordinary circumstances the constrictor is probably less easily forced than during etherization.

DR. GREENOUGH said that, with regard to urethral injections, he believed there were few methods of treatment in the practice of medicine that had done so much harm as they had, when improperly used. He thought the risk of forcing an injection beyond the constrictor could be avoided, without any pressure in the perinaeum, by regulating the amount of injection to be taken according to the capacity of the urethra in each case, and instructing the patient to press the piston of the syringe down slowly and without force, and to stop as soon as there was any approach to a feeling of overdistention, of which the patient's feeling was the best guide. Of course the capacities of urethras vary, but he thought that, in the earlier stages of gonorrhoea, about two thirds of the smaller size of the Royal Excelsior P. would distend the anterior part sufficiently. He thought that the patient's sensation of distention, with the always advised precaution of washing out the urethra by passing water just before injecting, would prevent any possibility of carrying the injection through the constrictor to the deeper urethra.

## NEW ENGLAND OPHTHALMOLOGICAL SOCIETY.

REPORTED BY MYLES STANDISH, M.D., SECRETARY.

The President, DR. DEERY, in the chair.

DR. DEERY reported a case of zonular cataract, which became complete after an iridectomy, accompanied by great haemorrhage.

The case has been already reported in this Journal.

In the discussion which followed, DR. WADSWORTH said that in the first case in which he attempted trituration of the lens it had no effect. Since the first case trituration had invariably effected the result desired. One diabetic cataract was three times pricked through the capsule without effect, but after Förster's operation it became in three months opaque.

DR. SERAQUE inquired of the reader in regard to the amount of pressure exerted in the anterior chamber by the blood.

DR. DEERY replied that the anterior chamber was quickly emptied after the haemorrhage occurred.

DR. HUNT showed a case of iritis without a rheumatic or syphilitic history. First seen with complete adhesion of the pupillary border to the lens.

The adhesions were broken away, and an extraction done. The eye is to-day perfectly clear (two or three weeks after the operation). Patient now has a cataract forming in the other eye. V. to-day =  $\frac{1}{100}$ . In reply to a question of Dr. Shaw, the reader said that the lens was perfectly opaque when the operation was done.

DR. WADSWORTH reported a case of

### LEAD-POISONING COMPLICATED WITH PROBABLE TYPHOID FEVER.

in which there was double optic neuritis, with paralysis of some of the ocular muscles, which were the only symptoms of the lead-poisoning.

DR. DEERY inquired if there had been any improvement in the vision.

DR. WADSWORTH was not certain, but thought not.

DR. CAPRON inquired if any other member of the family had suffered from lead-poisoning.

The reporter said that there was no other case, unless it was that of a servant, who thought he had experienced a relapse of the pains of lead colic since he came to work at the house of patient. He had suffered from lead colic previously.

DR. WADSWORTH said that in the so-called nuclear disease the muscles were affected in just this way.

DR. DEERY said the prognosis in such cases was very bad, with a possibility of quantitative vision.

DR. HAY reported a case of a man, fifty years of age; said his disease was of three months' duration when first seen. Upon ophthalmoscopic examination, a separation was found on the nasal side, which seemed stationary. V. without glass  $\frac{1}{100}$ . Patient said objects looked greenish. T. not increased. Patient was seen at intervals for five months, with failing vision, until it became less than  $\frac{1}{200}$ . Enucleation was advised.

Two months later the patient came complaining of pain. The T. was increased, and a diagnosis of intraocular tumor was made. The eye was enucleated, and a tumor occupying nearly one third of the globe was found.

DR. STANDISH showed sections of the tumor, which proved to be a round-celled sarcoma springing from the choroid.

DR. MILLER said he had seen an eye enucleated, in which was found only a separation of the retina and choroid. There was slight or no increase of T. The tumor appeared ophthalmoscopically of a brownish color, with the outline well defined and distinct. The tumor increased in size while under observation.

DR. HAY said the difficulty lay in a differential diagnosis between choroidal separation and a choroidal tumor.

DR. CAPRON reported a

### CASE OF DIPLOPIA.

Patient first noticed double vision for distant objects, which gradually transferred itself to near objects. Patient was anemic and nervous. V. o. d. =  $\frac{3}{8}$  + V. o. s.  $\frac{3}{8}$ . Motion perfect. Images homonymous, and the same distance apart in all portions of the field. Prisms  $10^\circ \times 8^\circ$  bases inverted overcame the diplopia. No ophthalmoscopic signs. R. Potass. Iodid. Two weeks later diplopia had en-

tirely disappeared, with the exception of one relapse of twenty-four hours. Patient has had sick-headaches, but no disease discovered. A question of hysteria. To-day patient has congestion of the disks, not previously noticed. V. o. d. =  $\frac{2}{30}$ . V. o. s. =  $\frac{2}{30}$ . In reply to a question by Dr. Dyer, the reader said the images were always on the same level, and in reply to Dr. Sprague said patient had not complained of diplopia with the headaches.

Dr. WADSWORTH agreed with the reader that hysteria was the probable cause.

Dr. HUNT suggested that diplopias were sometimes due to astigmatism, and could be corrected by glasses.

Dr. COGGIN reported a case he had first seen October 18th. Woman, sixty-eight years of age. V. o. d. =  $\frac{4}{60}$ . V. o. s.  $\frac{3}{60}$  without glass; with. +1.50 D. V. o. u. =  $\frac{4}{60}$ . T = +1. Pupils and fundus normal. Some opacities of right eye. Dropped in sulphate of atropine, 1 to 1,000 parts, for examination.

October 21st was called to see the patient. Twelve hours after the use of the atropine patient had experienced severe pain in the right eye, with nausea, which lasted thirty-six hours. Vision was lost on the 19th.

When seen, patient had quantitative vision, with dilated pupil and shallow anterior chamber. T. increased, but no pain. R Eserine.

October 24th. V. o. s., with +1.50 =  $\frac{4}{60}$ . Counts fingers O. D. T = 1, same as right eye, with small pupil and shallow anterior chamber.

Dr. HAY said he had had a case of glaucoma following atropine.

Dr. ST. JOHN reported the case of a patient who had experienced an attack of simple acute glaucoma. Iridectomy was done, without improvement to vision, however, and patient had used eserine from time to time in the eye.

Patient returned with slight haziness in lens of other eye. T. absolutely normal. Atropine was used once, 1 to 500 parts, and was followed in two hours by great pain.

Next morning T. = 2, with acute glaucoma. Eserine was used, and in two hours the pain was gone, and now vision is back where it was before, although lost meanwhile. The reporter thought the history might indicate some danger in the removal of the lens.

Dr. WADSWORTH said he was sceptical as to the action of atropine in producing glaucoma, and thought that the mental effect of the examination superinduced the disease in a previous glaucomatous condition. He said he had seen a case of glaucoma checked by the use of atropine, giving relief to the pain and congestion. The case had a few posterior synechie, however. There was present a typical depression of the nerve, with pulsating arteries and increase of T.

—A new use for Croton oil has been discovered in New Jersey, where a wife sprinkled her husband's underclothing with it to keep him from going out evenings. Her success led her to share her secret with her female friends and an epidemic of erythema among the male portion of the community revealed the agency of the anti-club-persuading medicament.

## PATHOLOGICAL SOCIETY OF PHILADELPHIA.

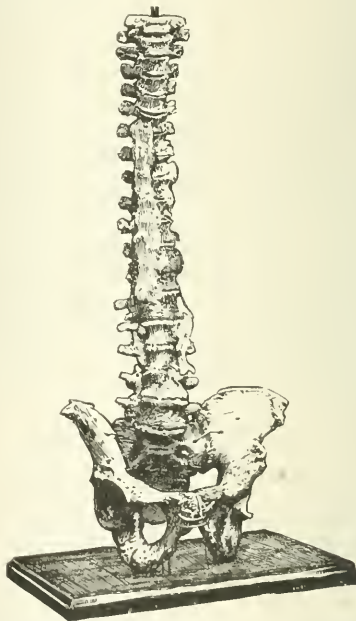
THURSDAY evening, February 26, 1885. The President, DR. SHAKESPEARE, in the chair.

### SYNOSTOSIS OF THE VERTEBRAL COLUMN.

Presented by A. SYDNEY ROBERTS, M.D.

This specimen of synostosis or calcareous fusion of the dorsal and lumbar vertebrae was removed from the body of an aged man that had been sent from the almshouse to the dissecting-room of the University of Pennsylvania. The pathological character of the specimen will alone be of interest, as all facts pertaining to a personal or clinical history of the individual were unobtainable.

The vertebrae, before my attention was directed to them, had been macerated and boiled, destroying thereby all evidence of the nature of the inflammatory process that caused such extensive synostosis.



In referring to the specimen it will be noticed that the vertebral column is held in a rigid position by a deposit of calcareous plastic material, that extends from the fifth dorsal to the sacrum. In the dorsal region, to the right of the anterior common ligament, a broad ribbon-like band of the deposit crosses the bodies of the lower seven vertebrae. The same fusion exists to the left of the median line between the seventh and ninth dorsal. It is here interrupted by an intervertebral interspace, to again appear between the eleventh and twelfth dorsal and in first and second lumbar. The smooth, plastic character of the effusion is materially altered in the lumbar region, especially noticeable between.

The articulating facets of the vertebrae, with but few exceptions, show evidences of chalky deposit; these margins are nodular and "frilled," between the bodies of the first, second, and third. It is here thickened and nodular, with occasional bony stalactites, markedly contrasting with the smooth, ribbon-like band of the mid-dorsal.

The vertebral lamina frequently coalesce; especially noticeable between the fourth and fifth lumbar and in the lower dorsal regions. The cretaceous deposit occurred in the structure of the intrinsic ligaments of the spine, or those short firm bands that bind the approximating surfaces of the vertebrae together. Between the fourth and fifth lumbar and the attachment of the latter to the sacrum, the ligamentous structures are all involved by the deposit firmly cementing the superincumbent column to the sacrum.

In the tenth, eleventh and twelfth dorsal the articulating facets are obliterated by ankylosis. The same fusion exists between the facets of all the lumbar vertebrae. The extremities of the lower dorsal spinous processes and the last two lumbar are united by ossification of the supra-spinous ligament.

Corresponding with this anomalous condition of the vertebral column and its articulating facets, a similar process may be noted to have occurred at the sacro-iliac juncture; the margins of the articulating plane are here encrusted by calcareous nodules. About the margins of the articulating surfaces for the heads and tubercles of the ribs, the same encrusting chalky concretions have been deposited.

With a view to determining the nature of these plastic effusions, and in lieu of the evidence that would have established the aetiology of the affection, had a careful autopsy been held, I examined portions of the deposits with the nitric-acid and ammonia test with the hope of detecting the presence of uric acid. The results were negative. A crystalline structure could not be detected by microscopical examination; the mass appeared amorphous, yielding bubbles by the addition of acetic acid. It was no doubt largely composed of the carbonate and other salts of lime.

I think it may be inferred that the individual from whom these vertebrae were removed had been afflicted with chronic rheumatic arthritis, as the specimen at least shows the characteristic deposits of the disease.

#### SPONDYLITIS OF THE DORSAL VERTEBRAE, WITH MILIARY TUBERCULOSIS OF THE LUNGS.

Presented by A. SYDNEY ROBERTS, M.D., for Dr. WM. I. PORTER.

Frederick H., a gunsmith, aged twenty-three, a native of Berne, Switzerland, was admitted into the surgical wards of the Philadelphia Hospital under the care of my colleague, Dr. Porter, on January 9, 1885.

He complained of general malaise, great prostration after slightest exertion, and a sharp paroxysmal pain over region of sternum and about the right shoulder-blade. Had always enjoyed excellent health. His parents are healthy and living. Was a moderate drinker, and never had any venereal taint.

During the latter part of August, 1884, five months before admission to the hospital, he commenced losing flesh without apparent cause. The symptom of pain soon followed, located over the ensiform appendix, and a month later he was incapacitated from work by extreme weakness. Upon date of entry a marked angular hump was noticed in the mid-dorsal region of the spine. Pain was now constant in anterior portion of chest, and greatly exaggerated by motion. Vertebral column was rigid; normal curves obliterated by spasm of local spinal muscles.

One week after admission an elastic swelling appeared below the inferior angle of the right scapula; rapidly losing its circumscribed character it spread in all directions. A month later it covered the entire posterior half of the trunk from the spine of the scapula to the belly of the quadratus lumborum, its anterior margin being defined by a perpendicular line corresponding to the pectoral fold of the axilla.

I first saw the patient February 13th (one week prior to his death); he had a rapid, small pulse, shallow respiration, dry, parched skin, and a temperature of 101° F. The abscess had so covered the hump that it could only be detected by deep pressure. He grew rapidly weaker. Morning temperature ranged between 99° and 100° F., with an evening rise to 100°, 101°, and 102°; it did not vary from this range until two days before death. It then fell to normal (98°), and remained there. He died on February 20, 1885.

Dr. SHAKESPEARE presented the following report of the postmortem:—

*Autopsy.*—A large fluctuating abscess was noticed externally, covering the posterior portion of the trunk, extending along the spinal column from the third cervical vertebrae to the first lumbar. Skin covering area of distention discolored and wrinkled. Upon cutting into sack of abscess about one gallon of greenish, stinking, semi-purulent fluid escaped. Dorsal muscles near region of hump dissected away from the vertebrae by the burrowing of pus and in the main destroyed. The scapula had likewise been separated from the trunk by the sack of abscess pushing under its inferior angle.

Distention of tissue marked on right side of column. The spinous processes of the dorsal vertebrae were freely movable at apex of hump in all directions.

*Thorax.* From within showed firm pleuritic adhesions in each cavity, more extensive on right side. Lobes firmly bound together. One or two small normal areas at apex of upper lobes. Lung tissue mainly crepitant throughout. Cut surface exhibits cavities in upper lobe. The balance of lung tissue of each lobe studded with gray tubercles. Left lung is in a similar condition, with extensive congestion. Bronchial glands not enlarged.

Heart and pericardium. Normal.

Liver. Small; color, red; appearance of cut surface, normal. Numerous diaphragmatic adhesions. Capsule thickened irregularly. Gall-bladder, normal.

Spleen. Flabby; numerous adhesions to diaphragm, with evidence of peritonitis; dark maroon

in color, slightly matted. Pulp, soft. Size, normal. Kidneys: Slightly enlarged. Capsule readily stripped, leaving a pinkish-gray surface, with some injection of vessels between the "pyramids of Ferrein." Cut surface shows cortex thicker than normal, medullary portion pink in color.

Vertebral column. The sack of the abscess in the thorax occupied the region of the media sternum. It covered the bodies of all the vertebrae from the second to tenth dorsal. The anterior common ligament was destroyed and their surfaces were eroded; caries had eaten away the greater portion of the bodies of the seventh and eighth dorsal. The heads of the ribs articulating upon these vertebrae were loose in the sack of the abscess.

#### ESSEX SOUTH DISTRICT MEDICAL SOCIETY.

C. C. SHELTON, M.D., SECRETARY.

A STATED meeting of this Society was held at the Essex House, Salem, on Tuesday, January 27th. Dr. C. C. PIKE, of Peabody, presided.

After the usual supper, a paper was read by Dr. C. W. GALLOUPE, of Lynn, on

#### THE RESULTS OF LISTERISM IN AMPUTATION OF THE BREAST.

This consisted in an analysis of the cases of excision of the breast performed at the Massachusetts General Hospital since February 7, 1877, when Dr. H. J. Bigelow first performed the operation, using all the details of Listerism. Of the 111 cases so treated, 80 were of cancer of the breast, and to the consideration of these the paper was particularly addressed. Tables and remarks were given, stress being laid on the points of age, social condition, side affected, and duration of the disease. The manner of the operation was described, and the variety of dressing mentioned of each case, whether full, partial, or modified Listerism was employed.

As the result of the analysis, and a comparison with modes of after treatment usually employed, the following conclusions were drawn:—

(1) Antiseptic treatment has reduced the death-rate from 11 per cent. to 8 per cent.

(2) It has reduced the amount of erysipelas from 41 per cent. of all cases operated on to 4 per cent. This is a remarkable advance in surgery, and is still more noteworthy when we consider that 7.4 per cent. of the cases under open dressings were fatal, while under Listerism the attacks were uniformly light.

(3) Listerism has not affected the death-rate from septicaemia and pyæmia, being 4 per cent. under all dressings.

(4) It has practically introduced a new danger, that of carbolic-acid poisoning; 12 per cent. of the cases were thus affected, and two cases may have owed their death to this cause.

(5) It has reduced the average stay in the hospital from forty-two to thirty days, thus allowing 40 per cent. more cases to be treated with the same accommodations.

(6) It has to a slight extent reduced the severity of the surgical fever.

In addition to these benefits it has made a saving to the hospital in time and money; it has lightened the labor of attendants by doing away with frequent dressings; and, finally, by collecting and disinfecting the discharges from wounds it has made the atmosphere more pure, and less liable to be the vehicle for diffusing the germs of septic disease.

Dr. PIKE called upon Dr. A. T. Cabot, of Boston (who, with Dr. George B. Shattuck, was present as the guest of the Society), to open the discussion.

After expressing his pleasure in being present, and his interest in the subject of the paper, Dr. CABOT said that the hospital cases represented various degrees of completeness as regarded antiseptic dressings, and when it was remembered that house officers and nurses were frequently changed, and that each new one had to familiarize himself by experience with the detailed process, it must frequently happen that wounds would not be rendered perfectly aseptic, and a high death-rate would not be unexpected.

On the Continent, the details of Listerism were constantly being modified, the tendency there being to the use of dry, absorbent dressings, such as wool-wool, dry gauze, absorbent cotton, etc., the results thus far having been favorable: the presence of moisture, of course, favoring putrefaction.

Dr. Cabot dwelt on the importance of thorough drainage, but said that drainage-tubes were of use chiefly in removing the serous discharge of the first twenty-four hours, and if left too long became themselves irritating, and were likely to lead to the formation of troublesome sinuses.

On account of the danger of carbolic-acid poisoning various substitutes for this acid were used, such as thymol, phenyle, and solutions of corrosive sublimate. The objection to the last was the fact that the discharges from a wound formed an albuminate of mercury, which was not so strong an antiseptic. The speaker had himself been quite in the habit of using chlorinated soda of the strength of 1 to 10 or 15.

Dr. GEORGE Z. GOODELL, of Salem, then read a paper on

#### A CASE OF IODOFORM-POISONING.

Mrs. R., about forty years old (married to her second husband), of irregular habits, whose mother and one brother died of consumption, and her other brothers and sisters, three in number, died while quite young, gives a history of ragged and indolent ulcers in various parts of the body for seven years previous to the case we have under consideration, all of which have left white, glistening scars.

In August, 1881, a swelling appeared under the chin and a little to the left of the median line. This was poulticed, and, breaking down, discharged a little pus, and then, the skin sloughing, left a ragged ulcer over an inch in diameter. At the same time she began to have soreness in the throat and hoarseness.

I was first applied to on September 21st, and prescribed specific treatment, with zinc ointment to the ulcer. This treatment had no effect in reducing the size of the ulcer, and on March 20, 1882, I ordered

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fifteen grains of iodoform in one ounce of petroleum ointment, to be applied twice daily on lint to the ulcer, and discontinued the zinc ointment.

On March 29th, having used the salve for nine days, her face was red and swollen, and I applied cloths wrung out in cold water.

March 30th. The face was more swollen, and covered by a large number of small vesicles discharging yellow serum, and giving the room a strong odor of iodoform. The patient complained of an intense smarting, burning, and tightness of the skin, without headache, and also of tasting the salve. I changed the cold water to alcohol and water, equal parts, which gave considerable relief, and stopped the ointment, a case reported by Dr. W. C. B. Fifield<sup>1</sup> being fresh in my mind.

March 31st. The temperature was 102° F., and the next day, she being slightly delirious, with weak and irregular pulse, Dr. Carlton saw the patient with me and advised quinine. She improved; and April 4th the temperature was normal, hands and face were both drying up, and from this time she had uninterrupted recovery, the skin of the face and hands peeling off in large flakes, leaving clear skin about April 17th. The ulcer healed entirely during these three weeks, and has only troubled her since for a week or so at a time.

Dr. SHATTUCK, of Boston, was invited to open the discussion. He remarked that the case reported showed a certain idiosyncrasy on the part of the patient, and dwelt on the caution which such experiences should teach the practising physician.

Dr. CABOT spoke of a child in whom a carious cavity of the ulna was packed with iodoform on charpie, who showed symptoms of stupor, vomiting, and diarrhoea, these symptoms disappearing after the omission of the iodoform.

Dr. COLMAN had seen symptoms of poisoning following the introduction of an intra-uterine pencil of iodoform of the strength of one grain.

Dr. CABOT remarked that in some fatal cases reported abroad the unfavorable symptoms had not been relieved by the omission of the iodoform, and that it was less freely used than formerly on the Continent.

Dr. T. L. PERKINS showed the right parietal bone of a child's skull, showing cephalæmatoma, with effusion external and internal. The tumor appeared the second day after birth, increased rapidly, with symptoms of compression, and death. There was a bloody fluid, which did not coagulate after removal.

Dr. A. H. JOHNSON made extended remarks on the case and the subject.

Dr. PRICE asked the opinion of the surgeons present with regard to a man under his care. The man was working every day, and shows no constitutional symptoms whatever, but has a fluctuating tumor over region of left kidney. The aspirator detects pus. Drs. Arthur Kemble and Cabot both advised aspiration.

Dr. JOHNSON, of Salem, reported a case of confinement in which the placenta was edematous and friable, a large piece being retained, and expelled after the use of ice and ergot. The child was still-born, and its abdomen contained a pint of ascitic fluid.

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## WOLFF'S TREATMENT OF "WRITER'S CRAMP."

AMONG the therapeutic advances with which, during the past few years, the art of healing has been enriched, that one to which the above heading refers richly deserves to be singled out for special consideration.

Of course, the fact of central importance is that — if well-authenticated evidence is to be believed — a way has been found of dealing successfully with a distressing and intractable malady. But, besides this, a certain picturesque interest attaches to the fact that it was reserved for a layman to discover and present to us the key which professionals had sought in vain. We say "discover," because although massage and exercises have often enough been used in these cases, no one hitherto has pretended to offer a method of treatment anything like so complete or anything like so successful. In fact, Mr. Wolff's method is so peculiarly his own that although it has been for several years before the public he seems to have found but few successful imitators in its use.

The clinical features of the large group of affections of which writer's cramp, or palsy, is the most prominent member are well known to all. Overuse of certain muscles — often on a basis of imperfect natural vigor, which makes very moderate use count as overuse — induces localized disorder of function, betrayed by weakness or spasm, or both, and in many cases severe pain, which often extends to other parts of the limb, and may eventually constitute an independent and almost ever-present symptom.

The unhappy scrivener usually tries "rest," by his doctor's advice, and at the end of a year's vacation finds himself, as an almost invariable rule, no whit better off than he was at the beginning.

Galvanization and massage (in the ordinary sense) may bring him partial, or — if he is very fortunate, and the case be not a bad one — even complete, relief, but the chances are strongly against

this result. We have known one gentleman who cured himself by persistent exercise at the gymnasium, where he diligently used the large hand-roller, and this fact is of special interest. But such results are exceptional, and as a rule the sufferer, after finding that the spasmodic force with which his fingers grasp the pen does not avail to keep it in their control, resorts to mechanical contrivances which shut out the fine muscles of the hand, and make those of the arm and shoulder do duty instead. The electrical irritability of the small muscles of the hand is almost always altered, to delicate tests, and this has very properly been adduced to sustain the view that local changes of nutrition in the muscles and nerve filaments constitute the essential pathology of the disease. Whether the central nervous system is conjointly implicated or not is problematical, but in some cases at least it may be, possibly primarily but more probably secondarily, involved to some degree.

Mr. Wolff was, we learn, a teacher of penmanship at Frankfort-on-the-Main, and was led to interest himself in this subject by a desire to improve the cramped and awkward writing of some of his pupils. Beginning in this way, and studying the muscular mechanism of the hand, he gradually extended his investigations to true "writer's cramp," and for the past few years has been treating successfully cases of this kind for a number of eminent physicians in Germany, France, and England. The latest endorsement comes from Dr. DeWatteville, of St. Mary's Hospital, London,<sup>1</sup> who gives the histories and facsimiles of the handwriting, before and after treatment, of several interesting cases.

Mr. Wolff's method consists — so far as a verbal account can make it clear — in a mixture of massage, of vigorous stretching of the muscles liable to spasm, and of prolonged active and passive exercises, a portion of which are done under the coöperation of the operator, others by the patient alone, or with the aid of elastic bands, which are attached to the arm and fingers in various ways. During the brief time over which the treatment extends (only four or five weeks in all) the patient is expected to give up several hours daily to these exercises, and must live temporarily for his muscles alone. This seems to be a condition *sine quâ non* of success.

It is said to become evident after a few days of treatment whether a given case is likely to respond to the method, but it is by no means the cases which at the outset seem the worst that are discarded.

After a short time of this vigorous manipulation, etc., the patient is made to take up his pen, not as a test of the cure, but as a part of the treatment, and carefully graded exercises are gone through, covering soon, in some cases, several hours daily. The disease is, in short, attacked in open field,

and exercise of the affected muscles, which was the cause of the mischief, is converted into a means of restoring health.

Much is made of the *stretching* to which certain of the muscles are subjected, and, whether rightly or wrongly, the mind reverts to the nerve-stretching which has been so much employed for the relief of pain and spasm, and which probably acts largely by temporarily diminishing the conductivity, and by altering the conditions of nutrition of the diseased nerve fibres. By these various means, large numbers, and in fact a large per cent. of severe cases, have been rapidly and, as it would seem, permanently cured, so that the patients could take up again their professional employments.

These facts convey another lesson: namely, that if cures are possible, *prevention* ought to be still more easy, and that professional writers ought to be taught, on the first hint of fatigue, systematically to strengthen the muscles from which they demand so much.

We can bear witness, from personal experience, that the use of Wolff's treatment, even in unpractised hands, is capable of developing the strength and volume of such affected muscles, but, alas, also to the fact that this result alone does not necessarily bring about a cure of the spasmodic and paralytic symptoms of writer's cramp.

#### CURE OF ANEURISM OF THE ABDOMINAL AORTA BY LAPAROTOMY AND INTRODUCTION OF SILVER WIRE.

THE attempt to cure an aneurism by coagulation of the blood through the introduction of foreign bodies into the sac has been tried on several occasions. Moore, in 1864, used iron wire; Levis, in 1873, horseshair, of which he introduced about twenty-five feet into an aneurismal sac; Bacelli, fine watch-springs; Schrötter, in a case lately reported, introduced into an aneurism of the thoracic aorta 126 cm. of Florence silk through a canula in divided portions at two insertions. This patient died fifteen days after the second operation of pulmonary oedema, and the autopsy showed that the sac of the aneurism, which protruded from the wall of the chest, was entirely filled with coagulated blood.

The peculiarity of the case now reported by Loreta, of Bologna, consists, not only in the eminently successful result, thereby differing from previous attempts, but in the fact that the aneurism affected the abdominal aorta and necessitated a laparotomy.

Details of this case and of the operation are given in the *Deutsche Medizinische Zeitung* of March 23, 1885. The patient, a sailor, aged thirty, had suffered for two years. While hoisting sail he suddenly felt sharp pain in the epigastrium. Later he noticed a pulsation in the same spot and, in addi-

<sup>1</sup> British Medical Journal, February 14, 1885.

tion, pain developed in the region of the stomach, accompanied by disturbance of digestion, and numbness with pain in the lower extremities. The difficulty increased so much in the course of a year that the patient sought relief in the surgical clinic of Bologna. The examination showed the following facts: The man was pale and emaciated. In the epigastrium was noticed a pulsating tumor of the size of the head of a nine months' fetus. Auscultation revealed a prolonged blowing murmur loudest in the left half of the abdomen. On these and other grounds the diagnosis was made of a sacculated traumatic aneurism of the aorta. In view of the discomfort, pain, and extreme emaciation, death was to be expected unless prompt relief could be given. Therefore Professor Loreta concluded to perform laparotomy with the object of separating the aneurismal sack from the blood current. The operation was performed on December 18, 1884. An incision was made from the ensiform process to the umbilicus. Strong and extensive adhesions between the peritonæum omentum and stomach were separated, the mesocolon was cut through, and the organs drawn aside till the tumor was exposed. The walls of the aneurism were so thin that it was feared that a ligature applied below the sack might produce rupture; the operator therefore concluded to introduce a wire into the sack to produce coagulation of the blood. With a slender trocar he made a puncture and carried through the canula as much fine silvered copper wire as the space in the sack allowed: in all, two meters. The outer end of the wire was also pushed in.

The opening was touched with a concentrated solution of carbolic acid in order to shrink the tissues, the abdominal organs were brought back to their original position, and the wound sewed. The operation lasted an hour and a quarter. The same evening the patient no longer complained of the pains previously felt, and was able to sleep quietly, which had not been the case for weeks.

On the twenty-seventh of December, the ninth day after the operation, the first change of dressing was made; the wound was healed by first intention. The pulsation of the tumor was hardly perceptible, the murmur was very weak, the sack markedly diminished; the femoral arteries, which before the operation had shown only a weak pulsation, now pulsated very perceptibly. Twenty days after the operation no trace either of pulsation or of murmur was to be found, and the sack was about the size of a nut. The patient is now completely restored and can resume his occupation.

Professor Loreta looks upon the use of the wire as the cardinal point of his success. This, at first, produced a coagulation, and later, on account of its thinness and pliability, opposed no obstacle to the shrinking of the clot. Although in only one of the cases above cited was death, which followed,

supposed to be in any way attendant upon the interference, they tend to emphasize the uncertainty of the operation as well as the good fortune of Professor Loreta. It is very possible that these operations were too long delayed, however, and that an earlier resort to the procedure will prove more successful.

#### SEVENTY-FIRST ANNUAL REPORT OF THE MASSACHUSETTS GENERAL HOSPITAL AND THE McLEAN ASYLUM.

THE trustees of this fine old institution acknowledge the receipt during the year, in donations and legacies, of \$81,475, which indicates that the Massachusetts General Hospital has not lost its claim upon the benevolent instincts and purposes cherished by the people of the State. The chief outlay, other than usual expenses, has been in the direction of repairs, which have necessitated an expenditure of \$18,593, which is \$11,000 more than the average for the past five years. The most expensive items were a complete reorganization of the sewerage of the hospital, which for some years has been a source of anxiety and danger; repainting; and the substitution of brick piers for piles under wards A and B.

The system of sewerage, just replaced, had been in existence, with some modifications, since 1821, when the original granite building was constructed. The sewage was then carried to the shore of Charles River, lying within one hundred feet of the main building, by a drain of elliptical section, large enough to admit a man; size at that time and until within comparatively recent years being, as was supposed, in direct proportion to excellence. As the shore-line was gradually carried westerly, the drain was extended in the same direction, and as the drain discharged only at low tide, large cesspools were added. "The whole system had the defect of irregular and slow delivery and constant retention. It was designed with the best knowledge of the time, to meet the conditions then existing, but under new conditions and with larger experience, was only to be condemned and replaced. The new intercepting sewer, having been carried through Charles Street, gave an outlet for constant and rapid discharge." A new drain of ten-inch glazed pipe has been laid, and the old drains and cesspools opened, cleansed, and solidly filled, for a distance of thirty feet from the house, with fresh earth mixed with sulphate of iron and chloride of lime, brick cement and concrete cutting off the terminal excretion.

Wards A and B, built in 1873 and designed for temporary structures to be taken down and rebuilt after ten or twelve years' service, have proved so much more durable than was expected and have retained so perfectly their original high sanitary condition that it was thought worth while to repaint

them and substitute, as mentioned, brick piers for the decaying piles. The general good condition of the main house, after the wear and tear of more than sixty years, is reported as proof of the excellence of the original design and construction; but extensive repairs and improvements will be needed within the next year to keep the hospital up to its present efficiency.

The trustees report that the Convalescent Home at Belmont justifies the expectations which were formed of its usefulness. It has not been occupied to its full capacity, and the public are reminded that "it is designed not only for convalescents from our own, but also from other hospitals, private houses, and boarding-houses."

The report of the resident physician, Dr. Whittemore, whom the hospital is fortunate in still having in its service, notwithstanding the personal trials from ill-health which he has had to sustain during the year, shows the same curious disproportion between medical and surgical patients we have remarked upon before. Of the patients admitted during the year 1,293 were surgical and only 803 medical. The number received on account of accident was 397. Of the 2,096 patients, 382 were paying, 47 were partially paying, 1,667 were entirely free; 1,043 were Americans, 1,053 were foreigners; 1,266 were males, 830 were females. The proportion of deaths to the whole number of results was 9.14 per cent.

The greatest number of paying patients at any one time was 40; in private rooms, 8; the greatest number of free patients, 159; the greatest total, 186. The least number of paying patients at any one time was 14; in private rooms, 1; the least free, 106; the least total, 129. The proportion of ward beds occupied by free patients was 84 per cent.; by paying patients, 16 per cent. About 14.2 of the paying patients occupied private rooms. The average number of patients was 161: males, 97; females, 64.

The average number of paying patients was 28, of whom 20 would be Americans and 8 foreigners. The average number of free patients was 133: Americans, 63; foreigners, 70. The average time of paying patients was 3 weeks; of free patients, 4.14. Of the free patients 16 per cent. were female domestics; 24 per cent. laborers; 16 per cent. mechanics, and 9 per cent. minors.

The new out-patient building has fulfilled all expectations entertained in regard to it; 36,237 out-patients, giving an average attendance daily of 114, have availed themselves of the privileges there offered.

At the McLean Asylum for the Insane, as we learn from the report of Dr. Cowles, the superintendent, there were 113 admissions during the year, the whole number of cases treated was 278, representing 272 individuals, of whom 103 were discharged.

Of the 109 persons admitted, 70 persons were regarded as recent cases, and 39 as chronic, or as incurable.

Seventy-five persons, 40 men and 35 women, had never been in any hospital. Of the remaining 34 persons, 18, 7 men and 11 women, were admitted for the second time; 10, 4 men and 6 women, for the third time; 2, 1 man and 1 woman, for the fourth time; 1 woman for the fifth time; 1 woman for the eighth time; 1 woman three times, being the fourteenth, fifteenth, and sixteenth admissions respectively; and 1 man for the eighteenth time.

Fifty-three cases, representing 49 persons, 25 men and 24 women, were admitted as voluntary patients upon their written applications. Two men and one woman were not insane.

The whole number of persons admitted as voluntary patients under the present law is as follows, namely, 1881, 1; 1882, 11; 1883, 33; 1884, 49. The whole number of persons admitted during the past five years is as follows, namely, 1879, 74; 1880, 51; 1881, 63; 1882, 82; 1883, 107; 1884, 109. In 1884 there were four more admissions, eight less discharges, and two more cases under treatment, than during the year 1883; and the number present was ten more at the end than at the beginning of the year.

The average duration of illness from the beginning of attack of all cases recorded was 10.52 months, and the average duration of their hospital residence was 7.22 months. The percentage of recoveries on admissions was 30.09. There were three less recoveries than in the previous year, and the same number of deaths (17). The small proportion of recoveries of the voluntary cases, eight in fifty-two cases, points to the more serious character of the attacks of mental disturbance—at least one third being of the chronic class when admitted. The voluntary relation on the part of the patients remaining in the asylum, however, is satisfactorily maintained, and the effect of the presence of such cases in the institution is said to be increasingly good in many ways.

The nearly equal results of the last two years' work in relation to the numbers admitted and treated are thought to indicate that the limit of the capacity of the asylum has been reached. In fact, it has been quite full during all the past year; and a larger number than usual of applicants for admission has been turned away.

The proposed training-school for nurses has been established during the past year, and will doubtless prove, what it is intended to be, an advantage both to the hospital and the general public.

SIR HENRY THOMPSON has recently written a clever novel with the title of "Charley Kingston's Aunt." It is said to have been very favorably received in England.

## THE ANNA JAKUES HOSPITAL.

NEWBURYPORT has at last a hospital. It was founded by the munificence of Miss Anna Jaques, a wealthy maiden lady, who left thirty thousand dollars for this object. Other sums were subsequently added by benevolent individuals.

The hospital building commands a slightly situation in Broad Street, in the part of the town known as Belleville. It is well furnished with all the appurtenances of a thoroughly equipped modern hospital, and has a staff of attending physicians consisting of Drs. F. A. Howe, G. W. Snow, E. P. Hurd, J. F. Young, George Montgomery, J. J. Healey, and H. F. Adams (members of the Massachusetts Medical Society), each physician having a term of service of about two months in the year. This hospital can well accommodate, at the present time, twenty patients; there are now about one half that number. By the generosity of certain societies and corporations several free beds have been endowed.

Much of the surgery of this little city of 11,000 inhabitants naturally drifts into the Anna Jaques Hospital, and the members of the staff have already been called upon to perform many capital operations. The hospital will be of growing importance to Newburyport and its section of the State, and the city is to be congratulated on its possession.

## MEDICAL NOTES.

—The discovery is announced by Professor Sigmund Exner, in his work, "*Die Innervation des Kehlkopfes*" (Vienna, 1881), of a third laryngeal nerve—*nervus laryngeus medius*. This nerve is derived from the pharyngeal and laryngeal plexus formed by the pharyngeal branch of the vagus with other nerves, and enters the crico-thyroid muscle, which is also supplied by the external branch of the superior laryngeal nerve. The interarytenoid muscle is supplied by both upper and both lower laryngeal nerves, and, generally, each muscle is innervated by several nerves. The above conclusions are deduced from three lines of research: (1) irritation of nerves in living animals; (2) degenerations of nerves after section in living animals; (3) examination of the larynx in children (*post-mortem*).

—Dr. Watchet, the physician in attendance upon Bastien-Lepage, the French painter lately deceased, has been fined 100 francs for having violated the rules of professional secrecy in writing a short note for the public press. The note was intended to set at rest some slanderous stories that had been circulated concerning the nature of Lepage's disease, and simply stated that the patient died of a cancer. Although it was admitted that this was done only out of kindness to the memory of the deceased, it nevertheless constituted a breach of the penal code.

In this country the law against the publication of professional information in the daily press is somewhat less stringent.

—In the *Lancet*, January, 1885, Surgeon-Major Alexander narrates the following case bearing on some recent remarks made concerning the convict, Mrs. Gibbons. In 1875 the author was sent for hurriedly to see an officer, whom he found lying on a couch with two incised wounds on the front of the abdomen, and one similar wound on the back, near the spine. Twenty-six incised wounds were found about the left breast, both hands were dreadfully mutilated, and lying close to the officer was a sword covered with blood and bent to an angle of forty-five degrees. The patient lived for several hours, and told the author how he had inflicted all these wounds upon himself. Had this gentleman been found dead, it would have been very hard for a jury to give a verdict of suicide.

—EGYPTIAN RAGS DETAINED. — A consignment of five hundred bales of rags shipped from Alexandria, Egypt, to the port of Boston by the agent of a Connecticut paper-mill, has been detained at the Hoosac Tunnel docks in Charlestown by the Boston Board of Health. The bales are all stamped with the seal of an inspector at Alexandria, appointed by the United States Government. The stamp indicates, what an examination of the bales proves, that they have been subjected to the action of sulphurous acid, and the decision must be reached whether these rags are safe or not.

—Dr. H. N. Martin, of the Johns Hopkins University, has replied with vigor to the *Zoöphilist*, an anti-vivisection organ of England, in which he was savagely assaulted.

## Correspondence.

## THE SANITARY CONDITION OF NANTUCKET.

BOSTON, APRIL, 1885.

*Mr. Editor*,—In a recent elaborate article in the *JOURNAL*, over the signature of Harold Williams, M.D., entitled "The Sanitary Condition of Nantucket," the writer devotes himself, almost exclusively, to the task of discrediting the accuracy of the Report of the State Board of Health, Lunacy, and Charity, relative to the same subject.

It is only necessary to turn to the report itself to determine the question as to its accuracy, as compared with Dr. Williams's own statement.

Before taking up some of his remarkable assertions *seriatim*, it should be understood that the statistics quoted in the report were compiled directly from the State Registration Reports, which, so far as mortality is concerned, must depend on the individual certificates of physicians, and are presumably as correct as it is possible to make them.

Dr. Williams's experience at Nantucket, so often quoted in his letter, extending over a fraction only of each year, since the summer of 1881, has to do with a brief period with which the Report of the Board, written in 1883, is but little concerned.

On the other hand, the period referred to in the report embraces the years from 1843 to 1881 (mor-

tality reports); 1871-1881 (reports of specified diseases), during which time there were in practice on the island at least two respected members of the State Society, each of whom practised there at least forty years and must have contributed to the reports referred to.

(1) Dr. Williams states: "The report relies chiefly on its statistics for the conclusions reached." On the other hand, the report carefully avoids such a conclusion, as may be found on pages 194, 198, and 205; it being distinctly stated in the latter place that "the opinion of the Board as to the sanitary condition of Nantucket is *not* formed from statistics alone. . . . Other data were taken into consideration, such as the sanitary condition of the town," etc.

(2) Dr. W. states: "The State Board has compiled its statistics on the number of *burials*." Very true, and the same rule is also applied to every city and town in the State, Nantucket not excepted. In this connection, due notice was given, in the report, of Captain Allen's researches, relative to the burial of bodies brought from other places. Dr. Williams carefully omits any allusion to Captain Allen's admission that the bodies thus brought to Nantucket were of *native* of the island and the obvious bearing of this fact upon the subject.

(3) The predominance of old people at Nantucket is admitted in the report, and its bearing upon the general question is discussed on page 195. How, then, can the *ill-regulated hand-feeding of infants* be claimed as an exceptional cause of mortality in a population which Dr. W. has just claimed to be made up of *old people*, and where the birth-rate is very much less than the death-rate?<sup>1</sup>

(4) Dr. W. states that the estimates of the Board are based upon an *underestimated* population, while the contrary is the fact, for the period named (mortality statistics 1853 to 1881). For more than three fourths of this time the population was rapidly diminishing, and not appreciably affected by a summer population, and hence *overestimated* for each year after the census years.

For the other years specified (infectious diseases, 1871-81), the population was also overestimated. Population 1870, 4,123; in 1880, 3,727; or according to Dr. Williams's more favorable estimate (4,000), it was still overestimated.

More accurately the population rapidly diminished from 1870 to 1876 or 1877, and then gradually increased.

(5) We are left to infer from Dr. Williams's reasoning that typhoid fever and diphtheria are almost unknown upon the island, the curious explanation being given that the recording physicians were *unqualified men*, without diploma or medical education. If these empirics, in certifying to certain deaths from obscure diseases, recorded them as typhoid fever, may we not then reasonably inquire, Why should not these same empirics record actual deaths from typhoid fever under the name of other diseases?

(6) If the writer had paid the least regard to the elementary principles of mathematics, he would not have made the gross blunder of misrepresenting the report, as he has taken pains to do in Italics, affirming that the "State Board has compared the deaths from phthisis with the total number of deaths, instead of with the total population." Now, this is exactly the reverse of the truth, for the State Board *did* compare the deaths from phthisis with the *population*, as any one may readily see by computing the ratio of 2.37 (total deaths from phthisis for 11 years at Nantucket) with 3,727 (population), which is precisely 63.59 per 1,000 of the population for the time specified. Hence the illustration which is offered is entirely superfluous.

(7) It is also affirmed that Captain Allen's statistics

of this disease—phthisis—are omitted. On the contrary, they may be found published on page 202, over Captain Allen's signature.

(8) As to the correctness of the quotation from Dr. Bowditch's excellent report. The conclusions in this report are deduced from facts, or statistical data, and from medical opinion. The map from which Dr. Williams appears to have quoted his statement as to the rarity of consumption at Nantucket, was drawn to illustrate *medical opinion only* upon the subject. Dr. Williams has carefully avoided any allusion to the *facts* which Dr. Bowditch publishes on page 71 of the article referred to.

The percentages published in the Report are herewith reproduced.

TABLE 1A SHOWING CONSUMPTION SLIGHTLY MORE PREVALENT IN THE ATLANTIC THAN IN THE INLAND COUNTIES.

Inland Counties, 1849 to 1882.	Percentage of Deaths from consumption to all Deaths.	One Person from consumption in every	Atlantic Counties.	Percentage of Deaths from consumption to all Deaths.	One Person from consumption in every
Berkshire	21.27	67	Barnstable	23.30	60
Franklin	24.17	56	Bristol	23.82	56
Hampden	20.40	55	Dukes and Nantucket	28.99	50
Hampshire	22.48	33	Plymouth	27.73	47
Middlesex	21.21	53	Essex	22.97	48
Norfolk	20.22	58	Suffolk	15.91	42
Worcester	22.39	48			

This certainly does not have the appearance of a *rarity* of the disease, notwithstanding the experience of Dr. Williams. Since the publication of Dr. Bowditch's report the prevalence of the disease appears still more evident, as the following table will show:—

TABLE 7A: MORTALITY FROM CONSUMPTION BY COUNTIES FOR TEN YEARS, 1871-1880.

Mean rates per 1,000 of the Population.	Mean rates per 1,000 of the Population.
The State . . . . . 3.26	Nantucket . . . . . 6.46
Dukes and Nantucket . . . . . 4.39	Dukes . . . . . 2.77
Suffolk . . . . . 3.59	
Barnstable . . . . . 3.55	
Essex . . . . . 3.46	
Middlesex . . . . . 3.41	
Bristol . . . . . 3.25	
Plymouth . . . . . 3.19	
Hampshire . . . . . 3.03	
Worcester . . . . . 2.89	
Hampden . . . . . 2.86	
Norfolk . . . . . 2.83	
Franklin . . . . . 2.78	
Berkshire . . . . . 2.26	

I have here separated the two counties, and given the correct figures in the right-hand column to show in what manner the Registration Reports have for many years done an injustice to Dukes County by compelling it to bear an equal burden with Nantucket.

(9) The Board is misrepresented in the statement that it had counseled the inhabitants to *provide* a pure water-supply. Nothing of the sort was written or intended, as the following quotation from their report will show:—

"As a further measure of protection to the public health, the *control of the present watershed* of the public water-supply is a matter of importance, and its use for domestic purposes should be so restricted as to guard the pond from pollution, since a small pond without a natural outlet or inlet, however pure its water may be, becomes proportionately more dangerous under

<sup>1</sup> Births at Nantucket, 10 years, 1870-81, 600. Deaths at Nantucket, 10 years, 1870-81, 1,995.

<sup>2</sup> Page 71, Medical Communications of the Massachusetts Medical Society, vol. x., 1862.

<sup>3</sup> Forty first Registration Report, page 97.

conditions liable to contaminate, than a larger source with a constant overflow."

The Board were well aware of the purity of the water-supply, but something more was requisite; and that was the guarding of this supply from future pollution.

(10) A careful perusal of the engineer's report will convince the candid reader that the question of sewerage is not so insurmountable as your correspondent states in his letter.

Finally, the Board arrived at its conclusions mainly in consequence of certain conditions mentioned in the

report, and to which the attention of its Committee was directed while at Nantucket, and which had been common sources of complaint, such as the crowded proximity of cesspools, vaults, stables, and wells, the objectionable outlets of sewers opening into a small landlocked basin near the railroad, the collection of putrid and decaying offal upon the wharves, and the defective drainage in different parts of the town.

It is gratifying to learn that an efficient Board of Health has remedied many of the evils which were then in existence.

Very truly yours,

S. W. ABBOTT, M.D.

# REPORTED MORTALITY FOR THE WEEK ENDING MARCH 28, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	782	311	17.94	22.75	1.82	5.98	2.34
Philadelphia . . . . .	927,995	417	142	13.68	15.28	.24	5.28	2.88
Brooklyn . . . . .	644,526	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	197	60	9.18	26.01	1.02	3.57	2.55
Baltimore . . . . .	408,520	169	59	5.20	17.70	—	1.18	1.77
St. Louis . . . . .	400,000	144	—	9.66	20.01	—	3.45	2.07
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	254,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	104	29	11.52	13.11	1.38	.69	2.76
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	36	—	16.68	22.24	2.78	2.78	8.34
New Haven . . . . .	62,882	33	9	18.18	33.33	—	6.06	3.03
Nashville . . . . .	54,400	26	8	34.65	7.70	7.70	15.40	—
Charleston . . . . .	52,280	16	6	—	—	—	—	—
Lowell . . . . .	71,447	28	12	10.71	10.71	7.14	—	—
Worcester . . . . .	69,442	17	12	5.88	41.16	—	5.88	—
Fall River . . . . .	62,674	25	11	12.00	32.00	—	4.00	4.00
Cambridge . . . . .	60,695	30	13	13.33	23.31	3.33	10.00	—
Lawrence . . . . .	45,516	10	4	10.00	20.00	—	—	—
Lynn . . . . .	44,895	11	2	9.09	18.18	—	—	—
Springfield . . . . .	38,690	18	2	—	22.22	—	—	—
Somerville . . . . .	31,350	13	5	15.38	38.45	—	15.38	—
Holyoke . . . . .	30,545	6	6	16.66	16.66	—	—	—
New Bedford . . . . .	30,144	26	11	7.70	23.10	—	—	—
Salem . . . . .	29,563	16	2	6.25	—	—	—	—
Chelsea . . . . .	24,747	5	1	60.00	—	20.00	20.00	20.00
Taunton . . . . .	22,633	8	1	12.50	25.00	—	—	—
Gloucester . . . . .	21,400	5	2	—	—	—	—	—
Haverhill . . . . .	20,965	5	1	—	—	—	—	—
Newton . . . . .	19,421	8	1	—	25.00	—	—	—
Brookton . . . . .	18,722	8	1	16.66	16.66	16.66	—	—
Malden . . . . .	15,273	6	—	—	—	—	—	—
Newburyport . . . . .	13,947	4	2	—	50.00	—	—	—
Fitchburg . . . . .	13,433	6	1	16.66	—	16.66	—	—
Waltham . . . . .	13,568	5	2	20.00	20.00	—	—	20.00
Northampton . . . . .	13,165	—	—	—	—	—	—	—
91 Massachusetts towns . . . . .	—	92	16	4.32	23.76	1.08	1.08	2.16

Deaths reported 2,268: under five years of age 717; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 309, lung diseases 456, consumption 231, diphtheria and croup 100, scarlet fever 55, diarrhoeal diseases 27, measles 28, typhoid fever 21, cerebro-spinal meningitis 13, erysipelas 12, whooping-cough 11, malarial fevers 12, puerperal fever 12. From measles, New York 28, Philadelphia four, St. Louis three, New Bedford two, District of Columbia one. From typhoid fever, Philadelphia nine, New York and Baltimore three each, Boston two, District of Columbia, Providence, New Haven, Nashville, Lawrence, and Lynn one each. From cerebro-spinal meningitis, New York six, Philadelphia, Baltimore, Nashville, Lowell, Fall River, Salem, and Taunton one each. From erysipelas, New York six, Philadelphia four, Boston two. From whooping-cough, New York nine, Philadelphia two. From malarial fevers, New York six, St. Louis three, District of Columbia, New Haven, and Nashville one each. From puerperal fever, New York, Philadelphia, and District of Columbia two each, Baltimore and New Haven one each.

Cases reported in Boston: measles 50, scarlet fever 36, diphtheria —.

In 113 cities and towns of Massachusetts, with an estimated population of 1,446,616 (estimated population of the State 1,555,101), the total death-rate for the week was 19.09 against 19.30 and 19.48 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending March 14th the death-rate was 22.1. Deaths reported 3,779: infants under one year of age 939; acute diseases of the respiratory organs (London) 455, measles 129, whooping-cough 119, diarrhoea 41, fever 31, scarlet fever 31, diphtheria 20, small-pox (London 22, Manchester three, Bradford and Cardiff one each) 27. The death-rates ranged from 15.5 in Birkbehead to 18.3 in Sunderland; Birmingham 13.1; Blackburn 22.7; Bradford 19.5; Hull 16.9; Leeds 19.9; Leicester 20.7; Liverpool 25.6; London 21.1; Manchester 28.6; Nottingham 25.2; Sheffield 20.7. In Edinburgh 18.3; Glasgow 30.0; Dublin 39.5.

For the week ending March 14th in the Swiss towns there were 31 deaths from consumption, lung diseases 32, diarrhoeal diseases 11, small-pox (Basle seven) eight, diphtheria and croup four, erysipelas three, measles two, scarlet fever, whooping-cough, and typhoid fever one each. The death-rates were: at Geneva 18.2; Zurich 17.5; Basle 25.7; Berne 22.9.

The meteorological record for the week ending March 28th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Date.	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
March, 1885.																				
Sunday, 22	30.087	18.4	24.5	7.7	56	50	58	54.7	W	N	N	6	6	12	F	O	O	—	—	
Monday, 23	30.083	19.2	25.2	13.4	53	57	54	54.7	N	E	N	26	7	13	F	O	O	—	—	
Tuesday, 24	30.174	27.2	36.0	12.1	59	65	78	67.3	N	S	W	12	17	17	C	O	C	—	—	
Wednesday, 25	30.079	31.0	37.5	24.8	84	86	51	67.0	S	W	N	17	20	13	C	C	C	—	—	
Thursday, 26	30.171	33.1	45.0	20.5	95	94	27	52.3	W	S	W	14	16	11	C	F	F	—	—	
Friday, 27	29.908	46.1	56.8	34.3	83	36	69	62.7	S	W	S	14	24	11	O	F	F	—	—	
Saturday, 28	29.867	45.8	53.0	34.3	81	30	34	48.3	W	N	W	13	14	8	O	F	F	—	—	
Mean, the Week.	30.051	28.7	40.1	21.0				58.1											00.00	0.00

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEKS ENDED MARCH 28, AND APRIL 4, 1885.

BATTLE, K. P., assistant surgeon. To proceed to Memphis, Tenn., for temporary duty, March 27, 1885.

MURRAY, R. D., surgeon. Granted leave of absence for one week, March 31, 1885.

BRATTON, W. D., assistant surgeon. To proceed to New York, N. Y., for temporary duty, April 2, 1885.

WATKINS, R. B., assistant surgeon. To proceed to New Orleans, La., for temporary duty, April 2, 1885.

#### APPOINTMENTS.

The following candidates, having passed the examination required by the Regulations, were appointed assistant surgeons by the Secretary of the Treasury, April 1, 1885, namely: WILLIAM D. BRATTON, M.D., of South Carolina, and RALPH B. WATKINS, M.D., of Connecticut.

#### AMERICAN MEDICAL ASSOCIATION.

##### SPECIAL TRAIN FROM CHICAGO TO NEW ORLEANS.

At the request of many members of the American Medical Association, the Illinois Central Railroad has arranged to run a special train of Pullman palace buffet sleeping-cars for the accommodation of themselves, their families, and friends who wish to attend the meeting of the Association, which convenes in New Orleans April 28th and continues until May 1st. This also gives a grand opportunity to visit the World's Exposition.

The special train will leave Chicago Saturday evening, April 25th, at nine P. M., and run through to New Orleans without change of cars, reaching there at nine A. M. on Monday morning, April 27th, only thirty-six hours *en route*. The rates for the round trip are as follows: Tickets good for return within fifteen days, \$20.00; tickets good for return within forty days, \$25.00; tickets good for return until June 1st, \$30.00. Those desiring to return by another route, either via Louisville, Cincinnati, or St. Louis, will be provided with tickets at \$5.00 in excess of the above rate. Sleeping-car rates: Chicago to New Orleans, one double berth, \$6.00; Chicago to New Orleans, one single, \$12.00. Apply to C. S. Burton, Ticket Agent, 121 Randolph Street, for berths, or address the undersigned.

A. H. HANSON, General Passenger Agent, CHICAGO, April 1, 1885.

#### SOCIETY NOTICES.

GYNECOLOGICAL SOCIETY OF BOSTON.—The regular meeting of the Society will be held at No. 19 Boylston Place, on the second Thursday of April at 4 o'clock P. M.

A paper upon the "Treatment of Obstinate Vomiting in Pregnancy" will be read by Dr. A. P. Clarke, of Cambridge. Other papers are expected. Members will please notice the return to the former hour of meeting.

H. J. HARRIMAN, M.D., Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY. *Obstetric and Gynecological Section*.—There will be a meeting of this Section at 19 Boylston Place, on Wednesday, April 15, 1885, at 7.45 o'clock. The following cases will be presented: Dr. R. B. Dixon, "Is Craniotomy upon the Living Fœtus ever Justifiable?" Dr. R. A. Kingman, "Anæsthetics in Normal Childbirth." Drs. J. P. Reynolds, Francis Minot, W. A. Dunn, W. L. Richardson, A. D. Sinclair, C. E. Stedman, Benjamin Cushing, and W. C. B. Field will take part in the discussions. JAMES R. CHADWICK, M.D., Chairman. ROBERT B. DIXON, M.D., Secretary.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY.—The annual meeting will be held at Porter's Hotel, North Cambridge, on Wednesday, April 15, 1885, at 11.30 o'clock A. M. Election of officers. Orator, L. R. Stone, M.D., of Newton.

WALTER ELA, M.D., Secretary. CAMBRIDGE, April 8, 1885.

#### DEATH.

DIED, in Edgartown, Mass., March 22, 1885, John Pierce, M.D., M.M.S.S., aged seventy-nine years.

#### BOOKS AND PAMPHLETS RECEIVED.

A Guide to the Diseases of Children. By James Frederick Goodhart, M.D., F.R.C.P. Revised and edited by Louis Starr, M.D. With Formule. Philadelphia: P. Blakiston, Son & Co. 1885.

Reprint of the Proceedings of the Connecticut Medical Society. From 1792 to 1829 inclusive.

Catalepsy. By J. Martin Kershaw, M.D., St. Louis.

The Osteology of Amla Carya, including certain special references to the Skeleton of Teleostei. By R. W. Shufeldt. Washington: Government Printing-Office, 1885. (Extracted from the Annual Report of the Commissioners of Fish and Fisheries for 1883.)

Intermediate Hospitals for the Treatment of Acute Mental Diseases. By John van Hilber, M.D. (From American Journal of Medical Sciences, January, 1885.)

State Provision for the Insane. By C. H. Hughes, M.D., St. Louis. (Reprint from Alienist and Neurologist, April, 1885.)

Praktische Beiträge zur Kinderheilkunde III. Heft. Die Verdauungskrankheiten der Kinder von Dr. Adolf Haglinsky. Tübingen, 1884.

Dental Department of the University of Maryland. Annual Catalogue. Session 1884-85.

Proceedings of the State Board of Health of Kentucky. Quarterly Meeting, March 16, 1885.

The Operative Treatment of Hyperplasia of the Uterus and Vagina, with special reference to the Cure of Displacements. By S. C. Gordon, M.D., Portland, Me. (Reprint from American Journal of Obstetrics, December, 1884.)

## Original Articles.

## RESEARCHES ON THE PHYSIOLOGICAL, CHEMICAL, AND THERAPEUTIC PROPERTIES OF HAMAMELIS VIRGINICA.

BY DR. HECTOR GUY, OF PARIS, FRANCE.

I PROPOSE in this thesis to make a humble contribution to the study of a new medicament which comes to us from America, namely, the hamamelis virginica, or witch-hazel. I shall divide my subject into five parts: In the first I shall include the botanical description; the second will comprehend the medicinal history of hamamelis; the third will be devoted to the chemical analysis; in the fourth I shall study the physiological action; the fifth will be clinical and will comprise the therapeutic applications.

## BOTANICAL DESCRIPTION.

Botanically, witch-hazel has been long known. It was Linnaeus who gave to this shrub the name by which it is distinguished — hamamelis virginica.

The family of Hamamelaceæ (*hamæ*, at the same time; *melon*, fruit, that is, bearing simultaneously both flowers and fruit) contains a few species under the form of trees and shrubs growing in various parts of North America, China, Japan, India, and Persia. The hamamelis virginica (tribe hamamelæ) grows in abundance in almost all parts of the United States, especially in New England, Pennsylvania, and Virginia. It grows in damp woods, blossoming late in the fall, when the leaves are falling, and maturing its seeds the next summer. The witch-hazel is a tall shrub with straight-veined leaves and yellow, polygamous flowers. The fruit is a nut-like capsule not unlike the hazel-nut. The bark, which is the principal medicinal part, has a bitter, astringent, and somewhat pungent taste. According to some too credulous travelers, the witch-hazel possesses mysterious properties, its young twigs being employed by ignorant enthusiasts as divining-rods to indicate the site of metallic veins or underground streams of water. I need not enter further into the description of a shrub so familiar as this must be to the readers of an American journal of medicine.

## HISTORY.

Hippocrates in his "De morbis Mulieb.," book i., mentions, under the name of hamamelis, a fruit, an emulsion of which was given to wet-nurses to increase the flow of milk. It is perhaps in the works of Greek physicians that Linnaeus found the name of hamamelis, which he gave thereupon, perhaps from some fancied resemblance to the American witch-hazel.

In America the hamamelis has long been one of the most popular remedies. It was employed from time immemorial by the Indians, who used it as a sedative and discutient in painful tumors and swellings; they pulverized the bark and made poultices of it which they applied to the inflamed parts.

It is only within a few years that the hamamelis virginica has been made the subject of earnest study by American physicians.

The following references to American works and articles in American journals will not be without interest in this connection: —

(1) Durham, in *Atlanta Medical and Surgical Journal*, 1867. This writer attributes to the hamamelis the property of preventing abortion. He claims good results.

(2) R. Hughes, in "Elements pharmaco-dynamic," a homœopathic work, 1874. He urges the use of witch-hazel in chronic inflammations, in varicose dilatation of veins of the pharynx, and in bleeding hemorrhoids.

(3) Ludlam, in *United States Medical and Surgical Journal*, recommends hamamelis externally and internally in ovaritis and in blennorrhagic orchitis.

(4) Hale — "Materia Medica," etc., 1879. Witch-hazel is recommended in all diseases of the venous system, varices, painful and bleeding hemorrhoids, also in hemorrhages generally.

(5) John King — *American Dispensatory*, 1872. Hamamelis virginica is declared tonic, astringent, hemostatic. Recommended locally in ulcerative stomatitis, in tumors of bad character, in prolapse of the rectum and uterus, and in intractable conjunctivitis.

(6) Scudder and Howe, in *Eclectic Medical Journal*. These eclectic practitioners have found hamamelis very useful in venous states of the mucous membranes, old, torpid, fetid sores, in metrorrhagias, and in hemorrhages generally.

(7) *Philadelphia Medical Times*, September 20, 1883, *New York Medical Journal*, December 8, 1883. In these articles Dr. Musser calls attention to the use of hamamelis in varicose veins and their sequences. Internally in drachm doses of the fluid extract. Astonishing results are claimed.

(8) *American Druggist*, New York, January, 1884. An exhaustive study of this medicament. Cites Dr. Alfred Stillé, James Fountain, and Dr. W. S. Davis as authorities for the internal and local use of this remedy as a powerful styptic, astringent, and venous tonic.

(9) "Essays on new remedies." Dr. René Seruard, Paris, 1881. This writer has made eight trials of hamamelis and confirmed the conclusions of previous experimenters.

(10) *Bulletin Gén. de Thé.*, March 15, 1884. *Bulletin de la Soc. de Thé.*, May, 1884. In these articles Dr. Dujardin-Beaumetz treats extensively of the witch-hazel, to commend its use especially in hemorrhoids; he thinks, however, that there has been great exaggeration as to its therapeutic properties. The above references comprehend in part the medical literature of this medicament.

## CHEMICAL ANALYSIS OF THE HAMAMELIS.

I fail to find in the writings of American authorities any complete chemical analysis of the witch-hazel. Hughes has noted the presence of tannin. Lea, besides tannin, a bitter principle. On the Continent several chemists have attempted a more complete analysis; Van d'Esp. of Brussels, has found tannin in the bark, existing in the proportion of 10 per cent., a feeble percentage of gallic acid, waxy matters, a red coloring matter, lime, potassa, iron, and an aromatic substance. He arrives at the conclusion that there is no alkaloid in the bark. The aromatic substance which he discovered is, I believe, an essential oil.

As for the leaves, which are much used medicinally in the United States, entering into the preparation of most of the extracts and tinctures (see the last U. S. P.), I have made the following analysis: A certain quantity of the powdered leaves was treated with chloroform; after evaporation, I obtained a solid waxy mass. Then a similar quantity of the powder was placed in a percolator, and sulphuric ether and alcohol were added. The filtrate was evaporated, leaving a residue of astrigent taste, soluble in water, precipitating tartrate of antimony and coloring the ferric salts black. This substance was evidently tannin. Wishing then to obtain an imitation of the fluid extract, I distilled twenty grammes of the powder with one hundred grammes of water; I thus got a *hydrolat* having the characteristic odor of hamamelis, though somewhat weaker than that of the American extracts. This odor becomes stronger with age.

This *hydrolat*, agitated with ether, left after evaporation of the ether a minute quantity of essential oil, greenish yellow, possessing the peculiar "Pond's extract" odor and very volatile. To sum up the results of our chemical investigation, we find in the leaves a waxy matter, tannin, an essential oil, and divers extractive matters.

There are various reasons for believing that in the essential oil (which we regret not having examined further; the small quantity of leaves at our disposal rendering such further study impossible) resides the active principle of the witch-hazel. It is a fact that the fluid extract the most popular, the most vaunted, the most in use everywhere (Pond's extract), which is an aqueous alcoholic distillation, contains no tannin or gallic acid, as we were easily able to prove. What then can be the principle of the therapeutic properties possessed, or supposed to be possessed, by this fluid preparation unless it be the essential oil?

#### PHYSIOLOGICAL ACTION.

No American or French physiologist, as far as I am aware, has performed any experiments on animals with the hamamelis. I have thought that it would be interesting to give the results of my physiological study. My experiments were made in the laboratory of Dr. Dujardin-Beaumetz, in the Hôpital Cochin.

Experiment I. Injection under the skin of a frog's back, by means of a Pravaz syringe, of about ten drops of tincture of hamamelis. There was no appreciable effect manifested, certainly no toxic symptom.

Experiments II., III., and IV. were of similar kind, performed on large, healthy frogs; the injection being made under the skin of the hip. The result, as in the first experiment, was nil.

Experiment V. The interdigital membrane of a frog was moistened and placed in the field of the microscope. After having noted the state of the circulation and the size of the vessels, an injection was made into the upper part of the leg of about two minims of the alcoholic tincture of hamamelis virginica. The interdigital membrane was examined anew; the state of the circulation did not seem to be much modified. The movement of the blood was

a little slowed in the capillaries and the volume of these vessels seemed diminished.

Experiment VI. The subject of this experiment was a large, healthy frog; the tongue of the animal was drawn from the mouth and fastened to a piece of cork; this was put under the microscope in such a way that a large artery with its accompanying vein was in full view. I then made an injection of ten minims of tincture of hamamelis into the posterior member and watched the appearance of the bloodvessels. At the end of fifteen minutes there was no perceptible effect; I made another injection of ten minims. For more than an hour I continued to watch the bloodvessels, which continued unchanged as before the injections.

Experiment VII. In this experiment, which was made under the same conditions as the preceding, I took care to have in the field of the microscope a network of capillaries; then I made an injection of ten drops of the tincture. Several seconds after the injection it seemed to me that the calibre of the capillaries was a little diminished; but this contraction did not become plainly evident till I had applied locally to the tongue of the frog (under the microscope) a little of the tincture, whereupon the circulation stopped completely.

Experiment VIII. As the results of the previous experiment might be attributed to the alcohol contained in the tincture, I repeated this experiment several times, using not the tincture of hamamelis but the aqueous extract dissolved in water. After the subcutaneous injection I noticed no appreciable result, but on making local applications to the tongue which, as in the previous experiment, was the subject of observation, I obtained a little contraction of the capillaries, but much less marked than before.

I have repeated these experiments from the point of view of modifications of the circulation with other preparations of the hamamelis, notably with the fluid extracts. The results obtained have been much inferior to those which the tinctures gave me.

I have made similar experiments on hares; giving these animals, by mouth and subcutaneously, considerable quantities of various preparations of hamamelis. I have never observed any toxic effect or any modification of the circulation. These experiments seem to me to demonstrate the following facts: Hamamelis is not toxic even in large doses. This conclusion is confirmed by the fact that no case of poisoning by this medicament has ever been recorded.

Hamamelis has no very characteristic action on the vascular system. The phenomena of contraction of the capillaries may be attributed to the tannin in the tincture or aqueous extract; they were not produced when the distilled extract, which is free from tannin, was used.

Nevertheless, from its therapeutic effects there is reason to believe that the action of this medicament is exercised on the venous system and particularly on the muscular coat of the veins. The fact that this drug has no very well-defined physiological properties is not sufficient to warrant its banishment from the materia medica, for many medicines much used in practice have no characteristic physiological action.

## CLINICAL OBSERVATIONS.

I have brief reports of twenty-one cases, thirteen of which were in the service of Dr. Dujardin-Beaumetz, two were patients under the care of M. Camperdon, and six were Dr. Serrard's patients; in all the hamamelis was used with varying success.

CASE I. This patient, Charles Martin by name, was afflicted with ulcerous gastritis. Entered the Hôpital Cochin in January, 1884, mainly to be treated for internal bleeding hemorrhoids, which protruded on defecation in the form of little rounded, livid, half-strangulated tumors. These were treated locally by compresses wet with the fluid extract of witch-hazel. The greatest relief followed these applications; the bleeding ceased, and the pain disappeared with the swelling. The patient left the hospital after six days of treatment, almost well of his hemorrhoids, though no better of his gastritis.

CASE II. This was also a case of internal proident hemorrhoids; these were voluminous, painful, and attended with bleeding. Drachm doses of fluid extract of hamamelis were administered every two hours; the same remedy was also locally applied in the form of compresses soaked in the fluid extract. There was sensible amelioration after two days of treatment, and in less than a week both pain and hæmorrhage had disappeared. Patient passed from under observation.

CASE III. was also one of bleeding piles; the treatment was similar to that of the above, and was equally gratifying, the patient after eight days of treatment being entirely relieved of the distress and inconvenience from which he had previously suffered.

CASE IV. (also in the service of Dr. Dujardin-Beaumetz) was one of varicose veins. A. G. entered Cochin March 15, 1884, for varices of both inferior extremities. These were especially marked in veins of left leg; the dilated and flexuous vessels felt like hard cords and bunches under the skin. The left internal saphenous was remarkable for its varicosities.

March 20th. Fluid extract of hamamelis virginica was administered in teaspoonful doses every two hours. March 22d. The size of the varices is not sensibly modified. They have, indeed, shrunk away a little, but the patient has kept at rest all this time. March 26th. The varicosities of both legs are much less salient; the clusters below the left knee have notably diminished in volume. March 28th. The patient is walking around the hospital, but the amelioration continues. The veins are less tense and voluminous. March 30th. Patient is still better. The varices have perceptibly shrunk. The cordy swellings over the left tibia have almost disappeared. Previously to treatment the patient could not walk without pain; now he can take quite long walks without any inconvenience. Left hospital March 30th. Two months afterward A. G. again presented himself at the hospital for another disease; I examined him thoroughly with reference to his varices. The amelioration had continued; he had been able to pursue his daily tasks without fatigue and pain. There now remained only a few dilatations of trifling nature.

CASE V. was a case of varicose veins with ulcers

over the tibia. The same treatment was pursued, with considerable relief from the pain, though the varices remained unchanged.

CASES VI., VII., VIII., and IX. were also patients in the service of Dr. Dujardin-Beaumetz; all were afflicted with varices. In all the hamamelis was given internally, in doses varying from ten drops of the tincture<sup>1</sup> every two hours to a teaspoonful of the tincture or fluid extract three times a day. Case VI. was attended with some positive shrinkage of the varices and relief of the pain. Case VII. seemed to be especially benefited in disappearance of the pain; there was also cicatrization of certain varicose ulcers during the use of the remedy. Case VIII. was a bad one on account of mitral heart disease and dropsy. No benefit from hamamelis. Case IX., varicose veins and ulcers; no benefit.

CASES X. and XI. were patients of Dr. Camperdon. Enormous varices; in Case XI. there were ulcerations. The tincture of hamamelis was given in doses of from five to ten drops at more or less frequent intervals during the day; dose was gradually increased. In Case X., after five weeks of treatment, the engorged tissues began little by little to regain their normal aspect, and the pains disappeared. Dose was increased to twelve drops twice a day. Dr. Camperdon noted certain symptoms which he regarded as toxic, from overdose; these were disturbance of vision, difficulty in walking, and some paralysis, with numbness, of the forearms, hands, and fingers; dose was reduced. The ultimate result was almost complete cure of the varices. Case XI. was a still more unfavorable case for treatment. Enormous varices, ulcerated in places. Tincture of hamamelis (one part of leaves to five of proof spirit), five drops morning and night, for first week; then five drops three times a day for second week, etc. There was gradual improvement, with healing of the ulcers and disappearance of the pain and swelling. After some five weeks of treatment the patient, an unmarried woman of forty, was able, without any inconvenience, to resume her occupation of saleswoman in a store.

CASES XII. to XVI. inclusive were patients of Dr. Serrard. The first case was a Parisian lady, aged twenty, who was suffering from chronic catarrhal pharyngo-laryngitis, with localization of the signs of congestion in the left vocal cord. This was in a varicose condition. Other treatments having failed, Dr. Serrard resorted to the tincture of hamamelis, giving two drops in a teaspoonful of water every two hours. The hamamelis was also employed in the form of inhalation, forty-five drops being added to half a pint of boiling water kept boiling, the patient being required to inhale the vapor fifteen minutes at a time. This treatment was persevered with for a fortnight; there was marked amelioration; the tumefaction and redness of the vocal cord disappeared; the voice recovered from its hoarseness and became natural, so that the patient (who was a vocalist) could sing; there was notable improvement in the condition of the pharynx.

<sup>1</sup> The tincture is made in the following way: Take of witch-hazel bark, one ounce; alcohol, ten ounces. Macerate and filter. Dose, two to five drops, and more. The United States Pharmacopœia of 1883 gives a ready formula for the fluid extract.

geal mucosa and that of the vestibule of the larynx, which were highly injected and swollen. The amendment was both gratifying and permanent.

CASE XIII., a lady, aged thirty-nine, was a sufferer from chronic sore throat; the tonsils being congested and tumefied, the half arches and the pharynx participating in a condition of catarrhal hyperemia which also to some extent involved the larynx. Tincture of hamamelis was prescribed in the same doses as in the previous case. The same inhalation was also practised. A watery solution of the hamamelis was also ordered as a gargle. The amendment was immediate, and cure was gradually effected. In this case benefit was derived from touching the tonsils occasionally with a mixture of 1 part tincture of hamamelis to 2 of glycerin.

CASE XIV. was one of catarrhal conjunctivitis. The hamamelis was given in doses similar to those prescribed in the other two cases, and the patient (an elderly lady) was ordered to bathe her eyes every two hours with a lotion composed of twenty drops of tincture of hamamelis virginica in four ounces of water. This case, which was one of chronicity and great obstinacy, was singularly benefited under this treatment; in fact, in a month's time the patient was discharged cured.

CASE XV. was one of glandular blepharitis in a patient aged fifty, of nervous temperament and arthritic habit. *Symptoms:* since 1880 epiphora, sensation as of grains of sand under the lids, redness of palpebral conjunctival borders, hypertrophy of Meibomian glands. *Treatment:* an eye wash to be used every three hours of tincture of hamamelis half a fluidrachm, warm water a wineglassful. *Results:* almost immediate relief from the uncomfortable sensation and epiphora; ultimate cure. The strength of the lotion was finally increased to tincture of hamamelis virginica two thirds, warm water one third.

CASE XVI. was one of chronic parenchymatous metritis, in a married woman aged thirty. *Cause:* imperfect involution following an accouchement in 1875. *Symptoms:* easily provoked fatigue, pelvic pain radiating into stomach and back, shooting down thighs, heavy pressing weight on walking, no ease except when lying, dyspeptic troubles. *Vaginal examination:* vaginal cul-de-sac free, uterus enlarged and heavy, low down in pelvis, in anteversion, the cervix resting posteriorly on the vaginal floor. The speculum shows the neck large and of violaceous appearance; the two lips oedematous and largely everted (areolar hyperplasia). *Treatment:* every morning to the os and cervix a tampon of wadding saturated in a mixture of 1 part tincture of hamamelis, 2 parts of glycerin. This tampon was packed in the vagina and was kept in till the next morning. The tincture of hamamelis was also used externally as a liniment to the back. This treatment was continued nearly two months. *Results:* slow and effectual amelioration; reduction of the hypertrophy, the uterus the last week of treatment having diminished in size to normal; abatement and disappearance of the pain and reflex phenomena.

CASE XVII. was a patient in the care of Dr. Dujardin-Beaumetz. Disease, metro-peritonitis. Entered Hôpital Cochin February 21, 1881. There had been a previous history of a painful abdominal

affection, attended with vomiting and constipation and metrorrhagia.

*Present state.*—Pain in hypogastrium and left iliac fossa, radiating to the loins and thighs. *Vaginal examination.*—Heavy globular uterus, with neck effaced and carried to the left; culs-de-sac (except the posterior) obliterated; fixity of the uterus which by abdominal palpation is felt above the pubes. Reflex gastric and intestinal disturbances were marked.

The tincture of hamamelis was administered internally with no relief whatever.

CASE XVIII. was one of chronic parenchymatous metritis, under care of Dr. Serrard. It was complicated with endometritis with ulceration of the cervix, consecutive to arrest of involution after confinement. The treatment was like that of case XVI. and was attended with equally successful results; it should be remarked, however, that mineral sulphur waters were used at the same time, and "Scotch pin douches" (*douches à épingles écossaises*) over the lumbar region.

The three following cases were in the service of Dr. Beaumetz. The first was one of chronic enteritis; from three to twelve mucous, sanguinolent stools a day, with pain. After failure of other remedies, hamamelis was tried in the form of two-grain pills of the solid extract; dose: two pills a day. This dose was increased to nine pills a day; the result was nil.

CASE XX. was one of blennorrhagic orchitis. Tincture of hamamelis was given in ten-drop doses every two hours with rapid diminution of the size of the testicle and disappearance of the pain.

CASE XXI. was one of hemoptysis in a patient in the last stage of phthisis. Tincture of hamamelis was given in teaspoonful doses every two hours. There was at first amendment under the treatment, but the hemoptysis soon returned and the patient succumbed to the excessive loss of blood. The autopsy revealed a cavity with a milary aneurism, whose rupture had caused the fatal hemorrhage.

#### ANALYSIS OF THE CASES.

The first three cases pertain to hemorrhoids. Has the hamamelis any special action in these cases? Certain American writers have claimed it as a specific. I am not prepared to indorse this claim, but the topical effects of the medicament seemed to be good in these three cases, an amelioration following the very first application. It is, however, presumable that whenever there is a mechanical obstacle to the circulation in the veins of the rectum, and whenever the hemorrhoidal tumors are accompanied with anal spasm, the hamamelis will be without efficacy. In observations II. and III. the external employment of the hamamelis was associated with its internal administration. I am inclined to think that there is a good deal of testimony in favor of the internal use of the witch-hazel in piles.

In the eight following cases we have to do with varices. The employment of hamamelis has not given results as conclusive and as certain as those announced by Dr. Musser, of the Philadelphia County Medical Society. Moreover, the appreciation of facts at their just value is here very difficult,

and it is easy to attribute to the medicine effects which are due to rest. These cases are almost always persons easily fatigued, whose occupation requires prolonged standing, and whose varices, in consequence, take an exaggerated development by the force of gravity. A few days of rest in the hospital suffice to calm the pain and render the varicose swellings less apparent. This is what case VI. taught us. The patient who after ten days of treatment was considerably better went walking about the hospital; the next day the varices were as bad as ever.

Case IV., however, seems to me an exception. This patient had had varices for nearly ten years. After ten days of treatment the enormous varicose veins were quite perceptibly shrunken and the knotty tumor of dilated veins over the tibia had almost disappeared. The benefit in the case of this patient was lasting, as was shown by the fact that two months afterward, on returning to the hospital, he was found to be entirely well of his varices.

In Cases V. and VI. no marked benefit was noted. Case VII. (varicose ulcers) was attended with notable amelioration.

Case VIII. is not conclusive; the varicosity was complicated with oedema of the lower extremities from mitral valvular disease.

In Case IX. no amelioration.

In Cases X. and XI. the use of the hamamelis seemed to be attended with fairly good results.

The witch-hazel does not, then, seem to have any constant action in this affection. In some cases it seemed to do good; in others the effect was nil. It seems to be more beneficial when the veins are simply dilated, and little if at all hypertrophied. There is, however, a fact to which I wish to call attention, namely, to the decided analgesic action of hamamelis in varices, as well as in hemorrhoids and pharyngeal, laryngeal diseases, etc., and this effect is often observed even when no perceptible amount of shrinkage is seen in the enlarged veins or other swellings.

Cases XII. and XIII. show the advantage which may be derived from the internal and local use of tincture of hamamelis in chronic laryngeal and pharyngeal congestions with varicose dilatations of the veins of the region.

Cases XIV. and XV. illustrate the de-congesting action of hamamelis in conjunctivitis and blepharitis. Hamamelis has also been employed with success in two cases of chronic parenchymatous metritis, as seen in the report of cases XVI. and XVIII. Its efficacy in this disease is especially noticed in the first phase of the disease, when the uterus is congested and engorged and the cervix is voluminous, deformed, patulous, but not indurated.

Case XIX. did not seem to be a fair case for trial of the medicine in chronic enteritis. The disease was probably tuberculous and little amenable to therapeutic agents.

Case XX. (hemorrhagic orchitis) seemed to be remarkably alleviated and helped toward a favorable issue by the internal use of hamamelis. The analgesic action was almost instantaneous.

It remains to speak of the hemostatic properties of the witch-hazel. Case XXI. is not a good test

case; the patient was in the last stage of phthisis, and no medicine could have stayed the aneurismal rupture. In America good results have been reported from the hamamelis in hæmoptysis. In the two following cases, communicated to me by an eminent Paris physician, the benefit was unquestionable. The first was a hemophilic infant, brought to death's door by repeated attacks of epistaxis. The internal and local use of hamamelis promptly arrested the hæmorrhages the first and every succeeding time.

The second case was of metrorrhagia from uterine fibroids. The internal use of fluid extract of hamamelis completely controlled the hæmorrhage and proved a boon to the patient.

#### CONCLUSIONS.

(1) Hamamelis Virginica is not toxic. Employed in very large doses it produces no symptoms of poisoning in the inferior animals. It does not appear to be toxic to man, despite the fact recorded by Dr. Camperdon, concerning which there would seem to have been some mistake.

(2) It does not appear to have any special physiological action on the vascular system, heart, veins, or arteries.

(3) We have not noted any alkaloid in the bark or leaves; the active principle is probably the essential oil.

(4) Therapeutically hamamelis has an uncertain action. It has, nevertheless, given good results in certain cases of hæmorrhoids. As a hæmostatic its action has seemed demonstrated in some circumstances. The results obtained in varices are not conclusive.

(5) Hamamelis Virginica does not seem to merit the enthusiasm bestowed on it by certain American physicians. It has no clearly defined special action. At the same time, in certain cases, its employment may be attended with success.

#### NOTE ON A HITHERTO UNRECOGNIZED FEATURE OF THE TEGMENTUM.

BY E. C. SPITZKA, M.D., OF NEW YORK.

The study of a series of microscopic sections, prepared from the brain of a kitten, in which I had succeeded in inducing complete atrophy of the left cerebral hemisphere, left thalamus, and optic tract (the animal being killed three months after the necessary operation), revealed the following striking and important conditions:—

(1) The anterior commissure is present, and of about half the size of the same part in a normal kitten of the same age. (2) The detachment of fibres which connect the commissure with the thalamus is well developed on the right side and absent on the left. In Fuchsin-stained sections this difference is particularly well marked. (3) The continuation of the commissural fibres ventro-caudal is present on the left side and absent on the right side; owing to the secondary atrophy on the left side of the other structures—particularly the tracts—it comes out with abnormal distinctness. (4) The bundle in question moves along the side of the central tubular gray, gradually approaching the

ventral aspect of the brain axis, and, at the same time, nearing the median raphé. It ultimately moves ventral of the posterior longitudinal fasciculus of the tegmentum, closely underlying it, and in immediate contact with the gray intercalation of the raphé. In the level of the posterior corpora bigemina this bundle is so well demarcated as to be differentiable from neighboring structures by the naked eye. (5) No field of approximate size, structure, or distinctness is found on the right side. To the naked eye no fasciculus is visible; under the microscope a few strands are found in a more lateral situation, which leaves it doubtful whether they are truly homologous. (6) The relations of the developed bundle of the left side change as it continues caudal; it is no longer as compact in the caudal half of the pons, and appears to receive admixtures of fibres from other sources, or, possibly, to exchange fibres with other systems. Still, even down through the oblongata, while the corresponding field of the right side begins to appear, it fails to equal that of the left side. In the cephalic part of the pons it is not so close to the posterior longitudinal fasciculus, more ventral, and instead of being shaped like a square field in section, is elongated, with the long axis of the field parallel to the raphé, and a short distance removed from it. Here the difference between both sides is as marked as in the level of the posterior pair of the corpora quadrigemina.

From these observations it is evident that the posterior commissure is a true decussation, uniting the thalamus of one side with the tegmentum of the other, and that the decussation is "total," or nearly so. Meynert<sup>1</sup> claimed such a connection, but was unable to demonstrate it to the satisfaction of later writers, several of whom are still inclined to regard it as a true commissure, uniting symmetrical ganglia. Forel denies that a connection of the posterior commissure with the tegmentum is demonstrable.<sup>2</sup> I believe that the atrophy of the denied fasciculus, in my experiment, on the side opposite to the removal of the thalamus, is the first clinical demonstration of its course, by a method which is universally considered reliable, at least with regard to its positive results; while the true position of the crossed fasciculus in the tegmentum is for the first time demarcated. The influence of the removed hemisphere may safely be disregarded, as the isolated removal of this part of the brain does not affect the posterior commissure; the atrophy of one branch of the cross must be referred to the atrophy of the thalamus, and to it alone.

In the cat it is possible to trace the field in question through the tegmentum to the cord by the embryonic (Flechsig's) method, and thus the connection of the thalamus with the cord, through the crossed thalamo-tegmental tract, as I propose to term the fasciculus demonstrated in my experiment, thus becomes established.

In conclusion, I may state that the section of this brain axis in the level of the posterior pair of the corpora quadrigemina exhibited a remarkable picture. On the right side the pyramid tract, cortex lemniscus (of Von Monakou), direct thalamic bundle, and posterior longitudinal fasciculus were

normal, and only the crossed thalamo-tegmental bundle atrophied; on the left side this was exactly reversed: the pyramid altogether absent, the cortex lemniscus scarcely identifiable, the direct thalamic bundle<sup>3</sup> a shrunken field, and the posterior longitudinal fasciculus greatly diminished; the crossed thalamo-tegmental bundle was, however, well-marked—a convincing proof of our power to produce distant atrophy of nerve tracts in their natural course.

## REPORT ON THEORY AND PRACTICE OF MEDICINE.

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### DIAGNOSIS OF CANCER OF THE STOMACH.

THE not infrequent difficulties and uncertainties of diagnosing gastric cancer forms the subject of a communication by Dr. Dujardin-Beaumetz to the Société des Hôpitaux.<sup>1</sup> The uncertainties rest upon three causes: (1) The vague value of the word cancer, (2) the slow development of some cancerous changes of the stomach, and (3), especially, the more exact knowledge obtained of late of another pathological condition of the stomach, — dilatation with thickening of the walls.

(1) Pathology distinguishes the so-called cancerous tumors anatomically, and clinical medicine attempts to divide them according to their course and development, an attempt which is more successful with external than with internal growths. Many morbid growths are still included under the term cancer which have nothing in common except their incurability and fatal termination. This is particularly true in regard to the stomach, where the situation, as well as the character of the lesion, makes a great difference in the course and termination of the case. A small growth at the pyloric, or even at the cardiac, extremity of the stomach may entail pronounced symptoms and rapid death by the disorders in nutrition to which it gives rise, and through its own malignant character.

(2) On the other hand, there are cancerous growths of the stomach analogous to those which attack the breast and the uterus which run such a slow course that they are borne for a series of years without producing any serious change in the general economy.

In support of this position Dujardin-Beaumetz reports a case in which he found cancer of the stomach (confirmed microscopically by Cornil) in a patient who ten years before had begun to suffer from the characteristic signs, including bloody vomiting; at that time a diagnosis of cancer was made, but the patient improved to such an extent upon a regulated milk diet that he was able to resume work, though interrupted by occasional relapses. When seen, during one of these, the year before death, it was suspected, on account of the duration of the case, and notwithstanding the patient's more than seventy years, that chronic ulcer or dilatation must be the cause of the trouble. Beaumetz regards this

<sup>1</sup> This is situated lateral in the tegmentum, in contact with the angle formed by the (ident) union of the cross fibres of the descending trigeminal root and the posterior longitudinal fasciculus.

<sup>2</sup> Gazette Hebdomadaire, 31, 1881.

<sup>1</sup> Stricker's collection, vol. II.

<sup>2</sup> Forel, "Die Häute," Archiv. f. Psychiatrie, vii.

case as conclusive and by no means unique, and thinks the statistics of Brinton, Lebert, and De Valéix, which place the average duration of cancer of the stomach at thirteen months, the minimum at one month, and the maximum at three years, stand in need of revision.

(3) The third source of obscurity is dilatation of the stomach, and by dilatation Beaumetz does not refer to the relaxed and atonic forms described by Bouchard and by Sée and Mathieu,<sup>2</sup> but to a form of dilatation accompanied by *thickening* of its walls, which is generally consequent upon a chronic inflammation of the different coats. In this affection the stomach is sometimes enormous, and occupies the whole abdomen. Neither sex, age, a cachexia, nor the local symptoms can be appealed to for a differential diagnosis. This condition is more frequent, in about the same proportion as cancer, in men than women; most of these cases occur in individuals over forty years of age. When not controlled by active and proper treatment (washing out) they are accompanied by profound disturbances of nutrition, producing a cachexia fully as marked as any observed in cancer, disturbances leading to a fatal termination. Moreover, the venous thrombosis, considered by Trousseau pathognomonic of cancer, may accompany this condition; the general symptoms of pain, coffee-ground vomiting, and tumor may be, and not seldom are, present in this form of dilatation and absent in cancer.

To overcome these sources of obscurity, distention of the stomach by gas, thereby bringing irregularities into prominence; examination of the gastric juice and determination of the amount of acid; and a quantitative examination of the urea secreted by the kidneys, have all been suggested and practised. Of these Beaumetz finds the third, suggested by Rommelaere, of Brussels, the only one offering as yet much guaranty of practical success. Rommelaere found in a number of cases of cancer of the stomach and of other organs that the excretion of urea averaged about nine grammes, whereas in a number of cases of dyspepsia and gastric ulcer the minimum was seventeen, and the maximum thirty-five, grammes of urea.

Beaumetz applied this method in his hospital service with the following result: four cases of probable cancer of the stomach yielded each a daily maximum average of six, and a minimum of four, grammes of urea as the result of nine days' observation; one case of ulcer yielded a daily average of twenty grammes; five cases of *gastrites ulcéreuses* a daily average of from twenty to twenty-six grammes.

This method may be made of service in differential diagnosis in hospitals and occasionally outside; but the varying quantity of urea secreted by any individual in health or disease, the details of the quantitative examination, the possible deficiency of urea in dilatation accompanied by deranged nutrition complicate the applicability of such a test.

#### INOCULATION OF TUBERCULOSIS.

Tscherning<sup>3</sup> (*Hospitals-Tidende*, December 17, 1884) records an interesting and instructive case of

accidental inoculation in the hand with tuberculosis. The patient, a strong, healthy girl, without family tendencies, had been in the service of a gentleman who died from rapid pulmonary phthisis, and whose expectoration, toward the end of life, was an almost pure culture of tubercle bacilli in pus. A few days before his death, end of July, the girl wounded the volar surface of the first phalanx of the left middle finger with a piece of china from a broken spit-cup used by the master.

A fortnight later she presented herself to the reporter with an incipient paronychia. The symptoms subsided somewhat on suitable treatment; there was no suppuration, but in the subcutaneous areolar tissue a small lump scarcely as large as a split pea was detected, which remained stationary for some little time, though accompanied by oedema and moderate soreness of surrounding tissues. The end of August a small incision was made, and the lump, composed of granulations, scraped out, the wound healing by first intention under iodoform and corrosive sublimate. The beginning of October patient complained of pains on flexion of fingers; the subcutaneous tissue of the phalanx and adjacent part of the palm of hand were slightly swollen; the mobility of the finger was diminished, and it was the seat of moderate pain and sensitiveness, and at this time two swollen glands were detected in the elbow and two in the axilla of the same side.

On the twenty-first of November the swollen glands were extirpated, the finger was exarticulated at the metacarpo-phalangeal joint, the palmar skin was slit open, the tendon with its swollen sheath was removed up to the middle of the hollow of the hand, and the subcutaneous granulations present were cut out with scissors or scraped out with a curette. The operation was performed and the wound was dressed antiseptically. It healed by first intention in eleven days.

The pathological changes found were as follows: The sheath of the tendon was closed with pale granulations. The serous cover of the tendon was studded with petechiæ. No pus, cheesy masses, articular or bone affection were found. Under the microscope, the granulations, after hardening in alcohol and staining with picocarmine, showed very numerous elementary tubercles, sometimes with cheesy degeneration of the centre, numerous large cells, and beautiful partly central giant-cells. The extirpated glands looked to the naked eye like common hyperplastic glands without pus or cheesy substance. The microscope revealed hyperplasia due to large cells with interspersed elementary tubercles. In all the sections, both of the granulations on the sheath of the tendon and of the lymphatic glands, were found distinct tubercle bacilli, demonstrable by means of Chelieh's staining method. They were partly imbedded in epithelioid cells or giant-cells, partly situated at the confines of the microscopical necrobiotic spots. Most frequently they were isolated, but here and there two or even three were found together, forming a more or less open V. Often they contained spores.

The reporter adds that these conditions correspond entirely with what he has found in about thirty cases of local tuberculosis (arthritis, tenositis, spondylitis, pyogenic membranes, lymphatic glands, testicles, tongue, pyelonephritis).

<sup>2</sup> *JOURNAL*, vol. cxi., p. 473.

<sup>3</sup> *American Journal of Medical Sciences*, April, 1885.

COMA, RESEMBLING THE SO-CALLED "DIABETIC COMA,"  
WITHOUT DIABETES. DYSPYPTIC COMA.

As an illustration of the views advanced by Frerichs<sup>4</sup> and Senator,<sup>5</sup> a summary of which has previously been given in these reports,<sup>6</sup> and in honor of the late Professor Frerichs's 25th year of professional service, Litten and Riess have reported cases which they have observed. Litten<sup>7</sup> reports five cases with a peculiar combination of symptoms resulting from self-intoxication from dyspeptic conditions which he terms "dyspeptic coma." Of these patients two were small children and three were men of thirty odd years of age, in previous good health. Several days of prodromal symptoms, accompanied by gastric disturbances, preceded the condition of coma, which in all was light, and never amounted to full unconsciousness. The characteristic fruit-smell of the breath was present, and also the red reaction of the urine, which was somewhat diminished, to chloride of iron; there was neither sugar nor albumen. On the other hand, the typical deep breathing of "diabetic coma" was not observed. The pulse was small and the heart weak. In two or three days this state of things gradually disappeared, and the patients returned to their usual health. That the symptoms of intoxication described were the result of indigestion seems probable, but whether by the retention of normal products of fermentation or the formation of abnormal products remains more uncertain.

Riess<sup>8</sup> reports seventeen cases, with the typical respiration of "diabetic coma," but without the burgundy-red reaction to the urine, occurring in somewhat different diseases, namely: (1) eight cases in anæmia, of which three were extreme simple anæmias, two were probably pernicious anæmias, and three anæmias resulting from previous losses of blood; (2) five cases in anæmias complicated with renal disease; (3) four cases in cancer of the stomach and liver. Riess considered the coma in his patients due to the condition of the blood, and dwells on the change in quality rather than on the change in quantity as a cause. The change in blood pressure is more likely, however, to account for sudden coma than the diminution in red blood-globules, and in Kussmaul's coma the small, feeble pulse is almost invariably present. Riess found no ground to suspect self-poisoning from the digestive tract as a cause of the coma in his cases.

CONSEQUENCES OF EXTIRPATION OF THE SPLEEN.

Mosler<sup>9</sup> sums up the results of extirpation of the spleen in a large number of dogs and other animals as follows: (1) The spleen is not essential to the life of animals. (2) After extirpation, as well as after artificially produced atrophy of the spleen, its function will be assumed by the other lymphatic organs. The marrow of the bones seems to play an important role in this; striking changes, similar to those observed in leukaemia, are observed therein long after extirpation of the spleen. Hyperplasia of the lymph glands is not always found. (3) The

vicarious activity of the lymphatic organs is not always sufficient, as a changed condition of the blood is found, especially in the first months after extirpation. Hence one may conclude the spleen has a direct influence upon the formation of the blood, and that by creation of white as well as of red corpuscles. (4) Extirpation of the spleen produces no effect upon gastric and pancreatic digestion.

MALIGNANT (SO-CALLED ULCERATIVE) ENDOCARDITIS.

Dr. William Osler, late of Montreal, now of Philadelphia, has just delivered the Gulstonian lectures in London on this interesting subject. His views are but little modified from those previously published, as the result of his observations and studies in Montreal, in a paper contributed to the *Archives of Medicine*, an abstract of which was given at the time in these reports.<sup>10</sup> The lectures<sup>11</sup> before the Royal College of Physicians are an amplification of that paper, but reflect the study of a larger number of cases. In that paper Dr. Osler analyzed fifty-seven reported cases, contributing seven of his own, with autopsies. Since then he has collected and analyzed two hundred and nine cases. The old term "ulcerative" he still thinks should be rejected as misleading and inadequate, "as there may be no actual loss of substance and no more destruction than occurs in the ordinary form; and, on the other hand, there may be great destruction and ulceration from causes of an entirely different nature." For the term "infectious," which he then proposed, he now would substitute the adjective "malignant," as less indicative of the mode of origin of the disease.

In fact, the last word upon the subject still leaves it quite undetermined whether we may regard the symptoms and appearances grouped under this title as a separate disease, or simply as an intercurrent complication of a variety of pathogenic conditions, and it is certain that, notwithstanding the not infrequent mycosis of the cardiac valves, no specific organism has as yet been identified with "malignant endocarditis."

In fully one half of the cases on record the diagnosis was made postmortem. Dr. Osler acknowledges "that the protean character of the malady, the latency of the cardiac symptoms, the close simulation of other disorders combine to render the detection peculiarly difficult," and that it is no disparagement to the many skilled physicians who have put their cases upon record that the diagnosis is not more often made during life.

THE DIAGNOSIS. Dr. Osler thinks, is easy enough in the group of cardiac cases in which the disease attacks a patient the subject of chronic valvulitis, but even then the simple warty endocarditis accompanied by slight fever which not infrequently attacks sclerotic valves, and the irregular pyrexia arising from other causes,—local suppuration, cellulitis, etc.,—in chronic heart disease must be excluded.

In rheumatic fever, if with the occurrence of a murmur the symptoms become aggravated and assume a typhoid or pyæmic type, the recognition of the complication should be easy; but even here the

<sup>4</sup> *Zeitschrift f. klin. Med.*, vol. vi., part 2, 1883.

<sup>5</sup> *Zeitschrift f. klin. Med.*, vol. vii., p. 235, 1883.

<sup>6</sup> *Jou. B.S.M.*, vol. xviii., p. 295, and vol. xix., p. 249.

<sup>7</sup> *Zeitschrift f. klin. Med.*, vol. vii., Suppl., p. 81, 1884.

<sup>8</sup> *Deutsche Med. Woch.*, 22, 1884.

<sup>9</sup> *Zeitschrift f. klin. Med.*, vol. vii., Suppl., p. 34, 1884.

<sup>10</sup> *JOURN. L.*, vol. cly., p. 297.

<sup>11</sup> *Lancet*, British Medical Journal, March 14, 21, 28, 1885; Medical News, March 21, 28, April 4, 1885.

onset of severe head symptoms must be carefully distinguished.

In pneumonia a prolongation of the course, with the supervention of typhoid or septic symptoms, should lead to a careful examination of the heart.

"The greatest difficulty is met with in those acute cases resembling the malignant forms of the fevers; here the affection may simulate typhoid, typhus, cerebro-spinal meningitis, or even hæmorrhagic small-pox. Even with the detection of a heart-murmur the judgment may have to be suspended, and many cases die with the general symptoms of profound blood-poisoning before the development of any special features upon which a diagnosis could be based.

"From typhoid fever, with which the cases are most often confounded, the mode of onset, the pyrexia, and the abdominal symptoms offer the chief points for discrimination. The onset of severe endocarditis is more abrupt, not so often preceded by a period of failing health and progressive weakness. In a large number of cases cardiac pain or oppression and shortness of breath are mentioned as early symptoms. The fever rarely presents, in the early days of the disease, the regularity of typhoid, and from the outset may be very high. A sudden fall to the normal, or even below, may occur; indeed, irregular pyrexia is one of the most important diagnostic signs. The combination of diarrhœa, abdominal distention, and a rose-colored eruption points strongly to typhoid fever. The rash, when present, is usually petechial, a rare circumstance in typhoid fever. The development under observation of pronounced murmurs, particularly of aortic and regurgitant, is most suggestive of malignant endocarditis, and the occurrence of emboli would be a positive confirmation. Rigors rarely occur in typhoid fever, while they are common in endocarditis. It is well, however, to bear in mind that, in many of the most severe cases, death may occur, as in any of the infective disorders, without the development of the special symptoms necessary for a diagnosis.

"Many of the cases present the clinical features of pyæmia, a condition which may actually exist, dependent upon the ulcerative lesions on the valves; and here the diagnosis lies between an ordinary septic infection from a wound or auto-infection from a primary endocardial inflammation.

"It is interesting to note the similarity of those cases of acute endocarditis in which death occurs in a few days, without the development of any other than the valvular lesion, with those instances of rapidly fatal acute periostitis and necrosis, and also with those cases of malignant septic infection from a slight external lesion.

"It seems strange that difficulties should arise in the diagnosis between malaria and malignant endocarditis, but the records of cases plainly show that for weeks or months a condition of intermittent pyrexia may occur, simulating every type of ague. The paroxysms in regularity, in order of sequence, and in the accompanying general conditions may fulfil every condition of a quotidian or tertial intermittent; and the development of cardiac symptoms, with breaking of the pyrexial type, may alone determine the nature of the case."

## Hospital Practice and Clinical Memoranda.

### A CASE OF EMPYEMA.

BY JOHN EDWIN WALKER, M.D., OF THOMASTON, MAINE.

On the fourteenth of July last I accompanied J. B. Walker, M.D., who was called to visit a young man said to be sick with pneumonia. The history of the case, as obtained from the patient and friends, was as follows: F. H. I., aged twenty-six, unmarried, driver of a milk-cart, previously well, but on the seventh of February, while at a skating-rink, got chilled. In a few days a pneumonia—so called by the attending physician—was developed; he was confined to his bed some five or six weeks; he then became able to walk about his room, but still had a severe cough. During his apparent convalescence he had his hair cut, and immediately he was again confined to his bed. The cough which he had had from the onset of the disease became more frequent, until at last he was unable to sit up without coughing incessantly; he was also unable to lie upon his left side or back. The condition of the patient at the time we visited him was as follows: Countenance pale and anxious; pulse 145; temperature 103°; extreme emaciation; any exertion whatever caused cyanosis and dyspnoea; on the right hip there was a bed sore the size of one's palm. By measurement we found an increase in the size of the affected side (right) of 4.5 inches, and there was bulging of the intercostal spaces. The heart was displaced to the left two inches or more; below the free borders of the ribs there was a fulness, with more or less downward displacement of abdominal viscera. There was absence of motion on the affected side, while on the unaffected side there was an increase in the force and frequency of the respiratory movement. On percussion, with the patient in the sitting position, there was complete flatness from base to apex anteriorly, and posteriorly on the affected side. Palpation showed entire absence of vocal fremitus, and auscultation complete absence of all vocal and respiratory sounds in the same affected side. There was marked exaggeration in the vesicular breathing of the unaffected side. A diagnosis of pleuritic effusion was made, an operation was advised, and the following day was performed by Dr. Walker, assisted by myself. The aspirator needle was introduced into the fifth intercostal space a little in front of the axillary line, and the fluid, which proved to be pus, was allowed to flow, until there was a sense of constriction about the chest; one pint was removed at this time. On the second day after this the needle was again introduced, and a pint and a half of pus was removed. Two days after this a trocar was introduced, removing three and a half quarts of pus, when the patient complained of a sense of constriction about the chest, and the instrument was withdrawn. The relief following this operation was great. It was then decided to make a free incision and insert a drainage-tube. Three days later an incision was made into the thorax at the fifth intercostal space, immediately in front of the axillary line, and a silver drainage-tube inserted. At this

time three quarts of pus were evacuated, when the patient complained of thoracic constriction and there was paroxysmal coughing, and the tube was then closed. Subsequently the tube was left open permanently, and the purulent discharge was very copious. The patient steadily improved, and fifteen days after the operation—the discharge having ceased—the tube was withdrawn. The opening closed at once. Convalescence was rapid, and the patient, last November, considered himself as well and strong as ever.

Every operation was performed with antiseptic precautions and antiseptic dressings were used.

## Reports of Societies.

### CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

MEETING of January 17, 1885. DR. A. H. SMITH in the chair.

#### DIABETES MELLITUS.

DR. SATTERTHWAITE remarked, in opening the discussion upon diabetes mellitus, that our ideas of glycosuria might be grouped about the four clinical phenomena that characterized the disease, namely, inordinate thirst, excessive appetite, bodily emaciation, and glucose in the urine, the latter being always the prime symptom that decided the nature of the disease. The ordinary clinical tests established the presence of sugar if it existed in any quantity: on the other hand tests that indicated only a minute quantity of sugar had little clinical value, as the normal urine contained a small proportion of grape sugar. Sugar was present in the liver and any of the carbo-hydrates, or even in some instances the fats and albuminous substances might be required for its production. The occurrence of sugar in the urine might be explained by studying the results of Claude Bernard, Schiff, Landois, Klebs, Pavy, Eckhard, and others, who had shown that injury to the sympathetic filaments, either at their roots or in any part of their course, or of the cervical or thoracic ganglia, would cause glycosuria, or any agents such as curare, chloroform, ether, chloral, amyl-nitrate, or carbonic oxide, that would temporarily paralyze these nerves, might be the a-tiological factors. The peripheral nerves such as the pneumogastric or sciatic might also by reflex action accomplish the same result, as many experimenters had shown. In all these cases it was believed that vaso-motor paralysis of the hepatic vessels took place. With the increased current of blood supplied to the organ it was believed that hyperoxidization took place.

Injury to the parenchyma of the liver was also shown to induce glycosuria, and injection of unusual amounts of saccharine material or of material capable of conversion into the former was often sufficient to start the trouble. Abnormal action of the pancreas was also thought to induce this condition and the morbid changes found in the organ at post-mortem seemed to sustain this view.

The pathological findings were also in accord with these ideas, for though the liver had been found

diseased in about one half the cases, in a large number the nervous system was found to have been involved in such a manner as to sustain the physiological experiments. Thus Klebs had reported a case in which he found unusual dilatation of the hepatic and splenic arteries, and Recklinghausen had made somewhat similar reports. Though Dickinson's description of the microscopic appearances in the brain did not imply anything distinctive, Richardson had made an important contribution to the pathological anatomy by finding an ossific growth pressing on the pons; while Dompoling observed a tumor the size of a nut occupying the whole of the right half of the medulla, and Ponocklo detected an infiltration of the cervical ganglia with connective tissue, so that the nerve fibres and cells had virtually disappeared. Silver and Harley found lesions of the cord and pneumogastric respectively.

The change in the kidneys was a prominent phenomenon. Rokitansky observed it in sixty-seven per cent. of his diabetic postmortems, but there was hardly any doubt that this metamorphosis was secondary, as indeed our clinical experience demonstrated. It was not to be expected that the organs could do an increased amount of work continuously and not show the effects of it, and this they usually did by their increased size and the swollen and otherwise altered condition of the parenchyma.

Though the lungs had been found diseased in a large proportion of the postmortems, in about fifty per cent. tubercular (Griesinger), it was not certain that this condition preceded the diabetes; indeed such statistics as were at hand appeared to show that all pulmonary lesions, whether of pneumonia or phthisis, were concurrent and late features of the malady.

In considering the aetiology of diabetes it was plain, at the outset, that it was found most frequently in persons of neurotic constitution and especially in families where there was insanity or epilepsy. The exciting cause was frequently some violent impression upon the nervous system, such as might be occasioned by mental emotion or a physical injury, sexual abuse, possibly alcoholism or the opium habit. Whether exposure to cold or malarial infection were to be classed among the causes was not clear. It was most frequently present in males who had passed middle age.

The symptomatology of the disease was incomprehensible unless we adopted the three subdivisions of temporary, mild, and severe forms, when it would be found that the cases naturally fell under one or the other head. In a case of temporary glycosuria while we might have inordinate thirst, increased appetite, and some diminution in weight, all the symptoms yielded readily to a restricted diet and a moderate amount of medicine. The disease once arrested was practically cured. When the attack followed the taking of chloroform or ether it was even less severe and hardly disturbed the economy to an appreciable degree. In the mild form the same treatment reduced the disagreeable phenomena to a minimum, and the patient continued to enjoy fair health and might have a complete disappearance of the trouble for a considerable length of time. In the severe forms, however, the disease was never

under complete subjection, although a restricted diet would always modify some of its most unpleasant features; still the patient gradually failed and sooner or later some complication would be noted, such as nephritis, phthisis, or a cardiac disorder, gangrene or carbuncles, etc., that ended his life often in a most unexpected manner. Usually death was brought about by uræmia, possibly by acetæmia in a small per centage of the cases, but of this there was every reason to speak guardedly.

Of the twenty or more tests for sugar there were few that could be recommended except Trommer's and Fehling's for qualitative analysis, and the volumetric, differential density test (Roberts's) and George Johnson's for estimating the quantity. Fehling's had gradually superseded Trommer's because it demonstrated a smaller quantity of sugar and was less liable to misrepresentation in the hands of inexperienced persons. It would probably be best to mix the several ingredients freshly each time it was used, as the preparation as sold in the shops was unstable. The formulae given for this purpose by Flint, Jr. and Bailey were the best. The volumetric method (with Fehling's standard solution) was theoretically the best because it ensured accuracy and was rapid. Practically it was difficult to tell at what moment the blue color was discharged and the suboxide of copper deposited. Great errors might therefore be the result, and the apparatus was somewhat elaborate and expensive. The most accurate in ordinary clinical work was Roberts's, but it was necessary for the fermentation to proceed at a moderately high temperature (about 70°) and even then it required twenty-four hours. The apparatus was, however, inexpensive and simple, a good urinometer being the thing of prime importance. Dr. George Johnson, of London, had a method which theoretically superseded them all for quick work and accuracy, as the apparatus could be carried in the pocket and the quantity of sugar estimated while at the bedside. It was a color test and the quantity of sugar was determined by comparing the saccharine urine, after the application of picric acid and potash, with a standard solution of iron and ammonia. The fact that a large number of persons could not distinguish the finer shades of color upon which the test depended prevented its being generally accepted.

One of the first principles to be laid down in the treatment of glycosuria was that the patient should adhere rigidly to a restricted diet from which all sugar and starchy food were excluded, and then each case should be treated according to its special indications. Thus neuralgic pains would be best combated by opium or its alkaloids. Colic, as recommended by Pavy, had met with general favor because it was an agreeable sedative and did not materially increase the constipation that was a marked feature of glycosuria. But other sedatives, such as bromide of potassium, had also been found useful, as well as curative, when given in connection with a restricted diet. Ergot and ergotine in physiological doses had also aided materially as would be supposed by a study of the ætiological factors. Certainly at the present time Clemens's solution of the arsenite of bromine, dose one-tenth to one twenty-fourth of a grain three times a day, was the most popular empirical remedy.

It often happens that the complications needed attention and so cod-liver oil for the pulmonary disorders, tincture of the muriate of iron for the failing renal power, Fowler's solution for the pruritus and eczema, digitalis and alcoholics and diffusible stimulants for heart failure had to be recognized as important factors in the treatment.

Dr. Satterthwaite remarked, in closing, that these views were not based merely upon the experiences of writers upon this subject but upon a certain amount of personal observation. He believed, however, that few, if any, physicians could speak from a very extensive experience in the treatment of glycosuria, as it was unquestionably a comparatively rare disease. Of the first ten thousand cases treated at the New York Post-graduate School and Hospital there were but three diabetics, and these statistics tallied exactly with those of Romberg at the Vienna Polyclinic. He had, however, collected forty-one cases occurring in his own practice and in those of his friends, and had used the data thus furnished in reaching his conclusions.

DR. BACHE MCF. EMMET said that he had the records of only two cases of this trouble and both of them had had only the temporary variety. They seemed to be in a debilitated condition and the principal plan of treatment was directed to this. He considered the disease dependent upon an affection of the vaso-motor system. In all probability there was at first an excitement of this system, followed by a paresis. He directed his treatment to the overcoming of this exhausted state: tonics and especially strychnia were employed and a cure had been effected in from six to eight weeks. Both of his cases had been in women and were accompanied with certain troublesome symptoms. They had a constant desire to urinate, and suffered from a urethritis, which was probably caused by the irritating character of the urine. There was also a vaginitis accompanied with intolerable itching: the mucous membrane also having a peculiar dry and glistening appearance. This was probably caused by the dribbling of the urine back into the vagina. This condition he had treated by emollients, such as flaxseed and glycerin, and the symptoms had yielded readily.

DR. W. O. MOORE said that Rollo in 1798 first called the attention of the profession to eye trouble in diabetes, although Blankaaert in 1688 mentioned a case of blindness from this disease (though subsequently it was found that both diabetes and blindness were due to a tumor of the brain). The affections of the eye in diabetes mellitus were: disturbances of refraction and accommodation, cataract, opacities in the vitreous, retinitis with and without hæmorrhages, and atrophy of the optic nerve and retina from cerebral causes.

Disturbances of refraction and accommodation occurred in the progress of the disease when the general muscular tone was impaired, and they were improved by the fitting of convex glasses and by the use of eserine locally, thus restoring the accommodation. They also usually improved without treatment too, when the condition of the patient was improved. The following case seen in 1879 illustrated this point. E. C., aged thirty-two, lawyer, complained of asthenopic symptoms for a few months before coming under treatment. He had

occasional attacks of vertigo, and an examination showed hypermetropia of one twenty-fourth. No diabetes was present at this time, and the cause of the eye trouble was therefore obscure. In 1881 the patient died of diabetes mellitus. Previous to death he had partial loss of sight due to retinal changes (Retinitis glycosuria).

Cataract was the most common of the diabetic disorders and had long been recognized, usually occurring after the disease had made considerable progress in both eyes. Though differing in degree they were more apt to be soft, yet they might be found hard and firm. It occurred according to Roberts once in forty-five diabetics, while Bouchard found it once in thirty-eight.

The prognosis in diabetic cataract was not as good as in the uncomplicated cases, still he recalled two instances in his experience where the operation for the removal had been all that could be hoped for. If projection of light was good he would operate on any case of fully formed diabetic cataract.

The aetiology of cataract in this disease had been much discussed, and in this connection the experiments of Dr. Weir Mitchell, on frogs, were interesting. He produced cataract in these creatures by injecting syrup into them, but the opacity of the lens would again disappear when the frog was soaked in water. To prove that the opacity thus produced in the lens was not due to dessication, he placed ten frogs in long bottles with wide necks and let them remain there for a time: the frogs emaciated and became shrunken, but no opacity in the lens appeared, although Kunde thought that the cataract was due to deprivation of water.

The clinical fact remained that in diabetes insipidus we do not find cataract. It is probable that it was produced by the changes in nutrition due to the abnormal condition of the blood.

Opacities in the vitreous were frequently found in the progress of diabetes, and were merely seen as small hæmorrhages into its substance, which were absorbed slowly and gave rise to great annoyance. He had a case of this character under treatment at the time. Again, we had retinitis glycosuria with and without hæmorrhages. The former variety had been found quite frequently in the latter stages of the disease and had given rise to confusion in diagnosis, as the retinal appearances were similar to those found in Bright's disease. In some of these cases albumen had, and in others it had not, been found.

DR. JOHN L. BAILEY reported the following case: Mrs. L., aged sixty-one, had been in good health until three and one-half years ago. She had always noticed that the least trouble would produce nervous exhaustion and a sensation of exceeding weakness. In July, 1881, she had a fall and struck the inner side of the left arm and axilla against a piece of timber, but there was no laceration of tissue. For six months after this occurrence this arm was paralyzed, and although the sensation was much impaired, it was not entirely absent. She was informed at this time that she had received a severe injury to the nerves of the part and was advised to apply hot water. At the end of the six months she began to gradually regain the use of the paralyzed limb, and at this time she had almost as complete control over

it as she had over one of the other side. Since the accident she had never felt well and all her symptoms seemed to point toward diabetes from the first. She lost flesh and strength, had excessive thirst and craving for all kinds of farinaceous food, had attacks of vertigo, and was constantly constipated. Even talking would produce profuse perspiration. No measurement of the quantity of urine per diem was made at this time, but from the history it probably amounted to about two gallons. Although she was subject to different treatments, she continued to grow weaker, so that when she came under the speaker's notice, three years after the fall, all the symptoms were well-marked. She suffered particularly with a burning sensation in the feet, so that even on the coldest nights of the past winter she had slept with them protruding from the bedclothes, a window in the room being continually open.

She was put upon milk diet, with half a grain of codeia three times, and fifteen grains of citrate of potassium four times, a day. This was continued for some time after the sugar had disappeared from the urine, when she was allowed to eat sparingly of meat, and from time to time a few vegetables were added. At this stage she was given the tincture of iron, but whenever the glycosuria reappeared she was immediately placed upon the same treatment again.

As a thorough analysis of the urine was made nearly every week during the progress of this case the changes were of some interest. July 23, 1884, daily quantity of urine passed in the twenty-four hours, ninety-six ounces; specific gravity, 1.032; sugar, twenty-six and one-half grains to the ounce; pus, and what at that time was considered to be vaginal epithelium, but since the experiments of Dr. Porter<sup>1</sup> were proved to be from the bladder, was very abundant, showing that there was some irritation of that organ.

August 9th, patient far less thirsty, urine reduced to eighty ounces, and the time between the periods of micturition increased from one to eight or ten hours.

August 14th, specific gravity, 1.028; sugar, ten grains to the ounce; pus reduced to about half the quantity present at the last examination; bladder epithelium also less abundant.

August 22d, one month from the first examination, daily quantity sixty-four ounces, specific gravity 1.025, no sugar, pus only six cells to the field, epithelium abundant.

Up to October 7th, one month and a half from the time that the sugar first disappeared, the urine seemed to be perfectly normal in every respect, but there was always considerable bladder epithelium which had undergone a fatty degeneration, a small quantity of pus, and an abundance of uric acid present. The urine was always strongly acid. About this time casts made their appearance for the first time since the patient had been under observation. They were very abundant and of the small variety, some hyaline, some epithelial, some finely granular, and some fatty. Specific gravity 1.022.

October 18th, specific gravity 1.023, sugar one grain to the ounce, casts abundant, some of the large variety being present, daily quantity of water eighty ounces.

<sup>1</sup> New York Medical Journal, January 25, p. 80.

December 4th, daily quantity sixty-four ounces, specific gravity 1,028, sugar seventeen grains to the ounce, very few casts of the small finely granular variety.

From October 18th to the date of the meeting, nearly two months, there was no sugar, but a great number of casts of all varieties, except the tubular and blood, were represented.

December 25th, daily quantity ninety-six ounces, specific gravity 1,034, sugar nineteen grains to the ounce, casts not abundant but of nearly every variety except tubular and blood.

January 10, 1885, specific gravity 1,026, sugar two grains to the ounce, casts more abundant and still of great variety. No albumen was present at any time. Whenever the sugar was abundant the casts were few and *vice versa*. No great reliance was paid to the daily quantity of urine because it was realized that it was impossible to determine this in females. The patient improved rapidly under the treatment but anxiety and excitement always increased the quantity of the sugar. She felt much better when the sugar was not present, so much so, in fact, that she was able to tell when the glycosuria reappeared.

The following points in this case were worthy of notice: It seemed probable that the injury was the determining cause of the diabetes, but as there was no direct communication between the nerves injured and the nervous mechanism of the liver, it closely resembled the experimental diabetes of Schiff,<sup>2</sup> which was produced by the division of the sciatic nerve. In both instances there was probably super-nutrition of the portal blood as a preëxisting condition. The long-continued nervous irritability may have weakened the nervous system and contributed in a measure to the production of the disease. In responding so perfectly to treatment the case sustained the theory that the overcharging of the portal blood and a hepatic lesion existed prior to the other conditions. The necessity for overcharging the portal blood with hydro-carbonaceous materials when diabetes was experimentally produced by the injury of the diabetic centres argued in favor of an overnutritious condition of the portal system, and a hepatic lesion prior to the nerve injury. The large amount of uric acid contained in the urine was also another proof of an incomplete hepatic metabolism. This case also showed that diabetes was often complicated in its later stages: in fact, that it leads directly to the degenerative catarrhal condition of the urinary tract which was due to the sugar, since improvement was invariably rapid when the sugar disappeared. The ready response to treatment indicated the possibility of a cure when the case was taken in hand early.

Dr. SATTERTHWAITE, in answer to a question, said that in putting a patient upon anti-diabetic diet, much discretion should be exercised, for abrupt and complete exclusion of accustomed articles of food would naturally occasion such a longing for just such articles, that even strong-minded and well-intentioned persons would, at some time or other, break through the rules laid down and gorge themselves with sugary or starchy food to their hearts' content. We should proceed gently, forbidding

sugar first, and then, as the individual had trained himself to subdue the desire for it, throw the starchy foods over one by one. Neglect to observe these principles in the management of a case would often cause failure at the very outset. After sugar had been constantly absent from the urine for two or three months, a gradual but slow return might be made to the ordinary diet. The speaker had found that, as a rule, diabetics did not bear the bran and gluten breads well; some, in fact, refused them absolutely. In his experience, the diabetic bread made by the Health Food Company was unpalatable. But it was certainly possible for the patients to live on a purely nitrogenous regimen, as was abundantly proved by the fact that the Eskimo and residents in the northern hemisphere did so. Symptomatic treatment was next in order after the restricted diet, and the first indications were usually administration of sedatives to relieve the neuralgic and muscular pains. Besides bromides and opiates, valerian and strychnia were the principal remedies used. There appeared to be little danger of contracting the opium habit, if codeia was selected, nor was the usual constipation of the disease greatly aggravated, as the dosage required was not large. For the palpitation, digitalis and alcoholic and diffusible stimulants were often advantageously employed. In the case of a lady under the care of a medical gentleman in his vicinity the green tincture of the *Coreus Bonplandii*, in ten-minim doses, was effectually used to control the palpitation that was annoying at night. One dose at bedtime secured the desired result. The speaker was glad to hear of Dr. Emmet's success, as he himself had met with a case in which the disease had been arrested and also knew of another among his personal acquaintances. Of the forty cases he had collected in New York and vicinity, two or five per cent. seemed to have been cured, two or five per cent. had successfully resisted the disease, but of the remainder most were known to have gone on from bad to worse. There was a fair possibility, however, that the percentage of cure or arrest might be found at some time to be better than appeared from these statistics. Many of the patients had passed from observation and, therefore, no deductions could be drawn from them. One case in the second category was noteworthy. The patient had come to him three years before, showing marked emaciation and more obvious symptoms of the disease. He was syphilitic. After an attack of cerebral syphilis he was put upon a six months' course with the result that the diabetic symptoms of his disorder were reduced to a minimum; even now, though he had gained flesh and color, and was in the full swing of an active life, and had little thirst, he felt the need of two bottles of claret for his dinner. Ergotine was used in the second case, in which the disease was arrested, and in combination with the sulphide of calcium and codeia. One grain of ergotine was given three times a day and the codeia in moderate and ordinary doses. One point ought to be insisted upon by the practitioner in assuming the care of a case, and that is that the urine should be examined quantitatively every week to determine the quantity of sugar, so that the results of the treatment might be noted, and, at the same time, a careful examination for casts should

<sup>2</sup> Untersuchung Zuckerbildung in der Leber, 1869.

be made, since one of the greatest dangers in this disease was that with the cessation of the sugar and the apparently favorable turn of affairs the more insidious and dangerous nephritic complications might supervene.

Dr. A. H. Smith thought that the theory of the hepatic origin of the disease was not sufficient to account for all the cases; for instance, in those cases which were induced by cerebral traumatism, tumor, mental excitement, as in the case of the duelist in whom diabetes was established after an encounter, where, having delivered his shot, he was obliged to wait for some seconds for that of his adversary whose pistol had missed fire. Those cases where it had followed upon the loss of property and other such severe mental strains might be included in this category. It seemed more probable that the principal seat of trouble was in the nervous system and more particularly in the brain itself. The liver was probably implicated, but he believed that there was a primary lesion back of it. We could not overlook the experiments of Bernard, who found that upon puncturing the floor of the fourth ventricle sugar appeared in the urine without any increase in the amount of the water, but the puncture being made lower down the sugar again appeared, this time, however, with an increase in the quantity of urine, but when the puncture was made on a higher plane the water was increased without the least suspicion of the sugar elements. The sympathetic system was probably the channel for the diseased impulses which were conveyed from the brain or cord, for if the cord were divided above the third cervical ganglion no such result followed from a puncture of the floor of the ventricle, while, if the division were made below this ganglion, the usual results would be noted. It seemed probable, therefore, that the track of the diabetic impulse switched off into the sympathetic system in the region of the third cervical ganglion and through it to the liver. The dilated capillaries of the liver also favored this view, as the nerves that preserved the arterial tone were known to have their origin in the floor of the fourth ventricle. The speaker found a variety of lesions in the liver and considered these, as well as those of the other organs, as probably due to the derangement of the circulation of the blood. The enlarged kidney was unquestionably due to hyperemia, probably from the irritation of the sugar. The low temperature in this condition usually bore a direct relation to the amount of the sugar eliminated, and often fell two, three, or more degrees below the normal.

The extreme fatality of erysipelas occurring in the course of the disease had not been remarked. Facial erysipelas occurring under these circumstances was nearly always fatal. He considered that iodoform fell in the same class as opium and cocaine in the treatment of the disease as its effect was directed toward the nervous system. Several years ago he had treated a patient on the theory that the difficulty depended upon some local irritation of the olivary bodies or about the medulla, and had applied a permanent issue at the bottom of the neck. It seemed to have a decided effect, lessening the amount of the sugar passed, and the patient improved so much without dieting that he was

enabled to resume his duties as a chaplain in the army. He died subsequently, however, of diabetes. The doctor thought that ergot might be of some service in controlling the vaso-motor nerves.

Dr. C. H. Brown used, principally, ergot and bromide of sodium in the treatment of the affection under consideration. He had had two cases in his private practice, and in each he had found the history of a severe mental strain, while a marked symptom in both was the insomnia. Relief followed the treatment in both cases, one recovering at the end of a few months, the other in the course of a year. The bromide was given in doses increasing from twenty to forty grains three times a day. One of these cases, a minister, was of a very sympathetic disposition, allowed his work to worry him, and had more or less family trouble, although he was now apparently quite well, and continued to take the bromides.

Dr. LLOYD had had occasion during the past winter to make a number of chemical examinations of diabetic urine, and had at first made use of Trommer's test. But after a series of experiments he had noticed that, when no precipitate had occurred during the boiling, one of a flocculent white character would be deposited during the cooling, if the specimen under consideration contained but little sugar, but an excess of urates or phosphates. This fact led him to institute a number of experiments to determine the accuracy of the test in question. Samples of urine were prepared which contained urates, phosphates, or sugar only, and each was submitted to the test as usually directed in the works on the Examination of the Urine; namely, a small quantity of urine was poured into a test tube, and then a drop or two of the cuppie-sulphate solution and an excess of the caustic-soda or potash solution was added. The result was the same with the specimens containing the phosphates and the urates, but with the sugar solution the characteristic color was observed. Solutions were then prepared which contained large quantities of the other two ingredients, but very little sugar, and then it was found that the color imparted to the supernatant fluid by this one substance was sufficient to apparently color the whole precipitate, and lead to the erroneous conclusion that all the heavy deposit was due to saccharine materials, and that the patient must necessarily be well advanced in the disease. After continuing these experiments for some time the conclusion was reached that if this test was used the phosphates should be first precipitated by heat, and then filtered out, and the urates neutralized by adding the caustic-soda solution before the copper. But when these precautions were carried out the test occupied as much time, and was quite as troublesome as Fehling's, and even then it did not offer as many advantages. He had been forced to the conclusion that the only sure and quick test for glucose, whether quantitative or qualitative, was by the Fehling method, but he could not appreciate the necessity of having it complicated by the three bottles. He had two solutions prepared, and had never found any difficulty in keeping them if the bottles were kept properly corked and care was taken to prevent extraneous material from being carried into them by the pipette. In his experience

Squibb's two-bottle solution was very convenient and accurate.

#### COMPOUND DISLOCATION OF THE FEMUR.

DR. H. M. GUILD, of Vermont, reported a case of compound dislocation of the femur backward upon the calf of the leg. The patient caught his foot in the wheel of a carriage, and when the doctor reached him the limb was shortened about six inches and there was a wound in the sulcus poplitei which was six and one-half inches in length. Through this opening in the soft parts the condyloid extremity of the femur had protruded but no fracture could be made out. The dislocation was reduced and the wound sewed up when the motions of the joint were perfect. The after treatment consisted simply in keeping the limb in a straight position with complete rest, by means of anterior and lateral supports and moderate extension. The wound was treated antiseptically. Although the patient had several attacks of synovitis, his recovery was fairly rapid, leaving him with complete ankylosis, and in less than one year from the time of the injury he was doing considerable manual labor and was now able to go about without the aid of either crutch or cane.

They may last a few hours, and then disappear as suddenly as they came, returning usually in other spots after an absence of a few months or years. They sometimes are situated deeply in the soft tissues or bones of the extremities; at other times they are not localized, but present all the appearances of ordinary neuralgia, and again in some cases the pains are entirely absent.

The condition of the reflexes constitutes the most valuable aids to diagnosis in this disease.

The patellar tendon-reflex is diminished or lost; there may be exceptional cases where the normal knee-jerk is present, but the writer has never as yet observed this, and thought in such cases the sclerosis must have commenced above the lumbar enlargement. This reflex is probably absent in two per cent. of healthy persons. We must therefore know that the person under examination once possessed a normal knee-jerk to enable us to draw any pathological significance from its absence; and the ordinary method of eliciting contracture of the quadriceps femoris, by tapping the ligamentum patellae when one knee is crossed on the other, is not sufficient.

The reflex being absent, the next question to establish is the integrity of the muscular structure of the quadriceps femoris, which can be determined with electricity and mechanical stimulation. If the muscle has a normal response to faradization, or responds by contraction to a tap over its surface, the muscle is healthy and the sign is diagnostic.

Regarding the pupillary reflex, this is diminished or lost. The iris may contract equally, or one pupil be dilated or normal and the other contracted; but the loss of reflex action to the stimulus of light and the absence of response of the pupil to stimulus applied to the surface of the neck accompanied by a normal accommodation is the most striking symptom. The pupil will dilate in a strong effort at distant vision and contract in a powerful effort at close vision. Another common ocular disturbance is temporary double vision; this may last only a few hours, disappear and return in a few months, or it may continue a few days, and not again appear; color-blindness is also very frequent, the ability to distinguish red and green being first lost.

The vesical reflex at the beginning of the preataxic stage is variable; usually the bladder is irritable, but this soon gives place to diminished reflex acuteness, so that there may be no demand to empty the bladder oftener than twice in twenty-four hours. This condition is accompanied by diminished muscular tone of the bladder-walls, so that there is difficulty experienced in starting the act, and the stream, instead of being projected forcibly forward, falls abruptly or simply dribbles, and the patient is often unable to determine when the act is finished and must use his eyes to determine it.

The sexual condition of the preataxic stage is first one of irritability, but is soon replaced by a diminution of all desire and capacity for intercourse, which may in turn be followed by nocturnal emissions.

Gastric disturbance in the preataxic stage is manifested by attacks of violent nausea, persistent vomiting, and pain. The writer cited a case he has under observation where gastric trouble has been

#### CHICAGO MEDICAL SOCIETY.

LISTON H. MONTGOMERY, M.D., SECRETARY.

MEETING March 16, 1885. DR. CURTIS T. FENN, second Vice-President, in the chair.

DR. D. R. BROWER read a paper on

#### LOCOMOTOR ATAXIA: ITS DIAGNOSIS AND TREATMENT IN THE PREATAXIC STAGE.

The preataxic stage, although easily recognized, is usually overlooked, as the result of hasty diagnosis, during which the disease is curable if appropriate treatment of this condition is instituted, but the patient gradually drifts into the second, or ataxic, stage, when derangement of the nervous system is so manifest that a mistake in the diagnosis is then hardly possible, for he falls into the hands of a specialist in diseases of the nervous system, only to be told that he is beyond the possibility of a cure.

The elements entering into the diagnosis of the preataxic stage therefore are of momentous importance, and are: first, sensory disturbances, lighting pains; second, disturbances in patellar tendon-reflex; third, disturbances in pupillary reflex; fourth, disturbances in vesical reflex; fifth, disturbances in sexual condition; sixth, disturbances in gastric function; seventh, disturbances in mental action; eighth, disturbances in muscular function. The first three are the most valuable diagnostic points.

In referring to the sensory disturbances, such as pains of a peculiar character, spots of hyperesthesia and anaesthesia in the lower extremities that are sudden, severe, and transitory were dwelt upon; the former are like electric shocks, violent blows, stabbing with knives, or burning with hot irons, compelling on the part of the strongest man violent outbursts of emotional disturbance. The pains are often localized in spots upon the surface that a silver dollar will cover.

the only prominent symptom for five years. The patient during all this time has been treated for a variety of gastric derangements. The attacks recur at intervals, varying from a few weeks to a few months; the patient also has dilated pupils, with loss of patellar tendon-reflex, and occasionally has attacks of lightning pains.

The mental condition is usually altered in the preataxic stage. The patient has fits of melancholy; he becomes morose, irritable, timid, very emotional; will shed tears on the least provocation; loses for a time his interest in business and, to a certain extent, his usual ability in business transactions.

The muscular system in this stage is weak. There is no ataxia, but there is a sense of weight and weariness in the limbs, with difficulty in going upstairs. The condition is quite like that experienced in neurasthenia.

The foundation for the successful treatment of the preataxic stage of this disease is *rest*, absolute, positive, and prolonged. The recumbent posture should be maintained for several months. This plan of treatment is an *innovation*, but is based upon the scientific fact, generally recognized, that a diseased organ should have its functional activity reduced to a minimum quantity. Hence this principle applies with equal force to the spinal cord; for rest, accompanied as it is with diminution of nutriment, activity of nerve fibres, and diminution in the calibre of the bloodvessels, must be antagonistic to the pathological process that has begun. It is, however, necessary to maintain (as Dr. Weir Mitchell has taught us in his treatment of hysteria) the greatest activity of general nutrition, and prevent wasting of the muscles. The judicious use of massage and passive movements will enable a case of locomotor ataxia to replenish the nervous system in the recumbent posture. The diet should be of the most nutritious character; cod-liver oil and the syrup of the hypophosphites are often of great service. The condition of the emunctories should also be constantly attended to.

Electricity, in the form of the galvanic current of mild intensity, used, after the method of general galvanization, daily, is of service, and will, by its alterative and tonic properties, assist in modifying the pathological process. The electrode applied to the spine should be large. The electric brush, with the Faradic current, to the back and lower extremities will by reflex action assist in breaking up the morbid condition, as well as maintain a more healthful condition of the parts during the treatment of rest. Syphilis is probably the foundation of most cases of locomotor ataxia, the reader quoting from authors who had positive evidence of the power of this factor in developing this disease. In his experience of the cases that came under his observation he was sure the treatment of the primary and secondary symptoms of that disease was not energetic or sufficiently long continued.

To guard against the danger of locomotor ataxia mercury and iodide of potassium should be used boldly, and their use should be continued at least two years after the development of the primary sore of syphilis. If development of the disease has begun, then antiphlogistic remedies must be used;

mercury should be pushed to a point short of salivation, and the iodide of potassium given in drachm doses three times a day, or in larger amounts if it can be tolerated by the patient. Iodide of sodium, while not so efficient a remedy, is often better tolerated. Vichy salt is a desirable correction for these large doses of iodide of potassium and mercury. In cases that are not syphilitic, or do not improve under energetic antiphlogistic treatment, nitrate of silver may be given with advantage in doses from one fourth of a grain to half a grain, combined with some excipient that will not decompose it, and administered before meals. One of the wants of success attending the use of nitrate of silver is due to the difficulty of getting it into the blood without decomposition. The reader had used hypodermically with satisfaction the hyposulphite of silver, and found it to be non-irritating, a grain and a half being used daily until ninety grains have been administered. Another drug of undoubted value is ergot, in fluidrachm doses three or four times daily. Cold bathing at a temperature of 65° F. to 70° F. is also of service, while hot baths are highly injurious. Strychnia should also be avoided. The writer then cited histories of a number of cases wherein he had pursued the above plan of treatment, some of whom recovered entirely from the ataxy; others where lost functions have been regained, except possibly the patellar tendon-reflex. A number of the latter were reported as being so nearly well as to resume work or business.

#### DISCUSSION.

DR. H. GRADLE inquired whether the preataxic symptoms may not be another disease, or whether these symptoms may not really be due to a separate disease? The speaker then recited the first case on record, where Laundolt, in 1875 or 1876, stretched the sciatic nerve, thus curing a patient of locomotor ataxia, who subsequently died of some other disease. Upon examination of the spinal cord, this, with the posterior roots of the zones, were found healthy.

DR. G. C. PAOLI stated that but few cases of stretching of the sciatic nerve for any form of difficulty resulted in recovery or benefit to a patient. His own experience did not accord with the views set forth in the paper, regarding syphilis as being the most frequent cause of the disease.

DR. R. TULLY acknowledged the importance of the preataxic stage. It may extend over a period of thirty years, and it is, therefore, difficult to diagnosticate. In the literature on this subject syphilis is the most frequently mentioned cause of the disease. One of the symptoms not mentioned in the paper is the difficulty a patient has in the preataxic stage of walking backward.

DR. BROWN said that the point which he specially wished to emphasize by his paper was the value of complete and prolonged rest in the treatment of the disease.

#### EMPIEMA, PARACENTESIS, AND DRAINAGE.

DR. E. F. INGALLS read a paper having this title. After referring to the methods of operating with the aspirator needle, free incision, and sudden evacua-

tion of pus, the excision of one or more ribs, etc., the reader stated that a large ratio of fatal cases, where the radical operation has been made, is due to the operation itself in some of its forms. This, however, must not be taken as an argument against any operation, for recent statistics show that a much larger percentage of cases do now recover who have been operated upon by better methods than if left to themselves. A good result will more frequently follow an operation that will enable us to empty the cavity slowly and at will, and simultaneously keep the cavity thoroughly disinfected. Aspiration will not meet these requirements completely in many cases, therefore a radical operation for free drainage must be made. Yet it is best to precede a radical operation by aspiration, withdrawing the pus several times, if necessary, in order that dilatation of the lung and contracture of the chest-walls may proceed to such an extent that all the fluid may be removed at one time, without causing a distressing sense of compression of the chest and suffocation. When this has been accomplished a few days should be allowed for the cavity to partially refill. Then the operation for permanent drainage should be made. To secure proper drainage and prevent the loss of drainage-tubes in the pleural cavity, the tubes should be prepared as follows: A piece of the best rubber tubing two feet long, nearly a quarter of an inch in diameter, with a calibre an eighth of an inch, should be selected. This is cut half through near its middle, and when folded the two pieces are fastened together at a point about one and one-half inches from the cut with a silk suture, which is tied on the inside of the perforated tube. This suture keeps the tubes in the same relation to each other, and thus prevents one of the annoyances incident to the use of drainage-tubes that are so fastened.

One portion of the tube should be perforated about half an inch from the cut and the other portion perforated in several places, extending from near the cut three or four inches along that portion which is to hang within the chest. As a matter of convenience the outer ends of the tubes are tied tightly, so that pus will not escape through them while they are being introduced. The length of the tubes should be recorded, so that we may know subsequently just how far they extend into the cavity. The difference in the length of the two tubes enables us to know in which one there are several perforations, a matter of importance in the subsequent treatment. Immediately before the operation an aspirator needle or a hypodermic syringe may be tried again to avoid making an opening when adhesions have bound the pleural surface together, and to insure an entrance into the cavity an incision should be made through the skin about one fourth of an inch long through which a broad flat trocar is plunged into the pleural cavity sufficient to allow the easy passage of the two drainage-tubes, which should then, as quickly as possible, be introduced into the cavity to the required depth; the canula is then, of course, withdrawn and the tubes left *in situ*. By careful manipulation entrance of air will be prevented and the tissues will contract closely about the tubes. A piece of sheet-rubber about three inches square, with two small openings near its centre, is then slipped over the tubes down

to the chest-wall where it will act as a valve to prevent the ingress of air in case the tubes should become loose.

In addition to these precautions, to secure the tubes perfectly a section of the same tubing half an inch long, through which have been tied two loops of strong cord, is slipped over each tube with the aid of a canula; these loops are carried down close to the chest-wall and slipped off on the tubes which they fit so closely that slipping is impossible. Long strips of adhesive plaster are then passed through the loops and around the chest, which thus places the tubes perfectly under our control. Over the whole is placed a bandage, between the folds of which hang the drainage-tubes, which are then opened and long pieces of glass tubing are attached. The pleural sac is then washed out with a two per cent. solution of carbolic acid at 104° F., first through one tube, then through the other, until the cavity is clear. After this procedure the ends of the tubes are folded upon themselves and tied, so that they are hermetically sealed; subsequent cleansings should be made two or three times a day. The physician need not call oftener than two or three times a week after a day or two, to assure himself, if necessary, of any change in the injection to secure speedy obliteration of the cavity. In the meantime the "washing out" the cavity may be done by friends or by the patient. In two weeks' time after the operation one of the tubes may be left open hanging in a bottle, which the patient carries in his pocket. In cases of long standing, in addition to the above method, resection of one or two ribs may ultimately be necessary to cause complete closure of the pleural sac, and the patient's chances are greatly enhanced to recover by adopting the first method. The operation for introduction of drainage-tubes and the other methods just described possess the following advantages:—

- (1) It may be quickly and easily performed without an anæsthetic.
- (2) It enables us to partially or completely empty the chest, being governed by the effect it produces upon the patient.
- (3) It is free from one great risk incident to free incision into the chest—death as a result of the sudden evacuation of pus and the free entrance of air.
- (4) Air may be excluded from the cavity for several days if care is used, or at most but a few bubbles may enter if the tubes are opened under water.
- (5) The drainage-tubes are held securely and cannot slip into the chest.
- (6) The opening is closed so snugly as to almost wholly prevent the discharge of pus, except through the tubes, thus enhancing the comfort of the patient.
- (7) As a nurse may readily cleanse the pleural cavity, the subsequent treatment is rendered much simpler and easier than where a free opening has been made.
- (8) In chronic cases where resection of a rib or of portions of several ribs may be necessary, this is the best possible preparation of the patient for the operation.
- (9) Eighty per cent. of the patients operated on in this manner will recover.

## Recent Literature.

*Topographical Anatomy of the Brain.* Vol. III.  
By JOHN C. DALTON, M.D., Emeritus Professor  
of Physiology in the College of Physicians and  
Surgeons of New York. Philadelphia: Lea  
Brothers, 1885.

The prediction of the coming scarcity of this fine work, with which we closed our notice of the first two volumes, appears likely to be verified even sooner than we had thought. The subscription price of twenty-four dollars seemed considerable, though no more than the value of the book, but we see that the publishers have advanced the retail price to thirty-six. We understand that the plates have been destroyed, it being the desire of the author to limit the distribution of the book. We fully sympathize with him in his objection to have the book rendered common by cheap execution. but it seems to be regretted that a greater number of beautiful copies like the one before us should not be obtainable by those who can appreciate them.

This, the concluding volume, contains the plates of Series C, which represent transverse vertical sections, five millimetres apart, from a little before the corpus callosum to a little beyond the posterior extremities of the lateral ventricles. They are twenty-three in number, and as beautiful as those of the preceding volumes. The text is a series of brief descriptions of each plate, with occasional references to those of the other series. The first plate in front of the corpus callosum shows little that demands description, and the same may be said of the second through the front part of that body. The third strikes the anterior horns of the lateral ventricles. With the fourth we enter a most interesting region. The corpus striatum appears on the outer wall of the ventricle. We see the front of the lenticular ganglion, not yet distinctly separated from it, and further out the claustrum. There is a slight depression in the middle of the section, showing that the cut has just opened the fifth ventricle. The next section shows a great change. The corpus striatum and lenticular nucleus have increased rapidly, and now form large masses of gray matter in the midst of the brain. They are still connected below. In Plate VI. they are still larger. The next plate is a striking one. The corpus striatum is much smaller, and distinctly separated from the lenticular nucleus. Below the latter a bold white band shows the course of a part of the anterior commissure. The next section shows a great part of the anterior crura of the fornix. The corpus striatum is still smaller, the lenticular ganglion shows its three divisions, which are easily recognized, and a little of the optic thalamus comes into view. In Plate IX. the optic thalamus is larger and the before-mentioned ganglia smaller. A very interesting feature is the appearance in the temporal lobe of the surcingle, which is the continuation of the corpus striatum. Dr. Dalton had called attention elsewhere to the fact that the arched shape of this ganglion was not generally recognized, and these sections demonstrate the organ in a most satisfactory manner. These few comments enable the reader to judge how the structure of the brain is made apparent. Let it be remembered, moreover, that the three series of plates supplement one another.

## Medical and Surgical Journal.

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## CROUP AND DIPHTHERIA.

ATTENTION has again been directed to the question of the relations of croup and diphtheria to each other by Professor Virchow in a recent address before the Berlin Medical Society, in which this distinguished authority reiterates the views he advocated many years ago, and maintains the different and entirely independent nature of the two affections, so far, at least, as the anatomical seat and pathological lesions of each disorder are concerned.

The term "croup" was applied by Rokitsansky to all affections of the mucous surfaces of the entire body which were accompanied by the exudation of a so-called "false membrane." The fact that certain forms of pneumonia were also associated with a fibrinous exudation gave rise to the name "croupous pneumonia," which has become a fixed term in medicine. The "croup" was originally applied by the Scotch only to acute affections of the larynx, characterized by imminent danger of suffocation from obstruction of the air-passages. Early in this century it was taught that croup of the larynx was a disorder the essential characteristic of which was the exudation of a coagulable material upon the mucous membrane.

As long ago as 1847 the superficial diseases of mucous membranes were divided into three general classes: the catarrhal, the croupous, and the diphtheritic. Diphtheria was then defined as "a process accompanied by mortification (necrosis), having its seat in the substance of the tissue, not necessarily accompanied by the formation of a false membrane on the surface, but in which, if a membrane be present or be exfoliated, an actual loss of substance results in the original membranous tissues at the seat of detachment always leaving superficial ulcerations." The affection is first seated upon the surface of the affected membrane, and the subsequent features of the disease are produced by the invasion of the deeper tissues by morbid elements from the surface. This constitutes the essential definition of contagion.

In distinction to this process we often observe actual fibrinous exudations, which simply lie upon the surface. These are properly called "pseudomembranes," and may be quite extensive, and are loosely united with the surface of the trachea or larynx, and when, from any cause, they are removed, there is absolutely nothing to be seen upon the exposed surface which can be called an ulceration. These, Virchow holds, are evidently two entirely distinct processes. Varying and mixed forms of both diseases he recognizes, but thinks there is no ground for the assertion so frequently made that all cases of fibrinous laryngitis or tracheitis are due to a diphtheritic infection. Fibrinous exudations in the larynx and trachea may be produced by many causes, particularly by the action of irritants, and these traumatic exudations correspond exactly to those of croup.

The form of pneumonia from which many children die after the subsidence of croup is not in the majority of cases a fibrinous process at all; it is not a "croupous" pneumonia, but is a bronchopneumonia. "Croupous pneumonia," so called, is never actually accompanied by croup of the larynx or trachea. There is no excuse in our day for this term as the definition of a disease of the lungs.

Pneumonia always presents as one of its indispensable features a stage of hæmorrhagic infiltration, while the formation of a croupous deposit is never accompanied by any hæmorrhagic tendency. The term "fibrinous pneumonia" may be applied to this condition for the same reason that the terms fibrinous laryngitis or tracheitis are employed, not to designate an identity or even a similarity of the diseases producing the fibrinous exudation, but to indicate that the products of both diseases present a certain resemblance.

A class of diseases doubtless exists in which we may find both diphtheritic and exudative processes existing simultaneously in the same individual. The diphtheritic process may be present in a mucous surface without membranous exudation, and may often extend into neighboring tissues and organs, as is unfortunately so often observed in the genital passages in puerperal women, and there may be no exudation of laryngeal or faucial or other pseudo-membranes. In these cases the diphtheritic infection is often followed by fatal peritonitis, but no one dreams of considering the diphtheritic process and the peritonitis as one and the same disease, or as due to a similar cause. They are plainly distinct, although interdependent diseases.

The clinical distinction between croup and diphtheria is especially important in relation to prognosis. Simple fibrinous exudations in the air-passages are dangerous, chiefly from the obstruction which they cause. In croup the removal of the obstructing exudation reveals an uninjured and smooth membrane beneath. The exfoliation of the

infiltrated and necrosed masses in diphtheria leaves an ulcerating surface, which must heal by subsequent processes of repair, and may be followed by further dangers to the individual from encroachment of the disease upon important structures, arteries, nerves, etc., as well as from the special accidents consequent upon an open wound upon the affected surface.

It is interesting to note the entire coincidence of the views—of which the preceding is a brief *résumé*—now expressed by Professor Virchow with those uttered by him many years ago. At that period little was known of that great field of bacterial infection or of mycology in any form in which many clinicians and pathologists have been so busily laboring in recent years. Virchow states that the same microscopic bodies were then observed in diphtheria, but they were considered to be a granular fibrinous infiltration of the tissues. Even now there is a great deal of confusion as to the rôle which the organisms found in diphtheria play in the causation of the disease, some authorities claiming that they are simply carriers of contagion or of certain ferments which they have absorbed. In a recent work on Diphtheria Prof. A. Jacobi considers that the intensity of the inflammatory reaction is not dependent on the coæcus formation as such, but on whether the elements it brings with it are deleterious or not. Diphtheria differs from many of the infectious diseases in the lack of protection afforded by one attack against a recurrence of the same disease. It even seems have a special tendency to recur in some of those who have survived the first attack.

Oertel, Nassioff, Eberth, Klebs, and Orth, as well as many others, have observed the organisms belonging to the diphtheritic process in experiments by inoculation with diphtheritic material in the lower animals. Jacobi describes three manifestations of the diphtheritic process: (1) With a membrane lying on the mucous surface, and removable without causing much injury to the epithelium and none to the deeper structures. This seems to correspond to Virchow's "fibrinous exudation." (2) A membrane implicating the epithelium and the upper layers of the mucous membrane. (3) A whitish or grayish infiltration of the surface and the deeper tissues which may give rise to a necrotic destruction of the tissue. The second and third varieties here mentioned correspond to Virchow's diphtheritic exudation.

In distinction to these views is that of Gerhardt,<sup>1</sup> who states: "The difference between laryngeal diphtheria and croup, after having been so much emphasized, cannot be sustained any longer."

A review of the studies in the experimental production of diphtheria would require no little time and space, but we may mention the labors of Drs.

<sup>1</sup> Lehrb. d. Kinderkrankheiten, iv., 1880.

H. C. Wood and H. F. Formad, which were made under the auspices of the National Board of Health, and published in the supplement to No. 7 of the *Bulletin of the National Board of Health* for 1880. These researches led them to the conclusion that no distinction exists between the local appearances produced by diphtheria and those of other pseudo-membranous diseases of the air-passages. Inoculation with diphtheritic material was frequently followed by tuberculosis, while the occurrence of actual diphtheria from inoculation was very rare. The frequency of tuberculosis corresponds to earlier experiments of the late Professor Cohnheim, who, at one time, believed that many indifferent substances were capable of inducing this disease. Later experiments by the same distinguished investigator led to the conclusion that the tuberculosis was due to the use of accidentally contaminated material. It is possible that some unobserved defect in the experiments just mentioned may have contributed to the excessive development of tuberculosis. Our knowledge of diphtheria, however, has not been materially advanced by these investigations.

The recent utterances of Professor Virchow have directed fresh attention to the subject of diphtheria complicated with croup, and it would be well if the question of identity might be at length definitely determined. The difference between the appearances of the diseases as viewed by the pathologist, and the clinical symptoms noticed during life, will doubtless continue to exist, but a more rational mode of clinical study, and especially of treatment, would certainly follow if the true characters and relations of the two affections were firmly established.

#### A DEMONSTRATION AGAINST VACCINATION.

THE anti-vaccination sentiment in England has, as it were, precipitated itself in the town of Leicester, where, for a number of years past, there has been an increasing laxness in complying with the provisions of the law. The results obtained by Dr. Cory in his well-known experiment upon the possibility of inoculating with syphilis in vaccinating from an infected child, when care was taken to exclude the use of anything but lymph, seem to have been given special publicity in Leicester, and the opposition to compulsory vaccination of some men high in municipal influence was of great weight in moulding public opinion.

Though it was known that a considerable portion of the growing children had not been vaccinated, yet, in the year 1884, only seven summonses were issued for this dereliction. But, as it became evident that the heresy was spreading, and that at no distant date an epidemic of variola was likely to visit the town, which would find a most favorable nidus for its development, whence it would, in all probability, invade the adjacent country and towns, more

active measures have been taken the present year, and it is said that over 5,000 persons are being proceeded against for neglecting to comply with the law.

But, as so often happens, the recalcitrants raise the cry of persecution, and the rôle of martyr becomes a very popular one. The opposition took form recently in a demonstration which is said to have been attended by 20,000 people. Nor, unfortunately, was it simply a common mob. The mayor of the city received the procession, and a member of the municipal council presided. An effigy of Jenner was hung from a gallows and given the "long drop" at intervals as the procession advanced. Those men who had suffered the extreme penalty of imprisonment made a prominent figure, and others, whose goods had been seized, displayed samples of the otherwise rather commonplace intonements to admiring eyes. The obnoxious parliamentary acts were enthusiastically burned. A wagon carrying unvaccinated children bore the motto: "They that are whole need not a physician."

One cannot help feeling that whenever the remarkable immunity which Leicester is said to have enjoyed for some eight years from this dread disease shall be broken, it may be necessary to finish the above quotation no longer in the words of the original, but sadly to admit that "they that are sick" are beyond the help of any physician.

The corporation having thrown over vaccination are disposed to place their whole confidence upon prompt notification and isolation of every case that occurs. How far these very desirable measures can be made effective against an epidemic of small-pox is a question of much interest, and if the corporation of Leicester could settle it by an experiment which would imperil no lives but their own, many persons would be willing to let them do it. *Fiat experimentum*, etc. But the agitators themselves will not be the chief sufferers. Most of them bear upon their arms the signs of the immunity they will enjoy. It is the unprotected children upon whom the scourge will fall heaviest, and the surrounding country will suffer from any epidemic, and will not have the facilities for "stamping out" the earliest cases that are possessed by an active urban sanitary board. Since scriptural quotations are in order among those gentlemen who are proposing to rely upon sanitary inspection as their only weapon to ward off the disease, we are moved to say: "These things ought ye to have done and not to have left the other undone."

At a time when the scientific mind is hopefully striving after the additional protection of inoculation with attenuated virus against other infectious diseases, this reactionary rejection of the blessings already secured to mankind by vaccination is a grotesque exhibition of the occasional epidemics of

folly which invade communities, and against which a considerable degree of general enlightenment and education seems to be an insufficient prophylactic.

We hope that the remonstrances of a portion at least of the disaffected at Leicester are inspired by an ill-regulated love of liberty, rather than by a stupid hatred of vaccination.

### CHOLERA WARNINGS.

CHOLERA, as since last year there was every reason to expect would be the case upon the approach of milder weather, seems to be cropping up again in more than one part of Europe. The latest reports come from Spain, and, if true, are by no means encouraging. Simultaneously with these rumors of renewed activity of cholera come political complications which indicate that a great Indo-European war may be imminent, a war necessitating the constant transportation to and fro between Asia and Europe, by the Mediterranean and overland, of great bodies of men and vast quantities of material.

Should the possible—many would say the probable—come to pass, all the most favorable conditions for the activity and spread of such a pestilence as cholera may easily be realized this summer. Fortunately our natural position in this country removes us from the ravages of war, and vigilance combined with intelligent forethought may largely mitigate for us the dangers and disasters of disease.

We are glad to observe that our State and municipal Health Boards, as the season advances, are renewing their alertness, especially as under the existing position of sanitary organization at Washington the brunt of responsibility will probably be thrown on them. The Sanitary Council of the Mississippi Valley, representing at its recent meeting at New Orleans, in March, the health organizations and commercial and transportation interests of twelve of the Valley States, showed itself alive to the importance of the emergency. In Illinois the State Board has since last July been making a careful sanitary survey and inspection of the State. Particular attention is being given to the sanitary condition of public buildings, of public institutions, and the railroads have been effectually exhorted to put their rolling-stock and station-houses in wholesome order.

We have just received a timely circular from the Health Officer of the Massachusetts Board addressed to the superintendents of railroad and steamboat lines, urging that they immediately take and maintain such precautions as shall prevent infection along the routes under their charge. Health officials are acting wisely and energetically in preparing for contingencies; those whom it is sought to protect must, and we are sure will, coöperate with them. It is scarcely of less moment to transportation companies as corporations than to communities and individuals that epidemics should be averted.

### MEDICAL NOTES.

—A case of alleged maternal impression is recorded by a correspondent of the *British Medical Journal*, March 28, 1885, occurring in a woman, aged forty-two, multipara, whose menstruation stopped in March. During the same month she saw the "Two-headed nightingale," fainted at the sight, and was so affected that three days after she attempted suicide by jumping from a window. In November she expressed to a medical man, who suspected the existence of twins, a hope that they would not be "Siamese." In January she gave birth to a twin monstrosity, the two children being connected from neck to umbilicus. Both were dead.

—Three cases are recorded in *Annales de Derm. et de Syph.* (see also *Lond. Med. Record*, March 16, 1885), where syphilis was communicated to newborn children by the assistant who sucked the wound in the rite of circumcision. The operator was healthy but the assistant had mucous patches in his mouth. The parents were in all cases healthy but the mothers subsequently became infected in the breast from suckling the offspring.

—In the *British Medical Journal*, January, 1885, Mr. A. J. Campbell suggests a most pleasant and soothing method of employing the douche in cases of insomnia. The patient's shoulders having been wrapped in a sheet or blanket, and his ears plugged with cotton-wool, his head is supported over the edge of the bed (a suitable vessel being placed underneath to receive the water), whilst a gentle stream of water from the rose-spout of an ordinary watering-pot is directed over the head and neck. The watering-pot should be held at least eighteen inches above the level of the patient's head, and the douching may be kept up for three or four minutes; the head should then be lightly dried with a towel, and the patient lifted into his ordinary position in bed. As a rule, sleep is produced within a short period.

—Supported by the late decision of the Supreme Court in *Martin vs. Gleason*, the Boston Water Board has issued the following: "Notice is hereby given to all parties discharging polluting substances into Lake Cochituate, Pegan Brook, or any other tributary of Lake Cochituate, to cease immediately from so discharging or from in any way contaminating the water-supply of the city of Boston. Any further expense of litigation may be saved by complying with this notice."

—Dr. Watclet, who, as we lately remarked, has been fined for violating the rule of professional secrecy by writing a letter for the press saying that a certain patient died of cancer, for the sake of refuting some scandalous reports which had been published about him, has sent back to the prefecture of the Seine the customary certificate in which is asked the cause of death of a patient, declining to

fill it up, and accusing the prefect of playing the part of a tempter in trying to obtain from the physician what the latter knows only under the seal of professional secrecy. Whether the official will take the joke kindly or not remains to be seen.

— In a recent discussion at the Académie de Médecine on the depopulation of France, M. Fournier gave some interesting statistics concerning the influence of syphilis on infant-mortality. The mortality from syphilis among new-born infants reaches 28 per cent. If a mother have contracted syphilis a year before the birth of her infant it is sure to die in infancy. M. Fournier has personally observed forty-four instances of women becoming pregnant during an early period of syphilis: only one of the children born lived beyond its infancy. Among 100 syphilitic women there were 208 pregnancies; 60 living children resulted, and 140 dead; consequently the rate of mortality was 71 per cent. These statistics are furnished by notes taken in private practice. Hospital statistics would probably give a higher rate of mortality. Dr. Coffin stated that, at the Lourcine hospital, among twenty-eight pregnant women there was only one who had a living child. M. Fournier estimates that, at the St. Louis Hospital, among 148 pregnant women, 125 lost their children in early infancy.

— George Eliot was sufficiently interested in the following advertisement, which appeared in the *Times* of 1852, to copy and send it to her friends, the Brays:—

“TO GENTLEMEN, — A converted medical man, of gentlemanly habits, and fond of Scriptural conversation, wishes to meet with a gentleman of Calvinistic views, thirsty after truth, in want of a daily companion. A little temporal aid will be expected in return. Address VERAX.”

— It is said that 55,000 physicians are needed in European-Russia alone. This country could easily furnish them and without robbing herself either.

— Dr. Bouchardat, Professor of Hygiene at the Paris Faculty of Medicine, has, after a service of nearly forty years, retired, and his name is transferred to the list of Honorary Professors.

#### NEW YORK.

— At a meeting of the Society of Medical Jurisprudence and State Medicine, held April 9th, Dr. S. O. Vanderpool, formerly health physician of the port of New York, read a paper on Asiatic cholera, in which he said that to whatever portion of the world the disease extends, it spreads no faster than it is carried by individuals. The time had come, he said, when immediate action must be taken, and he advised that an inspection of the luggage of all passengers coming to this country should be at once instituted by the government. The inspection, he thought, should be made upon embarkation, as well

as upon arrival, and all soiled clothing thoroughly cleansed, in order to destroy disease-germs. Dr. Raymond, President of the Brooklyn Board of Health, said that every physician was asked almost daily whether cholera would come to this country this year, and that the proper answer to the question was that whatever precautions might be taken to ward off the disease would certainly have good fruit. Those interested in sanitary matters are looking forward to the coming summer with no little anxiety. Drs. John C. Peters and Stephen Smith and others also spoke.

— Mr. John Drake, the lawyer who was shot by Wm. C. Rhinelander in June last, has recently died of pneumonia. At the autopsy it was found that the ball with which he had been wounded had become encysted in the head of the humerus, and that fibrous union of the bone had taken place when the compound fracture had occurred. The external wound was perfectly healed.

— A death occurred in Brooklyn, on the eighth of April, from an overdose of atropia, through the carelessness of a druggist, who put 1.50 milligramme of sulphate of atropia into a prescription in which 1.5 milligramme was ordered. An inquest was held April 10th in the case of a child, one month old, who died under suspicious circumstances on the 17th of March, at which it became developed that a druggist of North Third Avenue, in the recently annexed district of the city, had, by mistake, given the mother of the infant some Dover's powders which had been prescribed for another person. Not long after she had administered the first powder the druggist came to her house and told her that he had given her the wrong medicine. He advised her to keep the child awake and give it strong coffee, but asserted that there was nothing dangerous about the powders. The next morning, however, the child was dead; and, as the result of the inquest, the druggist has been held in \$1,000 bail.

— William Donovan, the young man who skated 1,090 miles in the six days' match at the Madison Square Garden in March, thereby becoming the champion roller-skater of the world, died on the tenth of April. While suffering from extreme exhaustion after his remarkable feat he was seized with pneumonia, and the immediate cause of his death was pericarditis. This is the second death already among the contestants who participated in the match.

— Dr. James L. Little, a prominent surgeon of New York, died, April 4th, of peritonitis, in the forty-ninth year of his age. He was born in Brooklyn, and studied medicine under the supervision of the late Dr. Willard Parker, graduating from the College of Physicians and Surgeons in 1860. He then became a member of the surgical house-staff of the New York Hospital for two years, after

which he was appointed surgeon-in-charge of the Park Barracks. In 1863 he was made clinical assistant to his old preceptor, Dr. Parker, and in the following spring delivered a course of lectures on fractures. He afterward became lecturer on operative surgery and surgical dressings at the College of Physicians and Surgeons, attending surgeon to St. Luke's and St. Vincent's Hospitals, and professor of surgery in the University of Vermont and the New York Post-Graduate Medical School. At several times during the late war he offered his services to the government as a volunteer surgeon, and after the second battle of Bull Run he proceeded to Washington, where he was assigned to the charge of the hospital for wounded temporarily erected there. At a subsequent period he served for a time in the field at White House, on the Pamunkey River, Virginia. His contributions to surgical literature were always of a high order of merit, and his skill as an operator was remarkable. He was especially identified with the operation of median lithotomy and the treatment of harelip deformities, and in 1878 he successfully performed simultaneous ligation of the subclavian and carotid arteries for

aneurism. While highly esteemed in the community on account of his surgical attainments and his sterling character, his many genial qualities in private life won him a large circle of devoted friends. Dr. Little was married, in 1858, to Miss Elsie Charlotte, of Newbern, North Carolina, who, with two sons, survives him.

## Miscellany.

### BASILISKS IN DISEASE.

From the report in a daily contemporary of Professor Brewer's late lecture on "Cholera from a layman's point of view," we take the following sentences:—

"The lecturer here exhibited diagrams giving the shapes of various organisms or *basilisks*, to which he referred. . . . A German physician has discovered the cholera organism which is called the cholera *basilisk*, and is the shape of a little sausage slightly bent. . . . Edward Klein contends that the same *basilisks* which are said to be found in cholera victims are also found in other places, but the lecturer did not consider the theory disproved."

### REPORTED MORTALITY FOR THE WEEK ENDING APRIL 4, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	791	329	16.11	24.19	5.92	2.65	2.65
Philadelphia . . . . .	927,995	419	135	13.44	10.80	4.80	3.12	.72
Brooklyn . . . . .	644,526	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	225	64	16.56	25.52	4.88	3.66	—
Baltimore . . . . .	408,520	188	54	11.13	12.73	4.24	1.59	—
St. Louis . . . . .	400,000	138	—	16.79	22.63	5.11	5.11	1.46
Cincinnati . . . . .	272,400	114	40	12.32	18.48	2.64	.88	1.76
New Orleans . . . . .	234,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	66	21	22.80	13.68	9.12	1.52	1.52
District of Columbia . . . . .	194,310	112	35	14.24	23.14	1.78	1.78	.89
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	47	19	14.91	4.26	6.39	—	—
Providence . . . . .	119,405	42	14	9.52	23.80	2.38	2.38	—
New Haven . . . . .	122,882	27	7	18.55	11.13	3.71	3.71	—
Nashville . . . . .	64,400	21	10	18.04	30.32	4.76	—	—
Charleston . . . . .	52,286	35	8	2.86	14.30	—	2.86	—
Lowell . . . . .	71,417	26	6	11.55	7.70	—	—	—
Worcester . . . . .	69,442	20	9	5.00	20.00	5.00	—	—
Fall River . . . . .	62,674	27	12	11.13	11.13	—	—	—
Cambridge . . . . .	60,995	28	10	16.74	21.48	10.74	—	—
Lawrence . . . . .	45,516	11	5	18.18	—	—	—	—
Lynn . . . . .	44,805	17	5	29.40	5.88	5.88	—	—
Springfield . . . . .	38,090	13	7	7.69	28.45	7.69	—	—
Somerville . . . . .	31,350	9	2	11.11	33.33	11.11	—	—
Holyoke . . . . .	20,515	—	—	—	—	—	—	—
New Bedford . . . . .	30,144	13	8	7.69	53.83	—	—	7.69
Salem . . . . .	29,503	13	4	15.38	—	7.69	7.69	—
Chelsea . . . . .	21,347	18	—	11.11	22.22	—	5.55	—
Taunton . . . . .	22,633	9	2	11.11	22.22	—	22.22	—
Gloucester . . . . .	21,400	11	5	9.09	15.45	—	9.09	—
Haverhill . . . . .	20,005	9	3	11.11	22.22	—	11.11	—
Newton . . . . .	19,421	8	2	—	—	—	—	—
Brockton . . . . .	18,323	5	1	40.00	—	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,947	6	0	16.66	16.66	—	16.66	—
Fitchburg . . . . .	13,433	8	2	12.50	—	—	—	—
Waltham . . . . .	13,568	6	2	16.66	—	—	16.66	—
Northampton . . . . .	13,165	—	—	—	—	—	—	—
82 Massachusetts towns . . . . .	—	79	11	6.30	18.90	2.52	16.66	—

Deaths reported 2,461: under five years of age 832; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 372, lung diseases 491, consumption 374, diphtheria and croup 121, scarlet fever 70, measles 31, diarrheal diseases 37, typhoid fever 36, cerebro-spinal meningitis 22, malarial fevers 21, whooping-cough 14, erysipelas 12, puerperal fever eight. From diarrheal diseases, New York 23, Cincinnati five, Philadelphia three, District of Columbia two, Lowell, Lawrence, and Chelsea one each. From typhoid fever, Philadelphia 13, Baltimore five, New York and District of Columbia three each, St. Louis, Cincinnati, and Lowell one each. From malarial fevers, New York 11, St. Louis three, Baltimore two, Philadelphia, Buffalo, District of Columbia, New Haven, and Fall River one each. From cerebro-spinal meningitis, New York seven, Buffalo four, Boston three, Milwaukee and Fall River two each, St. Louis, Providence, Nashville, and Brockton one each. From whooping-cough, New York eight, Philadelphia, Buffalo, District of Columbia, Providence, New Haven, and Lynn one each. From erysipelas, New York three, Philadelphia and Baltimore two each, Boston, St. Louis, District of Columbia, Milwaukee, and Brockton one each. From puerperal fever, District of Columbia three, New York one.

Cases reported in Boston: measles 60, scarlet fever 43, diphtheria 28, and typhoid fever six.

In 110 cities and towns of Massachusetts, with an estimated population of 1,366,829 (estimated population of the State 1,552,104), the total death-rate for the week was 20.50, against 19.09 and 19.30 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending March 21st the death-rate was 23.5. Deaths reported 4,018: infants under one year of age 916; acute diseases of the respiratory organs (London) 487, measles 164, whooping-cough 119, scarlet fever 41, fever 37, diphtheria 32, diarrheal 26, small-pox (London 19, Liverpool, Manchester, Bradford, Sunderland, and Newcastle one each) 24. The death-rates ranged from 14.0 in Derby to 44.1 in Sunderland; Birkenhead 17.4; Birmingham 24.0; Bradford 23.1; Hull 20.4; Leeds 23.6; Leicester 21.5; Liverpool 28.3; London 21.4; Manchester 32.9; Nottingham 20.2; Sheffield 23.6. In Edinburgh 22.5; Glasgow 30.0; Dublin 34.6.

For the week ending March 21st in the Swiss cities there were 42 deaths from consumption, lung diseases 18, diarrheal diseases 11, diphtheria and croup nine, small-pox six, measles and typhoid fever each three, whooping-cough one. The death-rates were: at Geneva 21.3; Zürich 30.7; Basle 21.2; Berne 34.9.

The meteorological record for the week ending April 4th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, April 4, 1885.																				
Sunday, 29	30.116	27.1	45.0	25.8	90	60	57	69.0	N	N	N	33	16	4	W	F	C	—	—	
Monday, 30	30.445	32.3	43.9	19.5	80	42	70	65.3	W	N	N	6	15	13	H	F	C	—	—	
Tuesday, 31	30.116	46.8	58.9	30.1	74	43	68	61.7	S	W	W	15	17	10	C	C	O	—	—	
Wednes., 1	30.164	49.0	60.5	42.1	59	30	50	46.3	S	W	W	7	20	15	H	C	O	—	—	
Thurs., 2	30.259	38.6	44.6	32.3	66	67	72	68.3	N	E	S	8	12	0	C	C	O	—	—	
Friday, 3	29.905	51.7	63.1	35.7	71	51	89	73.3	N	E	N E	18	18	16	G	C	O	—	—	
Saturday, 4	29.546	36.2	37.5	32.4	100	100	89	96.3	N	E	N E	18	25	6	R	R	C	—	—	
Mean, the Week.	30.083	40.2	51.2	31.1				68.7											53.00	1.73

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MARCH 28, 1885, TO APRIL 10, 1885.

TAYLOR, M. K., major and surgeon. Granted leave of absence for one month, to take effect about April 15th. S. O. 46, Department of Missouri, March 21, 1885.

HALL, WM. R., captain and assistant surgeon. Granted leave of absence for one month and fifteen days, to take effect when his services can be spared. S. O. 70, A. G. O., March 27, 1885.

GARDNER, JNO. DE R. W., captain and assistant surgeon. Ordered for temporary duty at Fort McHenry, Md. S. O. 64, Department of the East, March 28, 1885.

BIART, VICTOR, captain and assistant surgeon. Leave of absence extended six months on surgeon's certificate of disability. S. O. 77, A. G. O., April 4, 1885.

CAPT. STEVENS G. COWDREY, assistant surgeon. From Department of East to Department of Missouri.

CAPT. AUGUSTUS A. DE LOFFRE, assistant surgeon. From Department of East to Department of Dakota.

CAPT. LOUIS W. CHAMPTON, assistant surgeon. From Department of East to Department of Platte.

CAPT. GEORGE H. TORNEY, assistant surgeon. From Department of Missouri to Department of East.

FIRST LIEUT. WM. H. ACHTER, assistant surgeon. From Department of Platte to Department of East.

FIRST LIEUT. M. C. WYETH, assistant surgeon. From Department of Dakota to Department of East.

S. O. 77, A. G. O., April 4, 1885.

CARTER, E. C., first lieutenant and assistant surgeon. Granted one month's leave, with permission to apply for one month's extension, to take effect upon the arrival of another medical officer at his post. S. O. 30, Department of Arizona, March 23, 1885.

#### MEETING OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS. ROUTES AND RATES FROM BOSTON TO NEW ORLEANS AND RETURN BY NEW YORK AND NEW ENGLAND R. R.

THE attention of those intending to go to New Orleans to attend the American Medical Association is directed to the rates and routes of the New York and New England R. R. in the advertising columns.

#### DEATHS.

DIED, in Boston, Mass., April 10, 1885, William Osgood, M.D., M.M.S.S., aged sixty-two years.

In Cambridge, Mass., April 13, 1885, Robert William Hooper, M.D., M.M.S.S., aged seventy-four years.

In Boston, April 13, 1885, Samuel Cabot, M.D., M.M.S.S., aged sixty-nine years.

#### BOOKS AND PAMPHLETS RECEIVED.

Observations upon the apparent Curve of the Sagittal Suture in Vertex Presentations. By Charles F. Withington, M.D. (Reprint from American Journal of Obstetrics, March, 1885.)

On the Use and Abuse of the Pessary. By Walter P. Manion, M.D. (Reprint from Detroit Lancet, January, 1885.)

Specialties and their Relation to the Medical Profession. By L. Duncan Bulkley, A.M., M.D., New York. (Reprint from Journal of American Medical Association, December 13, 1884.)

State Provision for the Insane. By C. H. Hughes, M.D., St. Louis. (Reprint from Alienist and Neurologist, April, 1885.)

Manual of Diseases of the Ear. For the use of Students and Practitioners of Medicine. By Thomas Barr, M.D. Glasgow: James Maclehose & Sons, 1884.

## Original Articles.

## THE PRINCIPLES OF SANITARY PLUMBING.

BY J. PICKERING PUTNAM, OF BOSTON.

As announced in the invitation cards to this lecture, a number of the appliances used for illustration are inventions of my own, and some of them are patented. These devices have been clearly marked on the drawings with their name, "*Sanitas*," and in referring to them they will always be so designated. The object of this is that every one may know when anything of my own is referred to, and be able to assure himself that the subject is treated without bias. My intention is to make no statement which is not founded on facts recognized by all or easily demonstrated, nor to follow any course of reasoning which is not perfectly clear and logical. In order, moreover, to make our meeting as satisfactory and fruitful as possible, it is hoped that every one will make a note of any point which may not be perfectly clear to him, or of any deductions with which he may not be fully in accord, and mention them in the discussion following the lecture, so that the reasoning leading to these deductions may be reexamined or more clearly stated.

It is proper to add that the devices are the outgrowth of a careful practical study of plumbing made from the unprejudiced standpoint of the architect working for the interest of his client.

They are the *result*, and not the *cause*, of the investigations.

As plumbing is now practised, the architect or the sanitary engineer is, from the nature of his work, the one upon whom we must depend chiefly for its improvement. Evidently the most important part of an architect's work is that which concerns the health and comfort of his client.

The arrangement of the plumbing, pipes, and fixtures influences the entire plan from foundation to roof.

Some of the rooms, such as the laundry and toilet rooms are designed exclusively for the plumbing, and all are more or less dependent upon its arrangement. The walls and beams must be slotted and framed for its reception, and differently for each different kind of fixture or system of piping and for their lighting and ventilating apparatus. Hence, the architect must be familiar with all the details of the work, and upon him lies the responsibility, not only for the healthfulness, convenience, and cost of the particular work over which he has immediate charge, but also, in a great measure, for the general status of the art of plumbing throughout the country. The plumber, like the architect, may see defects in the methods of plumbing now in vogue, but he has comparatively little interest in promoting reform because the authority lies with the architect. The plumber has contracted to do a certain amount of work for a certain amount of money and it is not easy for him to alter the contract. If he is directed to put into a house a few hundred dollars' worth of piping more than is necessary or desirable, or set complicated

or ill-devised fixtures, it is not his duty to protest. Competition has reduced his profits to so small a figure that the plumber cannot afford to be an active reformer.

The physician seldom interferes in the details of plumbing work, and the public are, as a rule, profoundly ignorant of them.

The architect, however, acting directly as the agent of the owner, is bound, when he discovers defects affecting the health as well as the pocket of his client, to use all the influence he possesses to remove them.

Every sanitarian recognizes the serious defects of our present plumbing methods and apparatus. Our common soil and waste pipes are neither gas nor water tight on account of their defective form and jointing, and they are expensive to lay.

Our traps either are incapable of retaining their water-seal against the adverse influences affecting them in common use, or they are bulky, unscientific, and expensive.

Our lavatories are slow emptying, inconvenient, and complicated. Most of the water-closets in use are full of defects and flushed on incorrect principles, and, in short, there is scarcely a single point in which our plumbing is not evidently susceptible of great improvement.

Let us examine these defects and study the principles which should guide us in effecting their cure:—

*Simplicity.* The tendency at present is toward undue complication. The plumbing work is becoming each year more elaborate and costly, more difficult to set correctly, and more difficult to comprehend and repair when correctly set, so that the public are becoming alarmed and confused. They despair of being able to understand the intricate system of piping and machinery for the supply and waste of fixtures. The result is a general feeling of insecurity and a tendency to forego the convenience of plumbing fixtures wherever their presence is not an absolute necessity.

Our byword should be "*simplicity*." Rather than reduce the number of our fixtures, let us reduce the amount of machinery connected with them, provided we can do so without diminishing the security they are intended to afford.

If we find that our process of simplification actually increases the security of the work, all will be gainers—the public as well as the plumber. For what is best for the public by increasing their confidence is also best for the plumbers, though they appear now to lose sight of this fact.

*Accessibility.* Another leading principle is that all plumbing work in a house should be everywhere, without exception, accessible and as far as possible visible.

Pipes should never run behind plaster when it is possible to expose them on walls and ceilings. The pipes both waste and supply as well as the bathtub traps of a bathroom should be placed, if possible, on the ceiling underneath the plaster of the bathroom or china-closet below—never between the door-joists. There is nothing in a neatly arranged line of lead, brass, and iron piping that one needs to be ashamed of. On the contrary when skillfully placed and neatly jointed in a workmanlike manner, as

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology, and Hygiene, of the Suffolk District Medical Society, February 16, 1886.

would be the case when the plumber knew they were to be forever exposed to view, these bright metal pipes become quite ornamental when mounted with lead or brass clamps on strips of finished woodwork varnished and symmetrically arranged in corners or where good taste and judgment direct.

In the darker ages of architectural art, chimneys were despised and hidden from view. Now they become the most prominent features of a design, suggesting hospitable comfort and healthful ventilation within. So should it be with the piping. A knowledge on the part of the house-owner that all the pipes which provide him with the comforts of pure water and safely carry off the foul are in full view and in a sound condition will afford him much solid satisfaction.

*Avoidance of Mechanical Obstructions.* A third principle is to avoid all mechanical obstructions, such as valves, balls, gates, and all other impediments to the water-way, and in a system of water-carriage to do all trapping by means of a water-seal alone.

Mechanical devices form no reliable security against the passage of sewer gas. These valves and balls cannot be made to fit their seats with such accuracy as to exclude liquids and gases, or microscopic disease-germs, even when new. They soon become more or less fouled with dirt and corrosion and then their inefficiency becomes evident even to the eye. A sound water-seal however, properly protected, is found to be entirely reliable in excluding noxious matters of all kinds.

Fig. 1 represents a trap having the undesirable mechanical seal in the form of a ball.



Fig. 1. The Jennings trap, with mechanical seal.

Moreover we are obliged to rely upon a simple water-seal whether we desire to or not, because our water-closet traps or their overflows are, and must be, constructed without mechanical obstructions. Evidently if the water-seal is inefficient we must either construct our water-closet traps and their overflows on a different principle or else give up the system of water-carriage altogether. It is useless to apply mechanical closures to our smaller traps if we leave the large water-closet traps without them.

It has been shown by Dr. Carmichael and others that if a water-seal be properly maintained against evaporation and siphonage, or destruction from any cause, the amount of sewer gas that can pass through in twenty-four hours, even under the worst conditions, but with a ventilated soil-pipe, is infinitesimal and absolutely harmless, and that disease-germs cannot pass at all through water at rest at normal temperatures. Dr. Carmichael also experimented with an unventilated soil-pipe, and found here that the quantity of carbonic-acid gas, the largest component of sewer gas, given off from the traps in twenty-four hours was less than that obtained "when a bottle of lemonade was opened," and less than that which is exhaled by a man in five minutes.

As for the ammonia, sulphuretted hydrogen, and other gases or vapors which accompany the carbonic acid, their combined amount, even under the un-

favorable conditions of a foul sewer and unventilated soil-pipe, was hardly equal to the one thousandth part of that of carbonic acid, and this amount diffused in twenty-four hours through the atmosphere of a house is evidently absolutely insignificant and harmless. With a ventilated soil-pipe the quantity which can pass through the water-seal was found to be about four times less, probably far less than what would come into our city houses through the doors and windows from the ventilating openings in the streets of the public sewers.

Drs. Carmichael, Pumpelly and Smith, Naegeli, Wernich, Miquel, and others, have shown that disease-germs and bacteria generally have the same "mechanical affinity" for water which we observe in all solid particles, particularly of organic nature. They cannot rise spontaneously from the surface of water at rest, and at the normal temperature of our houses. It is only when the surface is violently agitated, or when gaseous bubbles rise to the top and burst, that these particles are released and dissipated in the atmosphere. With a ventilated soil-pipe no such effervescence in the water of a trap can take place, and the agitation of its surface caused by properly arranged flushing does not throw water out of the trap nor allow of the escape of any germs of disease, for any water which may be washed up on the sides of the trap above the normal water-line is quietly carried down again by the upper flushing stream and swept into the sewer.

The experiments of Dr. Carmichael resemble absolute demonstrations and may be accepted as conclusive. He concludes his report as follows: "Water-traps are, therefore, for the purpose for which they are employed, that is, for the exclusion from houses of injurious substances contained in the soil-pipe, perfectly trustworthy. They exclude the soil-pipe atmosphere to such an extent that what escapes through the water is so little in amount and so purified by infiltration as to be perfectly harmless, and they exclude entirely all germs and particles, including, without doubt, the specific germs or contagia of disease, which we have already seen are, so far as known, distinctly particulate."

*Tightness of Joints.* A fourth principle is that all joints should be permanently tight, and to secure this evident desideratum no material should be used in jointing which is injuriously affected by any of the substances brought in contact with them or by movement produced by changes of temperature, concussion, or shrinkage.

*Soundness of Material.* A fifth principle is that all the material used be sound, and all pipes of even thickness and capable of resisting a suitable pressure-test.

*Ventilation.* A sixth principle is that all the main lines of soil and drain pipes be thoroughly ventilated from end to end.

*Flushing.* A seventh principle is that all parts of the waste receptacles and pipes be thoroughly flushed with water from end to end in such a manner as to remove all foul matter instantly from the house as soon as it is generated.

*Automatic Operation.* An eighth principle is that the working of all parts of the plumbing system should be as far as possible automatic.

*Noiselessness.* A ninth principle is that the operation of all parts of the work should be noiseless.

*Economy and Prevention of Water-waste.* Finally, all parts of the work should be economical in construction and designed in such a manner as to avoid the chances of waste of water through leakage.

These ten broad principles are not only accepted by all the leading sanitarians, but are self-evident and may be at once adopted as axioms without discussion. In the manner of applying them in practice, however, we do not find the same universal harmony. Where all are in accord I shall make no reference to authorities. But where there is a difference of opinion among experts I shall call attention to the fact, so that each one present may form an independent judgment of his own.

#### TRAPS.

The first subject we shall consider will be the trap.

Its form depends upon the nature of the work it is called upon to do; the form which is suitable for a water-closet being quite unsuitable for other fixtures.

The agencies which tend to destroy the water-seal and efficiency of traps are: siphonage, evaporation, back pressure, capillary attraction, self-siphonage, leakage, and the accumulation of sediment. These agencies must therefore all be considered in the design of our trap. What form shall we give it to enable it successfully to withstand them?

We find that if we adopt the simplest possible form, that of the S trap, which consists merely of a bend in the pipe deep enough to make a seal, we obtain a device which, with proper flushing, is sufficiently self-cleansing and furnishes the easiest outlet for the water. But it is unable to do any more without external aid, and quickly loses

its seal under the slightest disturbance of atmospheric pressure produced by a sudden flow of water through the pipes with which it is connected.

Three methods have been employed with a view to preventing the destruction of the seal by siphonage.

*One* is to ventilate each trap by connecting it with a special ventilating pipe constructed for the purpose.

*A second* is to increase the size of the nearest limb of the trap until it becomes a "pot" or "reservoir" trap large enough to accomplish the same result without external aid.

*A third* method is to construct the trap in such a manner as to render it both antisiphonic and self-cleansing at the same time.

The first method adds greatly to the cost and complication of the work. It has given rise to the so-called "trap-vent" law, which rigidly requires every trap, under all circumstances, to be ventilated.

In regard to the practical working of trap ventilation two things have been found:—

*First*, that it is not always efficient in preventing siphonage.

*Second*, that it is always more or less active in destroying the seal through evaporation.

Nevertheless, this method still has a few advocates of recognized ability. But they now adhere to it chiefly, if not entirely, on account of an alleged indirect advantage produced by the air-current in partially oxidizing foulness in the waste-pipes.

The *second* method is both inexpensive and simple and is much more efficient in resisting siphonic action than the first. It has, however, the serious disadvantage of involving the use of cess-pools or filth-retainers in the house, and such retention is in violation of a leading principle of sanitary drainage which calls for complete removal of foul matters from the premises the instant they are generated.

This method has however a very large number of advocates who consider the retention of a limited quantity of filth in the trap less of an evil than the dangers of difficulties coming from trap-venting. They claim that a guard which is only *sometimes* reliable is worse than none at all as giving a false sense of security, and that the purification of the branch waste-pipes can be effectually accomplished by powerful water-flushing, making the induction of the air-current for this purpose quite superfluous. They find, moreover, that abundant aëration goes on without the aid of the vent-pipe both from diffusion of the air in the ventilated soil-pipe, and from the powerful influx of air induced with, and after, the water-flushing at each usage of the fixture.

The *third* method is the simplest and least expensive of all. It is more reliable than either of the others in resisting siphonic action, and does away with the serious objection of the second method: that of filth retention.

It has already the advocacy of many of the leading sanitarians of the country and promises to be universally adopted as soon as it becomes generally known.

Let us now examine these three methods carefully in detail, since the question is not only one of the most important and interesting ones in the whole domain of sanitary plumbing, but its investigation will throw light on every other part of the subject.

*Trap-ventilating.* Until very lately it was supposed that trap ventilation afforded a reliable cure for siphonage, and under that supposition the trap-vent law was made. This law has been in operation but a very few months and in a few large cities, yet it has been in force long enough to show in the first place that it is by no means able to do what it pretends to even when the vent is newly and skillfully applied, and in the second place that it gives rise to new evils as great or greater than those it was intended to obviate, and in the third place that the vent-pipe itself tends to become foul in usage, and that in some cases the accumulation of foulness goes on to such an extent, especially at its point of connection with the trap, as to completely close the air-passage and destroy its operation.

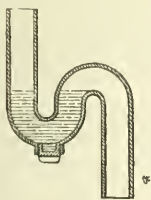


Fig. 2. Ordinary S trap.

We will first test the efficiency of the trap-vent when it is new and clean and afterward consider the question of its partial or complete closure by filth accumulation.

*Tests on Traps Newly Ventilated.* In making these tests two points have been very carefully followed, and these must be distinctly understood.

In the first place the apparatus and arrangement used is precisely the same in character as is found most commonly in the best ordinary practice.

A large number of return bends and a very long stack of piping has been put together in order to permit a variety of different tests to be made with a single compact apparatus. But as openings have been made in the pipe at various points, we are able to cut off one or all of the bends and any part of the length of pipe at will. Hence, the apparatus

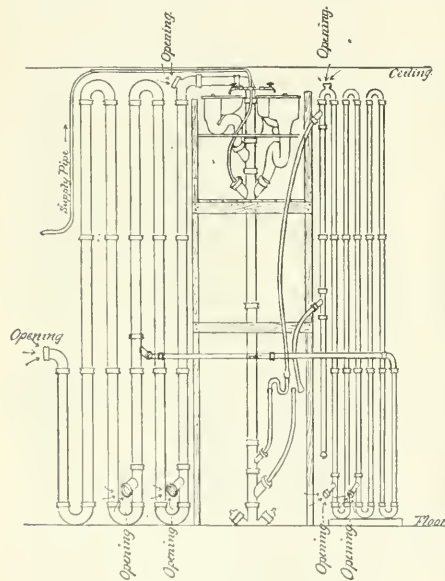


Fig. 3. Apparatus used for trap testing.

may be made to correspond with that in any form of house we desire to imitate.

In the second place, though our tests will be very severe, they will, nevertheless, be no more so than is often encountered in practice. Our object is not to show what *usually* takes place but what at any time *may* take place.

We do not of course pretend to say that a new vent-pipe can never protect a trap, but that it cannot always be relied upon, and that this being the case, it affords a false sense of security, and is therefore worse than nothing for we can never tell at what moment it will fail in its duty.

If we are to be forced by the law to put our clients to the great expense and danger of ventilating every trap, we have a right to demand: first, that the means employed shall actually afford us the security it pretends to, and not fail at the first critical

moment, and, second, that no other simpler and better means exist for securing the desired results.

Our apparatus consists of a stack of four-inch soil-pipe with two ordinary plumbing fixtures ten feet above the wastes of the traps to be tested. On the left is a Jennings closet and on the right a Zane: kinds which have been perhaps until lately the most popular in this country.

Fig. 3 represents the apparatus used. The distance from the floor to the upper platform which supports the water-closets is fourteen and a half feet. From the floor to the ceiling is seventeen feet.

It is hardly necessary to explain to the present audience that the smooth bends and returns we have used add but very slightly to the friction.

Smooth bends of a radius equal to, or greater than, the diameter of the pipe are found to have very little effect in retarding the flow of fluids. To show just the effect such bends produce in the present case we have provided openings at different points in the length of the piping and after experimenting with all the bends, we will make other tests without them or with only a portion of them, and compare the results. We have used the ordinary two-inch iron pipe for back ventilation.

Just above the floor of this room we have provided two Y branches for the trap waste-pipes to be tested using ordinary one and a half-inch bath or basin lead waste-pipe of the average length. We find the length of these branches within reasonable limits does not appreciably affect the siphoning action.

*Experiments on a one and a half-inch S trap.* The first test we will make on an ordinary one and a half-inch S trap unventilated. The soil-pipe we leave full length. The seal is two inches deep.

(Discharge of Z and J together.) We see that a single discharge of the two closets has completely destroyed the seal in a second, leaving scarcely a drop of water in the trap.

If we shorten the soil-pipe one half by removing the plug at forty-five feet length, we find substantially the same result. (Discharge of Z and J together.) The seal is again instantly destroyed.

This is the simplest possible illustration of the phenomena of trap siphonage, and so far the result is probably familiar to most of the audience here to-night. All are aware that an unventilated lavatory S trap with even an unusually deep seal possesses scarcely any power to resist siphonage. When the falling water in the soil-pipe produces the partial vacuum behind it as it descends, if the soil-pipe extension above it is short and closed at the top, the action is at its maximum because there is very little air to expand. If the pipe is short and open it is at its minimum. If it is long and closed still the action is powerful, but if it is long and open above, a medium effect is produced, and this is the condition we have to-night in our apparatus.

Let us next see what the effect of a discharge of a single closet will be, leaving the soil-pipe forty-five feet long. This cuts off three bends, leaving it four.

(Discharge of the Z alone.) The Zane closet alone has siphoned out the trap in a single discharge. Let us try the Jennings alone.

(Discharge of *J. alone*.) The Jennings alone has also instantly unsealed the trap.

Thus we see that either a Zane or a Jennings plunger-closet is easily able to destroy the seal of an ordinary S trap under the simplest conditions of plumbing. Any other form of plunger-closet or any valve or properly constructed hopper-closet would probably do the same.

Let us now ventilate our trap with a vent-pipe the full size of the bore of the trap. Leaving the soil and vent pipes the full length we will discharge the closets as before.

(Discharge *Z and J.*) The first discharge has reduced the seal from two inches to one and a half inch. It will be observed that our vent-pipe is actually considerably larger than the bore of the pipe which is contracted at the bends, so that the protection afforded by this is greater than it would be in ordinary practice.

Another discharge has lowered the seal to one fourth of an inch. A third discharge has completely destroyed the seal, leaving an open passageway into the house for sewer gas.

(To be continued.)

#### A PECULIAR FORM OF URIC-ACID PRECIPITATE.

BY F. W. ELLIS, M.D.

SEVERAL months ago I met with a case in my private practice which presented features sufficiently unusual and interesting to justify a few notes.

I was consulted by a large, well-built Irishman, who complained of various dyspeptic symptoms. His occupation was that of a stonecutter. He complained of muscular weakness and poor appetite. He had been ailing for a considerable time, and had recently returned from a trip to Ireland, where he spent a year in idleness in order to regain his health. He returned home somewhat improved and resumed his trade. He was married and, so far as could be learned, had always been temperate.

I was first consulted by his wife who had noticed a peculiar condition of his water. The specimen of urine which she brought to me for examination was pale and a half-litre or more in amount. The sp. gr. was low (about 1.010), but, as I have lost the record of the examination, I cannot state the exact figure. A relatively large amount of large rhombic uric-acid crystals had collected as a sediment. It was this sediment of large red crystals which had first excited the attention of the patient's wife. After standing a short time a much more abundant chalky, white sediment collected above the red uric acid. This white sediment was insoluble in concentrated hydrochloric acid. A portion of the sediment boiled with a large amount of water slowly dissolved. Under the microscope it was seen to be composed of very minute rectangular prisms. That it was not any form of urate was shown by its insolubility in acids and its very imperfect solubility in boiling water. Treated with nitric acid and ammonia it gave a very beautiful murexid reaction. It dissolved readily in the caustic alkalis, and was reprecipitated by acetic acid in the form of

perfectly colorless rhombic prisms, showing that it was entirely composed of an exceedingly pure form of uric acid. No more uric acid could be separated from the filtered urine. In other respects the urine was normal.

A sample of urine analyzed a few days later contained only a slight amount of uric acid. The increased excretion of the acid seemed to occur in paroxysms. I analyzed several later specimens, all showing enormous increase in the amount of uric-acid sediment, the greater part of which was in the form of a white precipitate of small colorless crystals. The sp. gr. varied; on one occasion it was 1.023. The reaction was strongly acid.

The interesting points in this case are: (1) The enormous increase in the uric-acid sediment occurring in paroxysms. (2) The dual character of the uric-acid sediment, the large red, rhombic crystals, and the very minute colorless prisms. The large red crystals were probably of slow formation; this was shown by their perfect rhombic form. The minute prismatic crystals must have been so suddenly precipitated as to leave no time for the absorption of coloring-matter. The two kinds of crystals must have formed at two different times. The white sediment of pure uric acid might easily have been mistaken for one of urates had the examination been less careful.

I am not aware of a similar urinary sediment having been described in print, and it is doubtless one of some rarity. The patient had no symptoms of stone.

#### DESCRIPTION OF AN EXCISED HIP-JOINT TWENTY-TWO YEARS AFTER THE OPERATION.

BY L. F. WOODWARD, M.D., OF WORCESTER.

THE patient, a woman aged twenty-nine, engaged me for her confinement with her second child, and allowed me to make a careful examination of the left hip-joint, which had been excised for hip disease twenty-two years before. The history of the case is briefly as follows: The disease began at the age of five years, and an abscess formed two years later. Dr. Credarwitz, of Brooklyn, N. Y., excised the head of the femur at this time, the patient then being between seven and eight years old. The sinuses continued to discharge for about three years. Since then she has had no trouble with the hip.

There was a well-formed head to the femur, beneath the scar of the operation, which rotated under the hand. The whole limb was shortened three inches. Two and one-half inches of this shortening was in the thigh and half an inch in the leg. There was a difference of three inches in the circumference of the thighs, of one inch in the calves, and the foot on the affected side was half an inch shorter than its fellow.

All joint-motions were possible. Flexion was nearly equal on the two sides. Extreme extension was impossible, but the popliteal space could be brought down to the bed without tilting the pelvis. External rotation was limited to about two thirds, and internal rotation to about one third, of the normal amount. Abduction was about one half the

normal, while adduction was the least perfect of the motions, there being not more than a fourth as much on the affected side as on the other. The patient has been free from pain since the sinuses healed, and with a high shoe can walk with comfort. She has supported herself by sewing, and runs her sewing-machine with either foot. I was unable to learn just how much of the head of the bone was removed, and it is possible that the trochanter was saved. Vaginal examination showed nothing abnormal in the pelvis, and her labor was easy. The limb in this particular case is much more useful than the ordinary joint of spontaneous recovery.

### REPORT OF PROGRESS IN ORTHOPÆDIC SURGERY.

BY E. H. BRADFORD, M.D., AND H. L. ECKRELL, M.D.

#### COMPARATIVE RESULTS OF TREATMENT IN CHRONIC OSTITIS OF THE HIP.

V. P. GIBNEY<sup>1</sup> draws the following conclusions from his large experience in the treatment of this disease: (1) The "expectant" treatment is not, in an orthopædic or surgical sense, any treatment at all. (2) Traction with motion is based upon a false pathology, and does not, in my opinion, do what its advocates claim for it. (3) Fixation and rest, when properly carried out, yield better results, I believe, than any other plan. (4) The keynote of treatment of ostitis of the hip is not the splint employed, not the crutch, nor the high shoe, but it is the management of the case. The case must be closely watched, the apparatus must be fully kept up to its duty, the indications must be met, and one must not grow impatient, because time is an important factor.

#### OPERATIVE INTERFERENCE IN JOINT AFFECTIONS.

Volkman<sup>2</sup> calls attention to the fact that in adults tuberculosis of the knee-joint is, as a rule, primary, and begins in the synovial membrane and rarely extends to the bones and if it does only superficially. In children the reverse is the case. A small deposit of tubercle, varying in size, is to be found in bone, while the cartilage is usually unaffected or nearly so. From these facts he is inclined to consider that the removal of the joint surfaces of bones is not called for in adults and in children removal of the epiphyses may be avoided in most cases.

As a substitute, Volkman advocates a total excision of the affected capsule in fungous disease of the knee, leaving the bones and cartilages untouched except where foci exist, in which case they should be spooned or chiseled out. If deformities are present, they should be first corrected and abscesses should be freely incised as a preparatory measure. The joint is to be partially opened by a transverse incision, and this is to be enlarged if it is found, after digital exploration, that the disease is sufficiently large to justify complete excision of the

capsule and the patella divided by a saw. If the bursa under the quadriceps needs to be removed the incision is to be enlarged so as to lay bare the whole cavity of the synovial membrane and the remnants of the simular cartilages removed with scissors and scalpel until sound tissue is reached. The wound is finally carefully closed with sutures, the divided patella having been united with catgut, and the tendon of the quadriceps or the ligamentum patellæ (if divided) sutured in. Frequent drainage-tubes should be inserted. The operation should be done with frequent irrigation of the large surface with a sublimate solution. The wound heals by first intention except where the drainage-tubes are, and the result is a stiff knee, much firmer than when resection has been done. A firm support is to be worn for a long time to overcome the tendency of the flexors to contract.

Ollier<sup>3</sup> agrees with Volkman's statement of the pathology of these affections, namely, that the disease in adults is chiefly seated in the synovial membrane and in children chiefly in the bone. In children Ollier opens the joint freely, excises and destroys fungosities with the hot iron and scoops out foci. In adults, however, he prefers amputation or resection.

#### SURGICAL TUBERCULOSIS.

Dr. R. J. Hall has contributed a valuable paper on this subject to the New York Surgical Society.<sup>4</sup> In review he states that, as a rule, the bacilli are abundant in tubercular lesions of mucous membranes and internal organs, while they are found very sparingly in those of the skin, bones, and joints; a rule, however, not without exceptions. Two important practical subjects are considered, namely, the means of diagnosis at the command of the surgeon, and the indications for treatment.

"For the first, as a rule, the clinical diagnosis is not difficult. All that we have been accustomed to consider scrofulous must be classed as tubercular, with the exception, probably, of those superficial affections of the skin and mucous membranes which are rather diseases of the scrofulous than scrofulides.

"But far more than this must be included. Its forms are so various, and its course so dissimilar in different cases, that sometimes before operation only a probable diagnosis can be made, and that largely by exclusion. We must be prepared to recognize tubercular lesions of the bones, the joints, the skin, etc., in both children and adults, who, except for this one affection, present all the appearances of the most blooming health."

Dr. Hall fairly puts the status of the bacillus in its relation to surgery. He thinks that, practically, the simple examination of the tissues affords a perfectly reliable and simple means of diagnosis.

As regards treatment, the discovery of bacillus has taught us, when local recurrence takes place after operation, to seek a cause, not in any mysterious predisposition of the tissues to tubercular inflammation, but in the failure completely to remove the infecting material. He considers that

<sup>1</sup> Philadelphia Medical Times, December 13, 1884, p. 190.

<sup>2</sup> Centralblatt f. Chirurgie, No. 3, 1885, also Medical News, April 4, 1885, p. 390.

<sup>3</sup> Revue de Chirurgie, No. 3, 1885.

<sup>4</sup> Philadelphia Medical News, January 24, 1885.

are apparently far from obtaining any specific action by internal medication.

He concludes his excellent paper by prophesying with our improved methods of wound dressings an earlier and more frequent radical operation.

#### SPINAL ARTHROPATHIES.

A. Sydney Roberts,<sup>5</sup> in a paper on Spinal Arthropathies, deduces the following practical facts: First, regarding the period of development. The tabetic arthropathies may occur independently, or precede the active symptoms of locomotor ataxia. Then, again, they may develop suddenly, late in the course of a posterior spinal sclerosis.

He considers that the peripheral expression of central nerve irritations is characterized by the following changes found in the structures of the various articulations: (1) A chronic asthenic hyperemia of the synovial membranes; a hydrarthrosis. (2) An interstitial atrophy of the epiphyses. (3) A fungous or rarefying epiphyseal hypertrophy. (4) The formation of osteophytes and bony stalactites. These various joint expressions characteristic of spinal arthropathies may exist separately, but are usually combined in the same subject.

They may readily be distinguished from the common inflammatory lesions by the total absence of the reflex neural phenomena, that is, of pain, both reflex and local, the apprehensive state regarding joint-movements, and the reflex or tetanic spasm of the muscles, always associated with joint arthritis. There is some difficulty in differentiating the affection from malignant disease, but a careful inquiry into the history and course of the lesion, and the presence or absence of central disturbances, are our most reliable guides.

The progress of the arthropathies is essentially chronic. Occurring not infrequently early in the history of a tabetic lesion they slowly increase, with occasional exacerbations, and years elapse before fully matured.

A rapidly developing arthropathy may be associated with the later stages of an ataxia. Their course is self-limiting, though never reparative.

#### TREATMENT OF RICKETS.

Hagenbach<sup>6</sup> reports success with the phosphorus treatment of rickets, especially in cases of rickets of the skull and in spasm of the glottis, and from the results he has seen he is inclined to regard phosphorus as a specific in rickets.

#### SPINA BIFIDA.

Turreta<sup>7</sup> reports the successful treatment of a case of spina bifida in a child two months old. The tumor was situated in the region of the lower cervical vertebrae. On exploratory puncture a clear fluid, with an alkaline reaction, was evacuated. On deep pressure the tumor became somewhat smaller, and at the same time a slight tremor of the lower extremities was observed. An elastic ligature was placed around the pedicle of the tumor. During the first five days a slight elevation of temperature was noticed, with vomiting, trembling in the extremities. After that the condition was normal.

At the end of twelve days the ligature fell off with the tumor, and complete healing at the end of twenty-seven days.

#### SURGICAL MANAGEMENT OF RICKETIC DEFORMITIES OF THE LOWER EXTREMITIES.

In a paper on the above subject Dr. V. P. Gilmey<sup>8</sup> draws the following conclusions regarding operative treatment of bow-legs and knock-knees: (1) Children under two years of age presenting bow-legs or knock-knees should not be subjected to operation or to mechanical treatment unless the deformity is very exaggerated. (2) Children under three years with only a moderate degree of deformity may be safely left to nature. Dr. Gilmey further says: "In bow-legs we have often a general curve, extending from the perineum to the ankle, without any sharp deviation whatever, and again there are many where the tibia and fibula are sharply curved at the junction of the middle with the lower third of the leg. In the former, nature, according to my observation, corrects the deformity so thoroughly that we cannot find traces of the original deviation; in the latter, if treatment is rejected, the curve nearly always remains, and, as the child grows in height, the curve becomes longer and less conspicuous."

In the former (general curve of thigh and leg) he rarely uses apparatus; in the latter (curvatures of leg) he rarely omits apparatus. Regarding the employment of manual force, Dr. Gilmey uses it in the correction of deformities:—

(1) In patients whose parents are unable to buy apparatus and too improvident to give any attention to its care.

(2) When one has little time in which to effect a cure.

(3) In cases where the bones yield to such force, the other two conditions being present.

Dr. Gilmey's rule is to apply apparatus to bow-legs if he finds the bones can be sprung with moderate manual force. This in children under five years of age.

His experience in osteotomies he presents as follows:—

(1) Exaggerate the correction of the deformity.

(2) Examine the limb at the end of a week to ascertain whether the amount of correction gained is the amount desired.

(3) Do not hesitate to refracture by manual force if it is necessary.

(4) With strict attention to details in operating, and in the use of good plaster-of-Paris bandages well applied, cases can be treated in a dispensary nearly as well as in a hospital.

After operations three months' support in some form of splint is not too long.

#### CONGENITAL DISLOCATION OF THE HIP. RESECTION.

Hensner<sup>9</sup> showed at the meeting of Surgical Section at Magdeburg a girl twenty years of age who was born with a double dislocation of the hip and suffered, in consequence from the distortion, a certain amount of fatigue and inability for active work. Treatment by extension was tried without

<sup>5</sup> Philadelphia Medical Times, February 4, 1885, p. 175.

<sup>6</sup> Centralblatt f. Chirurgie, No. 47, p. 707.

<sup>7</sup> Centralblatt f. Chirurgie, No. 47, p. 707, 1884.

<sup>8</sup> New York Medical Journal, November 29, at 1 Dec. 1884, p. 184.

<sup>9</sup> Centralblatt f. Chirurgie No. 15, 1884, p. 341.



case where this was successfully done. He claims that the cure is more certain and the recovery more rapid than by tenotomy. After incising the skin, the shortened band, which, after being isolated, should be divided and the finger forcibly straightened, the incision is sewn together.

#### RESECTION OF WRIST.

Resection of the wrist in fungus osteo-arthritis.<sup>17</sup> Gangolphe has collected Ollier's resections at the wrist. Of these, seventeen in number, three were respectively sixty-six, forty-six, and fifty years old. Eight were between twenty-five and forty. Five were between twenty and twenty-five. One was fourteen years old. The operation was regarded as indicated as soon as the tuberculous nature of the disease is established without doubt, when suppuration is present, and all non-operative measures have proved of no avail; an early resection naturally gives better results than a later one, and the author is inclined to believe that the poor results hitherto following resections of the wrist were due to a long postponement of the operation. An active affection of the lungs is a contra-indication of the operation, but a torpid tuberculosis of the lungs does not contra-indicate the operation and the condition of the lungs may be benefited by it. Age appears not to be a contra-indication, the best result that was obtained being in a man fifty years old.

The operation is best done by a dorsal incision, but, in addition, lateral incisions were made in all cases to give drainage, the ulnar opening being so free as to often be of use in the operation. Usually all the carpal bones need to be removed, though the pisiform and the os magnum may sometimes be removed. Ollier usually cauterizes the parts chiefly affected with the actual cautery. Drains are to be inserted and a tampon of iodoform gauze and Liston gauze dressing is applied around the whole. The dressing should be changed as little as possible. The after treatment is very important and is directed with a view toward the future usefulness of the hand. This after treatment should not be simply to repair by curing the incompleteness of the first operation, but with a definite aim toward a solid cicatrization with the continuation of the drainage-tubes for a long time, sometimes months, and a systematic cicatrization of the fistule, with nitrate of silver, iodine, etc., to promote healing. The hand should be supported by a rest (a plaster-of-Paris bandage) which would allow free play to the fingers.

The results gained in the seventeen cases were reported to be excellent. Subsequent amputation was needed in none; all recovered with useful hands, being able either to write or to carry out light work, and, in some cases, to lift weights. Motion at the finger-joints and at the wrist became quite free.

#### OSTEOTOMY AND OSTEOCLASIS.

Boeckel<sup>18</sup> summarizes his results as follows:—

In 120 patients with distortion of the extremities osteoclasis was needed thirty times. The operation was performed on patients of from eighteen months

to eight years, with twenty-seven successes. Of the three remaining cases, a periostitis was brought about in one (a case of knock-knee), which needed incisions before recovery; in a second case, non-union occurred, which lasted for a long time, and in a third, knock-knee, the ligaments of the knee were so weakened that a support had to be worn; thirty-two osteotomies were performed; (eighteen rickety curves of the leg, ten genu valgum, three badly united fractures, one subtrochanteric osteotomy) and were all successful: twenty-three healing by first intention, under two or three dressings; six with slight, two with profuse, suppuration; one after an attack of erysipelas.

#### A MODIFICATION OF THE METHOD OF BRISEMENT FORCÉ IN THE STRAIGHTENING OF A CONTRACTED KNEE.

Schaechter<sup>19</sup> advocates in brisement forcé of the knee-joint, in order to avoid the fracture or the total subluxation of the tibia backward, which sometimes happens when the leg is used as a lever in forcible straightening, the method introduced by Kovács. A splint of sufficient strength is fastened by bandages on the front of the leg, such a way that the upper end reaches above the knee, resting upon the condyles. On forcible rectification the pressure upon the back of the leg would tend to prevent the backward dislocation of the tibia, a distortion which is still further prevented by the pressure on the condyles.

#### THE RADICAL CURE OF CLUB-FOOT.

The removal of a cuneiform osseous wedge from talipadic feet was advocated in a paper by Mr. Richard Davy, at the Royal Medical Chirurgical Society.<sup>20</sup> Nineteen of the writer's cases were boys and four were girls. The open-air method of cicatrization had been practised in all of his cases. The mortality was less than four per cent. Two cases were submitted to the double operation at one sitting. Fourteen were cases of talipes equino-varus, ten were cases of talipes varus, and two were cases of equinus. The oldest patient was twenty years old, the youngest fifteen months. The average stay of the patient in the hospital from the date of operation to that of discharge was seventy-seven days. A shortened symmetrical foot is left, which is far preferable to a stump. The patients become plantigrades, dispense with instruments, and perform their ordinary duties.

Six specimens of the osseous wedges removed (all in one block of bones) showed as component parts the individual bones of the transverse tarsal joint; one specimen showed portions of the astragalus, os calcis, the bases of the four metatarsal bones, and the internal cuneiform bones, and the whole of the scaploid, enloid, and two outer cuneiform bones.

In conclusion, the author put forward this excision of an osseous wedge as mainly applicable to inveterate cases; he was inclined to plead for its adoption in young persons under certain circumstances.

He summed up in favor of the operation as follows: "In obstinate club-foot, where osseous distortion has occurred, a definite mechanical operation

<sup>17</sup> Revue de Chirurgie, 1884, No. 5.

<sup>18</sup> Centralblatt f. Chirurgie, March 14, 1885.

<sup>19</sup> Centralblatt f. Chirurgie, No. 45, 1884, p. 745.

<sup>20</sup> Lancet, February 14, 1885.

with definite surgical landmarks performed on the tarsal bones has led to definite results. Mr. R. W. Parker, who has paid much attention to the anatomical condition of club-foot, stated that with considerable opportunities he had not seen any cases of talipes in young subjects which had not yielded to very much milder measures than those proposed by Mr. Davy.

"In dissecting the talipædic feet he had found though the astragalus was usually altered in shape, that this was not invariable; on the other hand, in all cases the ligaments were shortened, and in severe cases, even after the removal of all the muscles, the foot could not be straightened on account of the shortening of the ligaments.

"He was thus led to think that in the treatment of talipes more attention should be given to the ligaments than was usually done, and that many of the inveterate cases met with in practice were due to the shortening of the ligamentous structures on the inner side of the feet. If the ligaments and muscles were equally stretchable (which is not the case) we should naturally expect more stretching in the muscles than in the ligaments by reason of their greater length."

Vogt states<sup>21</sup> that, "In all severe cases of talipes varus and valgus (congenital), we should begin immediately treatment on new-born children by extirpation of the astragalus. Only in this way can we attain rapidly and certainly a permanent cure of the deformity of the foot. Only so few months are needed for the orthopaedic after-treatment (after operation) as would otherwise require years."

#### ACUTE OSTEOMYELITIS OF THE SURFACES OF BONES.

Bergmann has collected twenty-five cases (eleven of the ilium) of osteomyelitis of the flat bones. In these the osteomyelitis appeared to be the primary affection and the periostitis secondary. In some the affection appeared to be primarily situated in the adjacent long bone and to have extended secondarily to the surface of the flat bone, but in the greater number the destructive process appeared primarily in the latter.

The disease hitherto was considered as eventually fatal, but the writer expects by thorough extirpation of the focus of inflammation to obtain better results.<sup>21</sup>

#### INFECTIOUS OSTEOMYELITIS.

Rodet<sup>22</sup> claims in a series of experiments at Lyons to have demonstrated a specific micrococcus of osteomyelitis. Taking the pus of infectious myelitis he made a culture of an orange-colored micrococcus and on injecting this in the veins without any injury the following symptoms were developed: In the most acute cases death took place two to three days after the injection, and thickening of the periosteum of the diaphysis near the epiphyseal line was found, together with small cheesy abscesses of the muscles and hyperæmic spots in the kidney. In the more chronic cases the process was limited chiefly to the bones. In many instances only a roughness of the surface of the bone was observed or an abraded softness of the surface, but in the worst

eases suppurative destruction of bone, and small sequestrum; small foci of orange-colored micrococci similar to those found in the cultured could be seen on microscopic section. No disease of the epiphysis took place.

#### MULTIPLE EXOSTOSES.

Seidel<sup>23</sup> reports a case of multiple exostoses with an arrest of growth, a companion to one previously reported by Volkmann. The individual was sixteen years old, who for six years noticed a swelling of the left forearm. Several other exostoses were formed on the lower extremity and elsewhere. The largest of these were on the lower epiphyses of the femora and the upper of the tibia; smaller ones were to be found on the lower end of the tibia, clavicle, scapula, upper arms, and ribs. The forearms were shorter than normal in relation to the length of the upper arms, and the amount of pronation and supination limited, and the ulna was much shorter than the radius. Operative measures were taken to remove the exostoses which united the radius and ulna. These were successful as far as removal of the deformity is concerned.

#### NORMAL INCREASE OF WEIGHT IN CHILDREN.

Malling-Hansen,<sup>23</sup> as director of the Royal Deaf and Dumb Institution, has examined 130 children, weighing them at different times. The boys were weighed at 6 A.M. and 9 P.M. The girls were weighed once a day, at 2 P.M. He found that a child might weigh from one to two pounds heavier at night than in the morning, and be more than one pound and a half lighter in the morning than it was the evening before exercise. Bathing did not influence the weight. There was always an increase after a full meal. He found that there were three periods in which the weight varied: first, a period of decrease from the middle of May in each year to the middle of July; a period of increase of great importance from the middle of July to the middle of November; and then a period in which the child increased slightly, but often remained stationary, and might even lose in weight, from the middle of November to the middle of May. Temperature had an effect upon increase and decrease, increase of temperature being accompanied by increase in weight, and *vice versa*. Boys consumed one fifth more than girls.

#### IMPROVEMENT IN THE CONSTRUCTION OF THE HIP-SPLINT.

A. B. Judson<sup>24</sup> describes an improvement in the construction of a hip-splint. He states "that the object of this form of construction is to diminish the weight of the hip splint, while retaining its strength and inflexibility, by disposing the metal so that it shall resist to the best advantage the strain to which it is subjected.

"When a hip-splint is made strong enough in the pelvic band and upright to perform the functions of an efficient ischiatic crutch, preventing the patient's heel from reaching the foot-piece of the splint in walking or running, it is found necessary to give considerable weight to the apparatus when constructed, as it often is, with a round upright, or with

<sup>21</sup> Centralblatt f. Chirurgie, No. 4, p. 360.

<sup>22</sup> Centralblatt f. Chirurgie, No. 6, p. 162, 1885.

<sup>23</sup> Comptes rendus Académie des Sciences, 1884, II., No. 11.

<sup>24</sup> Centralblatt f. Chirurgie, No. 1, 1885, p. 12.

<sup>25</sup> British Medical Journal, September 20, 1884, p. 68.

<sup>26</sup> New York Medical Journal, January 24, 1885, p. 111.

the flat side of the upright toward the patient's limb. If the upright is made flat and attached to the pelvis band in such a way that its edge is toward the patient, it is practically inflexible, and the amount of steel used in its construction may be greatly reduced."

Then having the rack (for extension) at the upper part of the splint further reduces the weight of the apparatus by allowing the upright to taper rapidly toward its lower end, and also puts the heavier portion of the upright nearer the centre of gravity of the body, thus rendering it more easily carried.

#### AFFECTIONS OF THE TENDO-ACHILLIS.

Kirmisson<sup>25</sup> mentions a case of what has been termed by Raynal peritendinous inflammation of the tendo-Achillis. The patient suffered pain in the region of his tendo-Achillis during an attack of gonorrhoeal rheumatism. Later an induration appeared, which subsided finally under rest in bed and painting with iodine. In a second case the reporter observed a double fibroma of the tendo-Achillis in a man twenty-nine years of age, of five years' duration. The tumor was painless, and stationary as to growth. No treatment was attempted.

### Reports of Societies.

#### NEW YORK ACADEMY OF MEDICINE.

STATED meeting April 2, 1885.

#### ANTIPYRIN AND ITS EFFECTS.

DR. WILLIAM H. DRAPER read a paper on this subject. Having stated that, while little had been added to our knowledge of the essential nature of fever, the means of controlling it at our command were continually enlarged, he took up the consideration of antipyrin as an antipyretic agent. It was one of the many derivations of coal-tar, and in experiments upon animals had been found to have remarkable power in reducing temperature. In very large doses it produces death by cardiac paralysis, and in somewhat smaller ones irritability of the nervous centres followed by paralysis.

Filchne, of Erlangen, was the first to use it in the treatment of fever, and his plan was to give it in two-gramme doses, repeated at intervals of an hour, until six grammes had been taken. In his cases it was noted that when the temperature again went up, after having been reduced by the agency of the drug, the rise was not accompanied by a chill, as was the case when kaïrin was used as an antipyretic. Marked sweating, however, was produced in many cases.

Having referred to the results obtained by Alexander, Guttman, Pappenheim, and other observers, he said that his own experience with the use of antipyrin had been principally at the New York Hospital, and, for the most part, confined to cases of typhoid fever. When he went on duty at the hospital on the first of October last, he found that his predecessor in charge of the medical wards, Dr. Peabody, had already been employing it to some extent, although he had been somewhat embarrassed on account of the short supply of the article in

New York in the early part of the autumn. He had, however, been much impressed with its antipyretic power, and had also noted that, as a rule, it seemed to have a very tranquilizing effect upon the nervous system in four patients. He had himself observed its effects upon twenty cases of typhoid fever, of which seventeen were in males and three in females. Of the twenty, five died, the mortality thus being twenty-five per cent.

The highest temperature that was noted in any one of the fatal cases was 107.6°, and this occurred on the twenty-fourth day of the disease. In one instance the temperature promptly fell to 102° under the use of antipyrin when baths persistently tried had failed to reduce it below 104°. In the case among those which recovered in which the temperature was highest, the range was from 103° to 106.6°. Vomiting was a frequent symptom, and in the fifteen cases which recovered diarrhoea was present in seven, while there was constipation in eight. Sweating was noticed in a number of cases, but the nervous symptoms were notably few. All his typhoid-fever patients were treated either with applications of cold, in the form of baths or sponging, or with antipyrin. As a rule, the method of Filchne, of Erlangen, was followed in giving the latter. The patients were usually given seventy-five grains, divided into two doses of thirty grains and one of fifteen grains, which were given at intervals of one hour.

It was rarely necessary to use more than 150 grains of the antipyrin in twenty-four hours, and in almost every case in which it was employed it was found that the general average of the temperature was from two to three degrees lower than could have been expected had no effort been made to control it. As a rule, the pulse followed pretty closely the temperature curve. In every instance in which it was employed the temperature was lowered. In one case no effect was produced when the remedy was administered by the stomach; but when it was given hypodermically the temperature rapidly fell. There was never any marked depression of the heart's action produced by it, and one of the most noticeable of its effects was the prompt cleansing of the tongue which followed its use. There was sweating in six of the cases. Nervous symptoms were almost invariably quieted by it, and in only a single instance did it seem to occasion depression of spirits. In six cases it produced an erythematous rash resembling measles, and in one case a macular eruption of a somewhat purpuril character. In none of the cases, except those in which parenchymatous nephritis was associated as a complication, was any change in the character of the urine noticed.

Among the fatal cases the largest quantity taken by any one patient was about 350 grammes, during a period of thirty days, while among the cases that recovered the largest quantity was 331 grammes. It was given in 110 doses during a period of twenty-three days. The most marked fall of temperature noted in any case was from 103.8° to 98°. In three instances the effect of cold baths and antipyrin was contrasted. In the one of these in which the contrast was most marked the baths failed to reduce it below 101.3°, while the antipyrin brought it down to 102.2°. In

<sup>25</sup> Centralblatt f. Chirurgie, No. 36, 1881, p. 608.

the second case the lowest temperature reached under the use of baths was  $102.4^{\circ}$ , while under that of antipyrin it fell to  $101.2^{\circ}$ . In the third case the difference was not so marked. In a case of puerperal septicaemia, under Dr. Peabody's care, the remedy had been very successful in reducing the temperature.

Dr. Draper said he had also used antipyrin in pneumonia, scarlet fever, and tuberculosis, and had found that it invariably lowered the temperature and contributed in other ways to the welfare of the patient. His observations had thus completely confirmed those of European physicians. In estimating the real value of the drug, it could only be commended at present as a sure and apparently safe means of reducing temperature. It did not cut short or cure the disease; but it ought not on this account to be condemned.

At present we had to be content with controlling the symptoms which caused such discomfort to the patient and often endangered life itself. Antipyrin was not an antipyretic in the sense that quinine and the salicylates were. In the affections in which they exercised their full effect they were ideal antipyretics. Antipyrin, on the other hand, smothered, but did not extinguish, the fires of fever. In certain instances it produced a lowering of temperature such as was only seen in collapse under ordinary circumstances, but with this there was none of the depression seen in true collapse. As to the manner in which antipyrin acted in reducing temperature it was at present idle to speculate, but from the fact that it was liable to cause vomiting, sweatings, and collapse of the temperature it seemed probable to him that its special effect was on the nervous centres.

Dr. Draper's conclusions were as follows:—

- (1) In antipyrin we have an efficient means of reducing temperature.
- (2) It is an apparently safe means, if prudently given and carefully watched.
- (3) While it does not modify or abate febrile diseases, it unquestionably adds greatly to the comfort of the patient.
- (4) Exceptionally it produces unpleasant effects, which more than counterbalance its beneficial action.
- (5) Further experience with it and modifications of the present mode of its administration may render it a precious contribution to our means of treating fevers.

Dr. WEBER said that he had employed antipyrin thus far in fifteen cases. There had been no typhoid fever among them, but there were cases of pneumonia, bronchitis, and scarlet fever. The remedy had proved very successful in reducing temperature; so that he had not been disappointed in it in this direction in a single instance. He would select two or three cases as examples. The first was one of double pneumonia, in a child four and a half years old. The temperature was  $105.5^{\circ}$  and the patient violently delirious. At 1 p.m. half a gramme of antipyrin was given *per rectum*, and at 1.30 p.m. another half-gramme was given in the same way; and by 5 o'clock the temperature had fallen to  $102.5^{\circ}$ . The next day two doses were again given, but by the stomach, and half the

quantity was used each time. Resolution then occurred and the remedy was not again required.

The second case was one of scarlet fever and the antipyrin was given for the purpose of keeping the temperature within bounds. The patient was a child two and a half years old, and the temperature when the treatment was commenced was  $105^{\circ}$ . In this instance he followed a plan of administration which he hit upon himself, but which he afterward saw mentioned as having been used with good effect at the Dresden City Hospital. It was to give the remedy in smaller doses repeated at intervals of two or three hours throughout the day, and in this case the method was very successful. The third case which he mentioned was that of a lady forty-three years of age who had a pneumonia of the upper lobe of the left lung, with pleuritis of the right side, and it was the third attack of pneumonia in which he had attended her. She did perfectly well for a day or two; but on the third day he found her with a temperature of  $104^{\circ}$  and a pulse of  $110^{\circ}$ , a dusky hue of skin, and a generally adynamic condition. He ordered her sixty grains of antipyrin, to be given in three doses of twenty grains each at one, two, and three o'clock respectively, and at 2.30 there was a little vomiting. Afterward there was sweating, and the temperature was soon reduced to  $100.5^{\circ}$ , while the pulse came down to  $96^{\circ}$ . After that the temperature did not rise above  $101.5^{\circ}$ . He thought it advisable to begin with small doses, say half a gramme (*per rectum*), to children and one gramme to adults, and afterward increase it if this should be necessary. In this it would be possible to avoid a rapid and perhaps dangerous fall of the temperature, such as has been noticed by some observers. In six cases at the Dresden City Hospital the temperature was reduced to  $92^{\circ}$  or  $93^{\circ}$ .

Dr. BOLDT spoke of two cases of puerperal septicaemia in which he used doses of four, instead of two, grammes of antipyrin, which produced considerable prostration and symptoms resembling those of carbolic-acid poisoning, the patients becoming semi-comatose. He had found that the remedy produced its action in from forty-five minutes to an hour after being taken, and that its effects did not continue for more than three or four hours. It was his practice to commence with twenty or thirty grain doses, and increase the quantity afterward, according to the necessities of the case. He had not observed the same relation between the pulse and temperature after the exhibition of antipyrin, of which Dr. Draper had spoken, and in the two cases of puerperal septicaemia referred to there was no effect whatever produced by it upon the condition of the pulse.

Dr. KINNETT said that he had used antipyrin somewhat extensively both at Luke's Hospital and in his private practice, and that the effects caused by it were for the most part precisely similar to those observed by Dr. Draper. Among the affections in which he had employed it were facial erysipelas, scarlet fever, pneumonia, pleurisy, phthisis, and intermittent fever. Gastric disturbance he had found an exceptional occurrence. In one case, and only one, he had noted a chill in connection with the rising temperature, as was so frequently met with when kairin was used as an antipyretic. He

expressed himself as particularly pleased with the certainty of the action of the remedy in controlling the usual afternoon rise of temperature in cases of phthisis. In this affection it had been claimed that antipyrin was contra-indicated on account of the sweating which it was likely to produce; but in his experience this symptom was as often absent as present in tuberculous patients using the remedy. In one case of pneumonia a dose of twenty grains of antipyrin had caused the temperature of collapse ( $95^{\circ}$ ); but there were no other symptoms of collapse whatever, the patient expressing herself as feeling greatly relieved, and the general condition being perfectly satisfactory. To children he was accustomed to give two doses of a decigramme each for each year of the patient's age; and he had found it a very useful remedy, particularly in controlling the high temperature of scarlet fever.

Dr. PEABODY thought that the lack of effect observed in some cases where antipyrin was given might perhaps be explained by a fact which he had recently seen stated in the German journals, namely: that the drug was now largely adulterated. In his earlier experiments with it he had never failed to produce rapid reduction of the temperature; but during the last six weeks he had been more than once disappointed in obtaining the desired effect. For instance there was now at the New York Hospital a negro with a temperature ranging from  $103^{\circ}$  to  $106^{\circ}$ , and for the past two days he had given him seventy-five grains of antipyrin a day, in three doses, without affecting the temperature the fraction of a degree. At all events, he thought that we did our patients no harm in ordinary cases, in giving this remedy, and he had never once seen it reduce the force of the heart's action. It would, perhaps, be of interest to know that it could be administered hypodermically very readily and without fear of producing injurious local effects. It was very soluble in hot water and had no tendency to recrystallize. In cases, therefore, where it produced vomiting, or other unpleasant results, when given by the stomach, it could be used hypodermically instead. He had tried antipyrin in almost all of the ordinary febrile diseases, and had found that it sometimes reduced temperature when this result could be effected by no other means. Thus, in one very stout young woman suffering from typhoid, with a temperature of  $105^{\circ}$ , where long-continued and often-repeated cold baths had no effect whatever (apparently on account of the thick layer of adipose tissue on the patient's body preventing the influence of the cold reaching the interior), the temperature was promptly reduced by the use of antipyrin. The remedy, therefore, he thought, was unquestionably worthy of being further tested.

Dr. DRAPER said that he had himself adopted the plan of administration suggested by Dr. Weber, and in one case he had found that twenty grains given twice a day had contributed very greatly to the patient's comfort and welfare. All that we could say of antipyrin at present was that it was a very efficient means of treating a symptom. But this symptom was often one of very great importance, and in typhoid fever particularly the long-continued high temperature was liable to constitute

an element of grave danger. By controlling this, therefore, one could unquestionably save the life of the patient in a certain proportion of instances.

#### CLINICAL SOCIETY OF THE NEW YORK POST-GRADUATE MEDICAL SCHOOL AND HOSPITAL.

MEETING of February 7, 1885. Dr. WILLIAM PORTER in the chair.

Dr. WILLIAM H. PORTER opened the discussion with a paper upon

#### SYPHILITIC PNEUMONIA AND PHTHISIS.

After directing the attention of the Society to the contradictory nature of the literature of this subject, he said that his studies, based upon a large number of clinical and pathological cases, tended to show that syphilitic lesions of the lungs, as well as of all the viscera, were far more common than was generally supposed. His records showed a greater liability among females, and that it was often inherited. He thought that fifty, if not a larger, per cent. of all cases of phthisis were of this origin. Its pathological anatomy was distinctive, although it closely resembled that of tubercular phthisis. The characteristic lesion was a decided thickening of the pulmonary tissue, commencing at the apex, and descending with many circumscribed zones of consolidation, which ranged in size from a millet seed to a hen's egg, or even larger. These foci were cheesy in the centre, and sometimes became softened and formed cavities, but were more frequently encapsulated as they expanded. The capsule was composed of highly vascular and concentrically arranged layers of fibrillated connective tissue, and the walls of all the bloodvessels were greatly thickened by a peculiar hyaline metamorphosis. The walls of the vessels were not involved in true tubercle.

The symptoms of syphilitic pneumonia or phthisis were a mild cough with copious expectoration, dyspnea, hæmoptysis, great loss of strength, but little or no emaciation, and, as a rule, little or no rise of temperature, even when cavities were formed. There was a peculiar tenderness of the sternum and of the tibial crests, which he regarded as pathognomonic of syphilis. The physical signs were peculiar and diagnostic. Inspection showed that all the accessory muscles were forcibly contracted upon a forced inspiration. Palpation revealed an increased vocal fremitus, and varying degrees of dullness were made out upon percussion. Prolonged and harsh respiratory murmurs, with a decided interval between the sounds of inspiration and expiration, and often broncho-vesicular breathing, which closely resembled amphoric breathing, with an absence of both dry and moist râles, but the evidence of cavities, when present, were distinguishable upon auscultation.

The diagnosis was based (1) upon the abundant mucopurulent expectoration without any sign of softening, (2) Upon the weak and debilitated condition and a good rational history of phthisis, but with a good physique, (3) Upon the pronounced

dyspnea without the evidence of either cardiac or pulmonary obstruction to the circulation. (4) Upon the peculiar tenderness and reaction to pressure upon the sternum and crests of the tibiae. (5) Upon the unique train of physical signs. (6) Upon the ready response to treatment.

The prognosis, if the trouble was made out early and treated not like ordinary phthisis, was good. He had found the best treatment to be one sixteenth of a grain of the biniodide of mercury, with five to ten grains of the bromide of ammonia and ten to twenty of the iodide of potassa, at each dose. This should be given three times a day. The ammonia appeared to act upon the other two elements in the prescription just as a thorough trituration did upon calomel, namely, it appeared to increase their power, and consequently it was possible to do with a smaller dose than would otherwise be necessary.

He grouped his conclusions under six distinct classes:—

(1) *Etiology*: the pulmonary lesion attributable to syphilis was very common, more so in females than in males; the largest number of cases were between the ages of twenty and fifty, and it was more frequently inherited than acquired.

(2) *Pathology*: it was more frequently found at the apex than at any other single point in the lungs; that both lungs were usually involved at the same time; in the early stages it was a pneumonic process, but later formed cavities and assumed a phthisical type; that there was a strong resemblance, but a positive and readily appreciable difference, between the syphilitic and tubercular lesions, both gross and microscopic. There was a positive anatomical difference between miliary tubercle and syphilitic gumma tubercle, the latter having a definite capsule with thickened bloodvessels, and a tendency to become encapsulated and enlarged, which was never the case with miliary tubercle.

(3) *Symptoms* were peculiar and distinctive: the rational signs were often those of ordinary phthisis, while the physical signs were negative and not pathognomonic.

(4) *Diagnosis* rested mainly upon the peculiar rational history and physical signs, the extreme dyspnea and periosteal tenderness, and the absence of an increased temperature.

(5) *Prognosis* depended upon the recognition of the condition in its early stages and the plan of treatment pursued; very severe cases could be improved if not cured.

(6) *Treatment* should be antisiphilitic; no other would be of any avail, and many cases were not apparently affected by the iodide of potassium alone, but rapidly improved under the combined action of the biniodide of mercury with the iodides of ammonia and potassa.

Dr. ELLIOTT said that since the discovery of the bacillus tuberculosis by Koch, nearly all observers who had been at all careful in their methods of technique had succeeded in finding the microbe and in isolating it, so that they satisfied themselves that it had a separate identity. Others who were less careful in their methods of examination had found the bacillus, as they claimed, in various indefinite fluids, as water, normal sputa, urine, and expectoration from various forms of lung disease, and on

the strength of such cursory investigation had at once denounced Koch and his germ.

While careful observers were satisfied as to the identity of this germ, they were not agreed as to the part it played in the specific disease, tuberculosis. There was a tendency on the part of extremists to make us believe that many or nearly all cases of chronic phthisis were tuberculous, that nearly all enlarged glands were tubercular, and in no department were they so sanguine as in the chronic suppurative diseases of bone. They classified all cases of carious inflammation, of suppuration of the vertebrae, or in the bones of the joints, as distinctly tubercular, and would have the diagnosis based upon the discovery of one or two bacilli in an examination of from thirty to forty specimens. It seemed to him to be as unreasonable to classify all suppurative diseases of bone under the head of tubercular as it would be to so class all the chronic diseases of the liver.

But we know that the liver is subject to syphilitic infiltration, fatty degeneration, or to tuberculous deposit; was it not possible that the same variety of diseases could be engrafted upon a diseased bone? This seemed to be the more probable since recent histological researches had demonstrated that bone was similar to connective tissue, in which particles of mineral matter had been deposited, and like connective tissue it had its vascular and nervous supply; on this account, therefore, if on no other, it would be unreasonable to place all its affections in the category of tubercular. Of course this condition could be engrafted upon a suppurative disease of bone just as it might become the sequelae of acute lobar pneumonia, where resolution failing to take place an abscess formed and hectic and tuberculosis were developed. The autopsy in these cases showed that minute miliary tubercles were deposited about the abscess and sometimes in the other lung.

Extremists claimed that in all cases of chronic bone disease (suppurative) the bacillus tuberculosis was present and that in cases that tended to a cure they became encapsulated, but if a general tuberculosis intervened they escaped from their bondage and were carried to distant parts of the body.

Most cases of caries, however, recovered under the present modes of treatment; in fact, the general tendency was to recover. Not so, however, in former times when the more imperfect modes of procedure in these cases often enabled a tuberculosis to be set up and owing to imperfect nutrition and hygiene to cause awful havoc before its inroads were even suspected. Of course the condition incident to caries predisposed to tuberculosis. In our laboratories with their imperfect arrangements and uncertain methods consequent to the undeveloped state they were in we could not expect to refute the pathological findings of the completed and finely furnished laboratories of Europe. We should have to wait for more careful methods of examination, and for better facilities for checking and comparing our results with those obtained under these older and more complete advantages for the prosecution of pathological research. We should wait too, before accepting these views as absolute, until all the evidence was in our hands, which was not now the case. Competent observers must succeed in isolat-

ing the microbes and inoculating and so producing the disease before we would be able to say that the evidence was sufficiently strong to compel a universal acceptance of the theory. If this were done, he did not think that tuberculosis, especially in bone disease, would be found to be as common as many of the German observers would have us believe.

Dr. A. H. SMITH had had no personal experience with intra-pulmonary injections but was watching some cases on whom he proposed trying it. He considered that it was always desirable to watch a case upon whom it was intended to try a new remedy for some time before the exhibition of the drug, in order to appreciate the tendency of the disease.

Dr. M. PUTNAM JACOBI had treated a case of phthisis in this way some three or four years ago. There was a large cavity under the left clavicle and signs of softening in the right lung. The emaciation was extreme and the patient had been suffering for several years. It was impossible to say whether anything was accomplished by the treatment as the patient soon succumbed to the disease.

The needles were larger than those used by Dr. Phillips but they were never introduced the whole three inches of their length. Four to five days were allowed to elapse between the operations. There was very little pain experienced, and iced cloths were immediately applied over the seat of puncture, as it was feared that a pleuritic inflammation might be set up. The patient raised a little blood after one of the injections but whether she had previously been subject to hæmoptysis did not appear in the history. It was evident that the injections if they had no beneficial effect did no harm.

Dr. S. S. BURR had occasionally seen a case of phthisis which seemed to be of syphilitic origin, but he had not found anything like the proportion indicated in the paper of the evening. He did not see the cases that came under his observation very early in the disease, as the patients when they came to a hospital were usually in the third stage. He did not consider that phthisis ever developed from acute lobar pneumonia unless tubercle were present, but he recalled one case in particular where an abscess and cavity had developed under the right clavicle after a pneumonia. He did not consider that the disease was directly inherited but that the bad constitution which might predispose to its inroads might be. After the tubercles were developed our resources were very limited. He could only palliate the cough, give nourishing food, and suit the climate to the conditions of the case in hand. He considered it a mistake, however, to send advanced cases away, as many undertook the journey in search of health only to die soon after their arrival at the selected locality. He considered the division into three stages as entirely arbitrary and thought that two stages, those of consolidation and excavation, would answer the purpose as well if not better.

In the prognosis other things should be taken into consideration besides the physical signs. If the pulse was good and the fever slight, even though there was considerable consolidation the patient might be sent away with the prospect of some if not considerable benefit, but if with slight amount of consolidation there was present also a very weak pulse

and a good deal of fever then the prognosis was bad.

Dr. WM. M. LASZYNSKY, during a three years' experience in an asylum for the insane, had seen a number of cases of phthisis among the inmates, who, although excavations had taken place, had no rise in temperature: in fact, none of the rational symptoms of the disease, all seeming to be masked in the mental derangement. After death, however, the autopsy would show that they had been fairly well advanced in the disease.

Dr. J. M. W. KITCHEN had studied the disease entirely from a clinical standpoint, which in this day of pure culture and microscopical investigation was not very fashionable. His consideration of the subject had however led him to some pretty definite conclusions. He thought that the causes might be said to be three: predisposing, intermediate, and direct.

He was agnostic with regard to the direct cause, but did not consider Koch's theory proved as yet.

The predisposing cause was malnutrition in every case, while the cause of the malnutrition might be congenital, such as an anatomical malformation, as in a lung that was too large or too small; or it might be immediate, as in syphilis; or the cause of the malnutrition might rest with the heart or the nerves. He believed in hereditary habit and in an inbreeding of consumptives for generations, so that the descendants of phthisical parents, when exposed to direct cause, readily developed the disease. The intermediate cause he considered to be dependent upon an active or passive congestion, so that pulmonary phthisis was set up in a tissue that was in a bad state of resistance. Of course this was merely observation: he had no actual proof. He also considered catarrhal pneumonia as an intermediate cause, because when a lung was in this condition it soon became badly nourished and then could readily acquire tuberculosis, but tuberculosis might be present before the pneumonia. He had no faith in local applications in the treatment of this difficulty. It was, in fact, almost impossible to make any applications to the lungs in such a way as to exercise any curative influence, and he believed that the proper method was to build up the system as much as possible in the hope that a cure would follow as the resistance of the tissues was improved. He was himself an example, probably, of a cured case of phthisis, as several years ago he was told by several prominent physicians of the city that he was suffering with the disease. He had immediately started with the ideas of treatment just indicated, going to the country and working in the air among the flowers, etc., in order to place his system in the best possible condition to resist the progress of the disease and he was convinced that his recovery was due to this régime. He did not believe that there was any specific cure for phthisis even though it should be proved to be a specific disease.

Dr. Jacobi said that it was well known that children as a rule experienced a certain amount of immunity from the disease in question, as far as the lungs were concerned. Loewick found only one case in adults where the lung was not affected, while out of three hundred and twelve cases of phthisis in children, collected by Rilliet and Barthéz, forty-

seven were found with the lungs intact. This was in correlation with the theory which considered the infection of the lung as secondary to tuberculosis of the bone which was such a common condition in early life. Ineter advocated that one out of twenty cases might be averted by scraping the bone. Those who opposed this theory noticed how often caseous infiltration was present, and how many scrofulous children there were in whom phthisis did not occur. This was no argument, however, for tuberculosis could be just as well confined to external manifestations without any complicating visceral lesion as could syphilis. The exciting cause was frequently a broncho-pneumonia, though in some cases undoubtedly the infection was first received by the glands.

DR. A. H. SMITH said that it seemed to him, to go back to the question of syphilis being a frequent cause of phthisis, that the study of the latter disease in rural districts remote from our large cities, where syphilis was not and had not been known for generations, such regions being quite in the range of the possible, would militate against the theory. Often, in these districts, phthisis prevailed perhaps to as great an extent as in the cities. He knew of a place where the population consisted of well-to-do farmers, whose ancestors had settled there a hundred or more years ago, and who had descended from that original stock with scarcely any admixture with other blood, where, although syphilis had been unknown for years, the great destroyer of life was phthisis.

He considered that malnutrition lay at the bottom of the development of the tuberculous condition, and he also considered that one factor having much to do with this malnutrition was ventilation, and he thought that any one who was familiar with life in the country would agree that, paradoxical as it might appear, while they had all outdoors to live in, they paid little or no attention to the proper ventilation of their dwellings and sleeping-apartments, living in reality in worse atmospheres than usually obtained in our large cities, and this caused, in his opinion, many of the pulmonary complaints which existed in those localities.

As bearing upon this subject, as well as upon a specific cause for the trouble, might be mentioned the fact that in many sections where phthisis had not existed, prior to their becoming resorts for such cases, the disease had now become indigenous to a greater or less degree. This was the case, he had been told, in Colorado, and the same thing was also shown in some of the South Sea Islands, where phthisis was absolutely unknown among the natives until the advent of Europeans, since when the disease had developed without any blood-admixture of the two races. It would, therefore, seem as though some specific germ was transported from place to place, and, having once obtained a foothold, remained to work its terrible results.

He thought the disease was much more prevalent than in former times. We constantly saw evidences in the post-mortem room of cavities that had healed over, in some cases finding the crustaceous remainders, the *debris* that had undergone chalky transformation, and any one whose professional experience extended back over a number of years could

undoubtedly recall cases of unquestionable phthisis that either entirely recovered, or, after living a number of years, died of some intercurrent complication. So far as treatment was concerned, he thought that putting aside the intrapulmonary injections, which could have only very limited application: that was to say, an application confined to those cases where the phthisis was limited in the amount of lung tissue involved, or in the case of cavities where there was but one, for the reason that we could not follow up a diffuse phthisis by a multiplicity of injections in widely separated portions of the lung: the treatment had to lie in the direction of the improvement of the nutrition in every way possible, and it seemed to him that a systematic study of the methods of improving the nutrition would cover pretty much the whole treatment of the disease. He did not think we had any specific remedy or treatment.

DR. S. J. MCNETT said that he had consulted the principal American and many German authorities to ascertain if they said anything about therapeutic resorts in the treatment of the disease in children, but had found that they all passed the subject over with the simple statement that the indications were the same as in adults. In fact, there seemed to be nothing peculiar in the indications for the treatment of the disease in children. Loomis probably had given more attention to the general subject of health resorts and the general climatic treatment than any other American author. He advanced the well-known rules with regard to sending away patients with this disease and added that the same general indications should be observed in regard to children born of phthisical or decrepit parents. Change of climate and surroundings was often of the greatest importance to them. He knew of no such powerful agent in arresting phthisical tendencies in childhood as systematic physical exercise in the open air. This physical training should be begun in infancy and continued to adult life. All the influences that tended to the development of hyperemia of the bronchial tubes, including impure air, should be avoided. Climate, more than anything else, in his opinion, had a controlling influence over the development of phthisis, except when the disease was tubercular. We know of no locality, however, that exercised an absolute curative effect, or where a person was absolutely free from danger of contracting the trouble; although it was formerly supposed that altitude exercised this power, it was now proved to the contrary, immunity being due only to the absence of the organic germs. Tubercular phthisis was not, as a rule, benefited by the change, and these patients did better in their own homes than anywhere else, but, in cases of the fibrous variety, high altitudes, such as Colorado or the different resorts in the Rocky Mountain range, appeared to be peculiarly beneficial. In the catarrhal form great care should be had when recommending a change of air. High altitudes were apt to prove rather a detriment than an advantage to such cases, owing to the liability they labored under of having attacks of hemorrhage. He did not think it was ever necessary to send patients out of our own country as we could find every variety of climate within its boundaries. In reply to a per-

sonal question, Dr. Loomis had said that he knew of no locality that seemed to have such a beneficial effect upon children with this complaint as the Adirondacks. Coates called attention to the fact that in persons whose respiratory muscles were weak phthisis was apt to be developed. This view was supported by the fact that persons living in high altitudes, where the air was quite rare, and where, consequently, greater respiratory exertion was necessary, seldom showed signs of succumbing to phthisis.

If phthisis could be shown to originate in imperfect expansion of the lungs, this fact would, in its turn, support the theory of a specific virus as an ultimate cause; because if the air stagnated, the germ would have the opportunity to remain in the lung and develop. Koch had found that the bacillus was of slow development at first, so that the absence of positive signs during a considerable period of its development was not at all remarkable.

Dr. F. R. STRINGS did not consider syphilitic phthisis a common affection. It was to be distinguished from the phthisis of tubercular origin by the absence of emaciation and hectic. There was usually some impediment to the respiration, and perhaps slight pain. The cough, if present, was slight. If the infiltration was diffuse it was disseminated through the lower and middle thirds of the lung. Given diffused dulness in the lower third of the lung in any case without emaciation or fever, and with slight cough, he would suspect syphilis as a cause. If the affection were circumscribed a cavity might be formed which would contain either some pus or a mucilaginous tenacious matter, such as is found in gummatous infiltrations elsewhere. Hemoptysis rarely occurred, and under treatment the lesion healed; a cicatrix remained, and of course respiration was absent in that part of the lung. The speaker remembered a case in Charity Hospital which had hemiplegia, together with a tubercular crustaceous syphilide of the skin. The patient took five hundred grains of potassium iodide daily, under which treatment he improved and the hemiplegia disappeared. The dose was then diminished to three hundred grains per diem, when an attack of dyspnea occurred without expectoration, cough, or fever. There was no elevation of temperature, but physical examination showed consolidation in the middle third of one lung. The chlorides were not absent from the urine. The patient resumed the use of the five hundred grains of the iodide, and in three days the lung had cleared up. In children, pulmonary syphilis was usually diffused and not circumscribed. He had not found this syphilitic affection of common occurrence considering the great number of adults who had had syphilis; indeed, he believed that a large proportion of male adults had syphilis at some period of their lives. The ratio of the hereditary cases was small as compared with that of the acquired disease. The speaker did not consider that the resolution of a given lesion under the use of the mixed treatment was any proof of a syphilitic origin, as both mercury and iodide of potassium had the property of causing absorption of infiltration from whatever cause, as witness the use of large doses of calomel in pneumonias of non-syphilitic origin.

(To be continued.)

## Recent Literature.

*A System of Practical Medicine.* By American Authors. Edited by WILLIAM PEPPER, M.D., LL.D., assisted by LOUIS STARR, M.D. Vol. I., Pathology and General Diseases. Philadelphia: Lea Brothers & Co. 1885.

This work, which we understand it is proposed shall consist of three volumes, "has been undertaken," the editor's preface tells us, "in the belief that by obtaining the coöperation of a considerable number of physicians of acknowledged authority, who should treat subjects selected by themselves, there could be secured an amount of practical information and teaching not otherwise accessible." It was determined to restrict the selection of authors to those of this country because "it was felt that the proper time had arrived for the presentation of the whole field of medicine as it is actually taught and practised by its best representatives in America."

The chief purpose of those collaborating for the production of the work has been, it is announced, to furnish a concise and thoroughly practical system of medicine. Bibliographical lists, references, discussions of theoretical views or of controverted questions, and even illustrations have been curtailed as far as possible, in order not to defeat this object. The classification and nomenclature adopted are those recommended by the Royal College of Physicians of England and by the American Medical Association.

Under General Pathology and Sanitary Science, Prof. R. H. Fitz deals with general morbid processes, in nearly one hundred pages, which reflect the work and the views of the German pathologists; and Drs. Henry Hartsorne, J. S. Billings, and Mr. George E. Waring follow in much shorter articles upon general ætiology, medical diagnosis and prognosis, hygiene, and drainage and sewerage in their hygienic relations.

Under General Diseases a variety of writers of more or less national reputation deal with infectious and contagious diseases—the old "zymotic" class. It would be impossible to attempt an analysis of any number of these articles which together occupy 800 octavo pages, and where there is so much that is good it is almost invidious to distinguish one or two. But we think Dr. J. H. Hutchinson's article on typhoid fever, which occupies one eighth of the whole of this portion of the volume, may fairly be selected for especial praise. The editor, Dr. William Pepper, furnishes an elaborate article on Relapsing Fever, having for its domestic inspiration an epidemic which presented itself in Philadelphia during the years 1869-70, when the writer had an opportunity of observing two hundred cases in the wards of the Philadelphia Hospital, but the article deals mainly with the observations of foreign authorities, as must necessarily be the case in regard to an affection which is fortunately an exotic, and a rare one at that, in this country.

This work is designed for the full-grown practitioner, and this volume will unquestionably prove of value to such. The rest of the work will be awaited with interest.

# Medical and Surgical Journal.

THURSDAY, APRIL 23, 1885.

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CUPPLES, UPHAM AND COMPANY,

283 WASHINGTON STREET, BOSTON, MASS.

## THE CONTAGIOUSNESS OF SCARLET FEVER.

THE melancholy instance, which lately came to our notice, of a physician in a neighboring city, who, according to a fair presumption, carried the infection of scarlatina from his private clientele in town to a parturient patient in the country, from which the latter died in one week after confinement, may serve to put physicians generally on their guard against the danger of being carriers of contagion. It may be said that this result is very unlikely to happen, and there may be physicians who will rise to protest *they* have never had any such experiences! Happy if after carefully reviewing the memories of a long practice they can say this! Certain it is that one such event in a lifetime would be a responsibility too great! And puerperal patients are said to be especially susceptible to the scarlatinous poison.

That scarlatina is an eminently contagious disease no one disputes, and it is a hardly less disputable fact that unaffected individuals who have been in contact with, or in the presence of, persons sick with scarlet fever may communicate the disease through the medium of their clothing. Thomas relates a case in which a nurse, coming directly from a scarlatinous patient, gave the disease to a child who had almost recovered from tracheotomy. Sims also reports instances in which midwives have communicated the disease to lying-in women. In a case mentioned by Palante, a mother communicated the disease to her children, notwithstanding her short sojourn in the infected dwelling and her immediate journey home. Pyle mentions a healthy female teacher who imparted the disease to certain members of her family by the dress which she had worn while nursing a scarlatinous patient. Michel saw a family taken sick upon the return of the father from an infected dwelling, after a seven hours' journey. In the epidemic near Eidsvold in Norway, observed by Thoresen, the intense cold of winter prevented the children from leaving the houses, and the majority of infections (in twenty-four places) could only have taken place through the medium of

healthy individuals. Zengerie states that a healthy woman, after a visit to a person sick with scarlet fever, communicated the disease to her daughter, who was the first patient affected in the whole city.

Similar examples of the transportation of contagion from infected houses by healthy individuals might be multiplied; they will be found in any special treatise on scarlet fever.

The duty imposed on medical practitioners is an imperative one, and consists in the adoption of the same precautions to thoroughly disinfect the person from the virus of scarlatina, when exposure has been necessitated, that would be taken in the event of exposure to the contagium of small-pox, of which the physician would not willingly be the bearer to his patients.

Sulphur fumigations do not constitute an agreeable pastime; the eyes, nostrils, throat, and lungs resent the intrusion of the bactericide vapor, and many persons find it impossible to submit to the ordeal a sufficient length of time to ensure thorough disinfection. It is more than doubtful if fumigation with burning coffee, so often resorted to by physicians for the same purpose, is to be relied on.

On the whole, the following method of disinfection is to be recommended as practical and as giving the physician the minimum of trouble. The clothing worn during attendance on scarlet-fever patients should not be worn while ordinary visits are being made, and is not to be regarded as safe for common use till it has been thoroughly exposed in a close room to the fumes of burning sulphur. A change of outside clothing must, therefore, be made after every visit to a focus of infection.

The hands and exposed parts of the body may be disinfected by washing them in weak solutions (one part to 2,000) of corrosive sublimate, or of Condy's liquor potassæ permanganatis diluted. As far as possible, there should be a stated hour each day for visiting scarlatinous patients, and when called to confinement cases unusual pains should be taken to destroy all virus which may possibly cling to the person. Prof. Léon LeFort recommends washing the hands in spirits of camphor; Van Swieten's solution may be subsequently used. Particular attention should be given to cleansing the nails. The skin of the face, the hair, and beard are not injured by the free application to these parts of liquor Van Swieten, or solutions of camphor, chloral, etc.

The Massachusetts Board of Health, Lunacy, and Charity has just issued a circular on Scarlet Fever. It emphasizes the fact of the contagiousness of this affection and insists on measures necessary for the prompt eradication of the disease when it appears in a community. The first principle of treatment is isolation: the patient must, as far as possible, be kept by himself, in a room separated from the rest of the house. The sick-room should be thoroughly

ventilated. Carpets, upholstered furniture, window-hangings, etc., which cannot readily be destroyed or disinfected, should be removed from the room. The discharges from the throat, nose, and mouth of the patient must be put in a vessel containing a strong solution of some disinfectant. Pieces of soft cloth may be used instead of pocket handkerchiefs and then at once burned. Cleansing gargles for the mouth should frequently be used, such as chlorinated soda or permanganate of potassium. Carbolic acid or bichloride of mercury may be added as a disinfectant to the slops and to the water in which the patient has washed or bathed, before throwing it out. If cosmoline, or sweet oil with a couple of grains of camphor to the ounce, is used for anointing the skin, the scales of epidermis (the principal seat of the contagion) are prevented to a considerable degree from escaping freely into the air; a warm bath daily is also useful for the same purpose. The bedclothes, towels, etc., when diseased, should be placed in a hot disinfectant solution (five ounces of sulphate of zinc and two ounces of common salt to a gallon of water) and boiled for a couple of hours.

Attendants on the sick should be as few as possible, and should not communicate with other persons any more than can be helped. Clothes used in the sick-room should be boiled before being used elsewhere.

After recovery the patient should not mingle with other persons, use lounges, carriages, public rooms, etc., until all roughness of the skin has disappeared, and until he has taken warm baths for several days.

Such are some of the stringent measures adopted by our State Board of Health and recommended to all local boards, and the general statutes of 1884 enjoin definite and specific prophylactic requirements of all physicians in relation to the disease. These sanitary rules are dictated alike by experience and enlightened views as to the causation of epidemics.

#### THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS.

THE American Medical Association will hold its thirty-sixth annual meeting at New Orleans, April 28th to May 1st. The date is a little earlier than usual, on account of the Southern latitude, which already threatens rapidly approaching hot weather. It is now sixteen years since New Orleans was selected for the place of meeting of the Association—years which have brought many changes at the North, but even more at the South.

Many members will undoubtedly find the distance and the expense of time and money impediments in the way of attendance. On the other hand, others will be tempted by the many attractions of the

Southern metropolis at this season, to which the International Exhibition is this year added, to make the necessary sacrifices.

Some important questions of organization, of nomination of officers, of future management of the Association's Journal are likely to come up at this meeting, and it would be desirable that different sections of the country should suitably be represented in the discussions and votes.

The facilities offered by the railway companies for reaching New Orleans from New England and other points have been duly announced in these pages.

#### ANNUAL REPORT OF THE NEW YORK STATE BOARD OF HEALTH.

THE annual report of the New York State Board of Health has just been presented to the Senate at Albany, and from its statistics it appears that during the last three quarters of the year 1884 there were reported to its bureau 56,353 deaths from all causes. Of these, 2,685 were from diphtheria, which has prevailed to a considerable extent in nearly every part of the State; and cerebro-spinal fever, associated with faulty house-drainage, has also shown itself in scattered districts in almost all sections, with a mortality record of 287. Malarial fevers caused 800 deaths, and erysipelas, 209; while there were none from small-pox. Eight hundred and sixty-four fatal cases of typhoid fever were reported, the larger proportion of them occurring in villages and rural districts, and 7,386 from diarrheal diseases.

The Secretary, Dr. Carroll, expresses the opinion that nine tenths of the wells in villages are impregnated with sewage, and that an index to the potential ravages of imported cholera in any given locality may be found in the extent of the endemic presence of typhoid fever and diarrhea; so that any measures adopted for the purpose of repelling the exotic pestilence will be of service in preventing these affections also. Of course, in the face of a possible visitation of Asiatic cholera, the report urges the importance of the energetic and conscientious performance of their duties by local health boards and of the hearty coöperation of town and county authorities with them; the prompt removal of all sources of pollution by decomposing organic filth, and the preservation of the purity of water, soil, and air in general, affording the best chance of immunity from either domestic or imported epidemics.

In reference to malarial affections, the report states that it is a fact placed beyond conjecture or argument that thorough soil-drainage will abate them. Apart from natural marshlands, artificial malarious influences have been created in many districts by the injudicious action of local authorities or private land-owners in obstructing the drain-

age-channels of watercourses, and thus inducing soil-saturation where nature had provided healthful conditions. The influence of defective school hygiene is also commended to the careful consideration of health boards as a matter which concerns the welfare not only of the present, but of future, generations.

#### MEDICAL NOTES.

—A *bon mot* credited to the late Thomas Gold Appleton, in the volume of his memoirs just published, was made to a friend who advised him to consult an aurist for an increasing difficulty of hearing in his later years. "It may be only wax in your ears," said the friend. "Ah, my dear," he replied, "I fear it is not wax but wane."

—The first session of the French Surgical Congress was held in Paris from April 6th to 12th, and passed off in the most satisfactory manner. We are in receipt of a synopsis of the papers presented, which suggests an advantageous imitation by other similar assemblages.

—Three cases of small-pox have been found in Boston lately. One was traced to a sleeping-car, one occurred in an immigrant, and the origin of the third could not be satisfactorily accounted for. The Board of Health has made prompt arrangements for the vaccination of all who apply. The immunity of this city and State from small-pox for the past eleven years offers a very remarkable example of the results of isolation and vaccination, but it emphasizes only the more strongly the importance of protecting the predisposed element in the population which is constantly renewing itself.

—General Grant was able from his past military experience "to put himself in the place" of his medical attendants to good purpose. His reported remark to his physicians savors of true wisdom: "The doctors outside, I am informed, are writing about my case and talking about it, and some of them seem to think they know more about it than you gentlemen do, but it is like a time of war when the men at home think they know more about it and how to do it than the generals who are in the field fighting."

—The *London Medical Times* considers the following the most unfortunate *lapsus calami* which has come under its observation for a long time. The hero of the young lady novelist has succeeded with great difficulty in saving the heroine from falling down the precipitous side of a mountain on which they have lost their way. The heroine has fainted and is apparently lifeless. But to his intense delight the gentleman discovers that the heart still beats "by the pulse in her femoral artery."

—The trustees of the Peabody Fund, in London, announce that when the buildings in course of erection are completed, they will have spent the whole of their capital. Up to the end of last year they had provided for the artisan and laboring poor of London 10,144 rooms, occupied by 18,453 persons. The average weekly earnings of the head of each family in residence at the close of the year was £1 3s. 8½d. The average rent of each dwelling was 4s. 8¾d. per week, and of each room 2s. 1½d. The birth-rate for the year reached 44.60 per 1,000, which is 10.93 per 1,000 above that of all London for the same period. The death-rate, including the deaths of those inhabitants of the buildings who were removed to hospitals, was 19.10 per 1,000, which is 1.24 per 1,000 less than in London. The infant mortality was 138.69 in each 1,000 births, or 13.69 below that of London.

—We learn from the *Maryland Medical Journal* that among the most distinguished and successful female practitioners in London are Dr. Garret-Anderson, a sister of the wife of the late Professor Fawcett, and Dr. Arabella Kenealy, a daughter of the late Dr. Kenealy, of Tichborne litigation fame.

#### PHILADELPHIA.

—The past few weeks have been quite eventful in medical circles. The Jefferson Medical College held its fifty-eighth annual commencement on the 2d inst., at noon, graduating 176 candidates for the degree of M.D. Upon this occasion also the honorary degree of LL.D., was conferred upon Dr. Austin Flint, Jr., of New York. The Medico-Chirurgical College held its commencement on the same day, in the evening, graduating a class of five. The Medical Department of the University of Pennsylvania will hold its one hundred and seventeenth annual commencement on the first of May. It is said that the graduating class this year is a comparatively small one. The vacancy created by the resignation of Professor Mallet from the Jefferson Faculty has not yet been filled, but it is loudly whispered that, of the eight or ten who have been named for the position, the favorite candidate is Dr. J. W. Holland, of Louisville, Kentucky, who was the orator of the Alumni Association this year, and delivered a charming address two weeks ago in that capacity, taking for his subject "Our personal equations." He is a graduate of Jefferson College of 1868, and, it is said, had taught medical chemistry for ten or twelve years before taking his present position in the Louisville school. There is a strong feeling in the Faculty against the selection of a pure chemist, one who is not, at the same time, acquainted by actual experience with the problems of applied chemistry as they appear in the practice of medicine. At present it looks as if Professor Holland were to be the coming man.

—The vacancy in the Faculty of the Medical Department of the University caused by the resignation of Prof. Harrison Allen, from the chair of Physiology, will not be filled for the present, and the trustees have appointed Dr. E. T. Reichert to lecture temporarily upon that subject. Permission has been obtained for the erection, in connection with the newly formed Veterinary Department, of a building containing an amphitheatre and stalls for sick animals.

—The College of Physicians (not a medical school but a medical society) has finally secured sufficient funds to place a third story upon the well-known structure at Thirteenth and Locust Streets. The work will begin next month. The improvements are estimated to cost nearly thirty thousand dollars, most of which was subscribed by Fellows of the College. The very rapid growth of the library and the necessity for providing increased accommodation for the valuable Mütter Museum has led to this step.

—The Annual *Conversazione* (the first of the series) of the College of Physicians was held on the 16th inst., and was a signal success. A number of distinguished guests were present from New York, Washington, and elsewhere, as well as from this city. The entertainment comprised a microscopic display, a lantern exhibition, a demonstration of the effects of snake-poison upon the tissues of animals; the whole concluding with a social entertainment and a supper.

—The Semi-annual Conversational Meeting of the Pathological Society was held on the 17th inst., when Major George M. Sternberg, M.D., of Johns Hopkins University, delivered a lecture upon "Micrococci," which was followed by a supper at the Social Art Club. Among the events of the week we would also mention particularly the meeting of the Medical Jurisprudence Society on the 13th inst., when Clark Bell, Esq., of New York, gave an able exposition of the laws relating to the insane who commit crime, in his paper entitled "Shall we hang the insane who commit homicide? A criticism on the execution of Dr. Beach." A spirited discussion followed the reading of the essay, and some needed reforms in the practice of our courts of law were strongly urged.

—Dr. Frank Woodbury has been elected to the chair of Therapeutics, Materia Medica, and Clinical Medicine, in the Medico-Chirurgical College of Philadelphia.

—The County Medical Society has been quite active of late. Through its Committee on Hygiene and the Relations of the Profession to the Public it has at length taken steps toward the prosecution of illegal practitioners of medicine, with which intent it has chosen a legal adviser, and has instituted a series of public lectures upon hygienic topics. Dr. E. O. Shakespeare discoursed on Cholera; Colonel

Ludlow, chief engineer of the Water Department, delivered a lecture criticising the present water-supply and recommending certain improvements, and Dr. A. L. Gihon, United States Navy, gave the third lecture of the series last Saturday evening (18th inst.) upon "Sanitary ignorance among the high and low." This course of lectures is attracting large audiences and is calculated to do much good. At the same time the City Board of Health is keeping up interest in matters relating to the public health by its efforts to improve the sanitary condition of the dark places of the city. Twenty-five inspectors are now making house-to-house visitation and their progress is daily published by the newspapers, which enliven their reports with many interesting and suggestive incidents of the work.

—The public lectures on Nursing, by Miss Fisher, at Blockley, are still in progress, and have been nearly as popular as the preceding course upon Accidents and Emergencies, attendance upon which was quite the mode among the ladies.

—Although our City Councils reprimanded the chief engineer for publicly maligning the present water-supply, in the lecture before the County Medical Society above referred to, he has ably defended himself and has shown by analyses that it would be almost impossible to speak of it in sufficiently uncomplimentary terms. In this connection, it is worth noting that the Legislature has just passed an act creating a loan of three millions of dollars for the improvement of the water-supply of Philadelphia, a bill which it is hoped will be promptly signed by the Governor. The Legislature is also considering a bill creating a State Board of Health with a strong presumption in favor of its final adoption this session, as it has already passed the Senate.

## Correspondence.

### A CONSIDERATION OF EXTRAVAGANCE IN THE USE OF ETHER.

Is an editorial<sup>1</sup> entitled "Extravagance in the use of ether," two statements occur: "The great bulk of the drug usually required is a bar to its universal adoption." "The amount which a man in civil practice must carry with him is quite a burden to one accustomed to the small amount of chloroform needed to obtain the same result." These sentences, with many similar occurring in Dr. Burrell's paper,<sup>2</sup> and the discussion upon it are not what one would expect to find emanating from the cradle of anesthesia by ether. A general ignorance seems to pervade the professional mind on the subject of ether inhalation. Men who have employed the drug during years of practice are unconscious of the results which by proper use can be attained. They submit meekly to the statement of the chloroformists that the enormous sacrifices of time, coupled with the uncertainty in producing anesthesia are not compensated for by the extra safety, which in reality is only problematical. They hear it urged that accidents occurring can easily be

<sup>1</sup> Boston Medical and Surgical Journal, February 8, 1884.

<sup>2</sup> Boston Medical and Surgical Journal, January 25, 1883.

foreseen, and are generally traceable to some error in judgment, or want of care in administration, while they tacitly agree that chloroform is more agreeable to the patient. These assertions, with the exception of the last, which for the moment I concede, can be met by a general denial. The time necessary to produce anesthesia by ether, properly administered, in the most approved manner, is as short as that required for chloroform. The extra safety is beyond argument; statistics, though unsatisfactory, are convincing on this point. Accidents occurring are not due in many cases to any want of care or foresight. Fatalities in the hands of Snow, Clover, and Simpson, with other eminent anesthetists, disprove the assertion. These points, with others in controversy, I endeavored to contrast in a brief article<sup>3</sup> on the subject, illustrating the fact that fatalities in chloroform administration are often unprececeded by any warning. Dr. Burrell gives eleven propositions, which he thinks will be acceptable to all; and, with the exception of the ninth, in which I would reverse the order of premonition, they may be taken for granted. Amongst the questions on which there might be a difference of opinion is "the comparative values of a sponge, towels, and inhalers." This is really the point of importance in the controversy. While Dr. Burrell's proposition that the best medium of administration is "one in which ether can be given in a condensed form, or largely mixed with air," is practically true, the essence of effective anesthesia by this drug is its administration in as concentrated a form as possible. This can only be accomplished by a properly constructed apparatus or inhaler; and there can be no comparison between such an instrument and the sponge, cone, or towels. Such a statement only requires practical demonstration to convince the most incredulous; and yet, not one gentleman who joined in the discussion seems to have had any impression made on him, except Dr. Bradford, who had seen Clover administer gas and ether effectively and without a struggle. The proposition that the less ether used during the operation the more rapid will be recovery and successful the result is incontestable. Stress should also be laid upon the necessity of briefly describing to every adult what the primary sensations of an anesthetic are. Absolute quiet in the surroundings is of great importance. I have frequently seen violent and painful struggling during the semi-conscious stage follow some loud remark or laugh from some one present. I will premise my observation by assuming the position that the only rational method of giving ether is by a suitable inhaler. Most anesthetists aim at certainty and safety in effect, with power to indefinitely prolong the anesthesia; rapidity of action and economy in the quantity used. The only way to meet these conditions is by mechanical apparatus. No towel, or napkin, or sponge, with newspaper cone added, can do it. There is no certainty of producing anesthesia; the time occupied is relatively to the operation often much greater. The quantity of ether used is out of all proportion to the necessity of the case; and, in the words of the leading article, its high diffusive power will affect the olfactory nerves of a neighboring practitioner. The perfect method of giving ether is that where nitrous oxide gas is first administered; but as this is only obtainable in cities, and then not always with convenience, some of the main disadvantages, where ether is used alone, must be met and overcome. As I have elsewhere stated, the requisites for an efficient ether inhaler are: simplicity in construction, compactness, and portability; the delivery of the greatest amount of vapor, with the least compatible quantity of atmospheric air. Clover's small inhaler and Ormsby's pocket inhaler are equally effective; but the simplicity, compactness, and

portability of the latter render it much superior. Some object to the inhalation of concentrated ether vapor, where the same air is continually respired, on the ground that the anesthesia is in reality modified asphyxia. I have on many occasions maintained complete unconsciousness for more than an hour, and cannot remember even an unpleasant symptom which was traceable to this cause. Space does not permit a detailed description of Ormsby's inhaler. The principal points are: a flexible metallic face-piece the base of which is fitted with a rubber air-tube to assure accurate approximation; a wire-net cone containing the sponge for ether; and a stout rubber bag enveloping the cone, into, and from, which the patient breathes through the sponge. The apparatus can be taken to pieces in a moment, and its construction will admit of the most thorough cleansing. Dr. Burrell objects to a sponge in any form; but the small piece required for this instrument will enable him to procure a new one after suspicious cases. The inhaler does not easily get out of order, and parts can be readily replaced. The admission of air is regulated by a revolving cap over an air-tube, which, as it turns, covers or exposes a slot. This is under the control of the anesthetist, and is not open to Dr. Burrell's objection (with which I most fully concur) against "automatic valves." The instrument which will be most successful in the hands of an operator is that to which he has been accustomed; yet, while I am prepared to admit that excellent and indeed equal results can be shown for other inhalers, I believe that this has many points of superiority. Having administered ether by its means considerably over one thousand times, with patients of all ages, and also had complete anesthesia produced with it on myself on three occasions, I think I can point out how the best results can be most readily obtained. As noted in the JOURNAL, there are certain classes of patients, who with any management will always give trouble, included in which are the so-called "hysterical women," hard drinkers, and young children. In the first two, I believe that, after a slight degree of unconsciousness is produced, it will generally be necessary, and always advisable, to use restraining force; and I agree with the author that, where young children are the subjects, it is more humane to do so. I will suppose that the patient to be anesthetized is an adult, and that the case presents no marked peculiarity. Having taken the ordinary precautions prior to, and at, the time of administering an anesthetic, the inhaler is prepared for use by inflating the air-tube attached to the face-piece and replacing the sponge, first thoroughly expressing the water in which it has been soaking. Telling the patient that there is no ether in the inhaler, place it over the mouth and nose, and moulding it to fit, briefly describe the sensations he is about to feel. I insist on his keeping the mouth shut, and breathing only through the nose, taking slow and easy inspirations, and avoiding, as far as possible, using the full capacity of the chest. From personal experience I have found this the only way to obviate the very distressing cough and awful sense of suffocation that is the greatest disadvantage with ether inhalation. As we ordinarily see, the patient is urged to take deep inspirations, and the irritant action of the vapor, as it passes over the laryngeal mucous membrane at once excites spasms, the effect being increased by its concentration when an inhaler is used. Having gone through these preliminaries, remove the instrument and pour one ounce of ether on the sponge, replace it with the air-slot wide open. An assistant should secure the wrists of the patient, not pinning them down, as Dr. Derby's "medical spectator" would do, but having sufficient control to prevent the net or rubber bag of the apparatus being torn. In about twenty-five or thirty seconds cut off half the air-supply, and shortly after close the slot, so that the same ether-charged air is breathed

<sup>3</sup>Philadelphia Medical and Surgical Journal, January and February, 1884.

and rebreathed. At this stage, the patient has usually become so far unconscious as not to recollect events, and so any struggling or remarks may be treated as the acts of an irresponsible being. Coincident with the advent of anaesthesia, the rubber bag becomes fully distended on expiration, rising and falling, slowly and regularly. The eye of the administrator should be fixed on the chest, the fifth finger of either hand can be kept on the temporal artery; but long before serious cardiac symptoms appear the irregularity in respiration will have attracted attention. If more ether is required, it should be added in quantities of four drachms, and when anaesthesia is to be prolonged beyond half an hour, it is advisable to remove the sponge, and squeeze it dry before replacing, repeating the process every thirty minutes as it becomes saturated by condensation of the vapor exhaled by the lungs. The average time required to produce anaesthesia is about two minutes. The average quantity of ether employed one ounce, while two ounces will frequently maintain perfect insensibility for twenty-five or thirty minutes. I do not know of any method that surpasses these results, and there are certainly very few that at all equal them. I prefer to anesthetize with the patient on the back; for many reasons it is most convenient. A small towel or napkin, resting under the right hand of the anaesthetist, is necessary to remove any mucus which, coming to the orifice of the mouth, may be expectorated into the inhaler. The head, neck, and throat should be on a gentle incline, so as to keep the thorax straight: this is best attained by means of a

pillow under the shoulders. Without dwelling on the ordinary details which must be observed where ether is used, I would lay great stress on the following points:—

(1) Impress the patient that he is to respire gently, breathing only through the nose.

(2) Always measure the ether used, and avoid pouring the fluid haphazard on the sponge.

(3) Remove the sponge at intervals of thirty minutes, and express the accumulated fluid.

Having entered at some length into the question of rapidity and certainty of anaesthesia, and pointed out the effects that can be produced, I wish to add a word on the subject of "bulk," which the editorial dwells on as a prominent disadvantage. I had recently a case made for the inhaler: it is of leather, just large enough to contain the instrument. It represents, when closed, a flattened, conoid figure, opening at the base with a lid. The measurements roughly are: greatest length, 7 1-2 inches, breadth at base, 5 1-2 inches, at apex, 3 1-2 inches, diameter at base, 3 3-4 inches, at apex, 2 inches. In addition to the inhaler, it contains an ounce measure, a spare rubber face-piece, and a reservoir holding twelve ounces of ether. These are merely rough models, which I hope soon to give to the profession in a finished form. Meanwhile, I would suggest that in the face of the foregoing figures and facts some modification can be made in the editorial strictures. Very respectfully yours,

JAMES H. PARKINSON.

SACRAMENTO, California.

# REPORTED MORTALITY FOR THE WEEK ENDING APRIL 11, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrheal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	740	280	15.96	24.64	2.38	5.06	2.10
Philadelphia . . . . .	927,965	437	150	15.41	12.65	.69	7.36	2.29
Brooklyn . . . . .	644,526	—	—	—	—	—	—	—
Chicago . . . . .	632,400	—	—	—	—	—	—	—
Boston . . . . .	125,890	225	73	13.20	22.00	2.64	4.40	2.64
Baltimore . . . . .	408,520	153	52	8.45	11.70	—	1.95	1.30
St. Louis . . . . .	100,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	79	33	16.38	12.66	3.81	3.81	1.27
District of Columbia . . . . .	191,310	78	29	17.52	19.20	1.28	3.81	5.12
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	112,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	28	6	—	14.28	—	—	—
Nashville . . . . .	54,400	16	5	6.25	18.75	—	6.25	—
Charleston . . . . .	52,286	31	9	6.42	3.21	3.21	—	—
Lowell . . . . .	71,417	20	6	29.00	10.00	—	—	—
Worcester . . . . .	69,442	26	12	38.50	21.75	3.85	19.25	—
Fall River . . . . .	62,674	36	15	19.51	—	—	11.12	—
Cambridge . . . . .	60,955	24	9	17.40	26.10	4.35	4.35	8.70
Lawrence . . . . .	45,516	17	7	11.66	5.88	—	5.88	—
Lynn . . . . .	41,895	17	3	—	23.55	—	—	—
Springfield . . . . .	38,690	20	7	25.00	10.00	—	10.00	—
Somerville . . . . .	31,350	15	2	13.33	26.66	—	13.33	—
Holyoke . . . . .	30,515	19	10	26.30	15.78	5.26	10.52	5.26
New Bedford . . . . .	30,144	21	7	14.28	28.56	—	—	18.18
Salem . . . . .	29,503	11	1	18.18	18.18	—	—	—
Chelsea . . . . .	21,347	14	3	14.28	28.56	—	7.11	7.11
Taunton . . . . .	22,693	7	2	14.28	14.28	—	—	—
Gloucester . . . . .	21,400	6	4	—	11.11	—	—	—
Haverhill . . . . .	20,905	3	1	—	33.33	—	—	—
Newton . . . . .	19,121	6	0	16.66	16.66	—	—	16.66
Brookton . . . . .	18,323	—	1	—	—	—	—	—
Malden . . . . .	15,273	6	1	16.66	33.33	—	—	—
Newburyport . . . . .	13,947	4	0	—	—	—	—	—
Newbury . . . . .	13,433	7	5	14.28	—	—	11.28	—
Waltham . . . . .	13,568	3	1	—	33.33	—	—	—
Northampton . . . . .	13,165	—	—	—	—	—	—	—
93 Massachusetts towns . . . . .		99	22	7.07	17.17	3.03	1.01	—

Deaths reported 2,170: under five years of age 755; principal infectious diseases (small-pox, measles, diphtheria and croup, erysipelas, fevers, and diarrheal diseases) 512, lung diseases 401, coin-simples 333, diphtheria and croup 113, scarlet fever 44, diarrheal diseases 40, typhoid fever 19, malarial fevers 17, cerebro-spinal meningitis 16, puerperal fever 10, whooping-cough nine, erysipelas seven. From typhoid fever, Philadelphia six, Baltimore four, Boston three, Buffalo two, District of Columbia, Charleston, Worcester, and Fall River one each. From malarial fevers, New York nine, Baltimore and District of Columbia three each, Philadelphia and Springfield one each. From cerebro-spinal meningitis, Philadelphia five, Buffalo four, New York, District of Columbia, Lowell, Worcester, Fall River, Malden, and Fitchburg one each. From puerperal fever, Philadelphia four, Boston two, Buffalo, Lowell, Worcester, and Springfield one each. From whooping-cough, New York six, Baltimore, Lawrence, and Holyoke one each. From erysipelas, New York and Lowell two each, Philadelphia, Boston, and Worcester one each.

Cases reported in Boston: measles 85, scarlet fever 51, diphtheria 34, and typhoid fever seven.

In 114 cities and towns of Massachusetts, with an estimated population of 1,451,575 (estimated population of the State 1,955,104), the total death-rate for the week was 21.77, against 20.89 and 19.09 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending March 28th the death-rate was 23.2. Deaths reported 3,967: infants under one year of age 974; acute diseases of the respiratory organs (London) 448, measles 176, whooping-cough 124, fever 37, diarrhoea 37, scarlet fever 31, small-pox (London 21, Sunderland two, Manchester and Newcastle one each) 25.

The death-rates ranged from 17.8 in Portsmouth to 41.9 in Cardiff; Birkenhead 21.3; Birmingham 19.4; Bradford 18.5; Leeds 23.0; Leicester 24.1; Liverpool 25.0; London 22.2; Manchester 31.2; Nottingham 20.2; Sheffield 21.3; Sunderland 40.4. In Edinburgh 18.9; Glasgow 30.0; Dublin 40.4.

The meteorological record for the week ending April 11th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending		Barom-eter.	Thermometer.				Relative Humidity.		Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration Hrs. & Min.	Amount in Inches.	
Apr. 11, 1885.	Saturday.																				
		Daily Mean.		Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Durand	
Sunday, 5		29.616	42.8	51.6	32.4	67	34	82	61.0	W	W	S	16	21	13	C	C	C	—	—	
Monday, 6		29.791	41.7	48.6	39.1	67	52	72	62.7	S	N	W	12	26	14	C	C	C	—	—	
Tuesday, 7		29.791	41.7	48.6	39.1	67	52	72	62.7	S	N	W	12	26	14	C	C	C	—	—	
Wednesday, 8		29.779	50.5	63.3	34.4	—	—	—	—	S	W	W	11	18	—	C	C	C	—	—	
Thurs., 9		30.004	32.7	43.2	27.5	67	43	72	74.7	S	N	W	12	16	14	R	C	C	—	—	
Friday, 10		30.039	32.7	35.6	27.2	74	70	76	73.3	N	E	S	8	8	4	C	C	C	—	—	
Saturday, 11		29.792	36.5	42.9	30.6	71	53	58	60.7	N	E	W	4	16	10	C	C	C	—	—	
Mean, the Week.		29.837	35.5	48.2	31.6				65.3											21.00	.18

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.  
<sup>2</sup> 11 P. M. Observation not taken and no means made.

OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 11, 1885, TO APRIL 17, 1885.

BROWN, HARVEY E., major\* and surgeon. Leave of absence extended two months. S. O. 83, A. G. O., April 11, 1885.

OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDED APRIL 11, 1885.

BAILLIACHE, P. H., surgeon. Chairman of Board for physical examination of candidates for appointment as assistant engineers, Revenue Marine Service. April 6, 1885.

VANSANT, JOHN, surgeon. Chairman of Board for physical examination of officers of the Revenue Marine Service. April 11, 1885.

PIRVANCE, GEORGE, surgeon. Granted leave of absence for one week. April 6, 1885.

SPONKH, C. W., surgeon. Member of Board for physical examination of candidates for appointment as assistant engineers, Revenue Marine Service. April 9, 1885.

GODFREY, JOHN, surgeon. To represent Service at annual meeting of American Medical Association. April 11, 1885.

GOLDSBOROUGH, G. C. B., passed-assistant surgeon. To proceed to Pascagoula, Miss., as Inspector. April 8, 1885.

CHURCH, H. B., passed-assistant surgeon. Member of Board for physical examination of officers of the Revenue Marine Service. April 11, 1885.

#### SOCIETY NOTICES.

SEATTLE DISTRICT MEDICAL SOCIETY. — The annual meeting will be held at 19 Boylston Place on Saturday, April 25, 1885, at 4.15 P. M. Paper: Dr. Robert T. Edes will read a paper on "Some Non-malarial Diseases of the Heart." Incidental Business. Reports of Treasurer, Librarian, and the Committee on Social Matters. Election of Officers. Supper after the meeting. Members are requested to notify the secretary of any change of address. C. M. GREEN, Secretary.

AMERICAN NEUROLOGICAL ASSOCIATION. — The eleventh annual meeting of the Association will be held in New York on Wednesday, June 17, 1885, and will continue three days.

#### MASSACHUSETTS MEDICAL SOCIETY.

It is proposed at the June meeting of this Society to give members of the Society an opportunity to put upon exhibition any new apparatus or instruments devised by themselves. Appliances previously shown at the Society meetings will not be admitted. Applications and communications should be addressed to J. W. ELLIOT, M.D., 75 Marlborough Street, or A. T. CABOT, M.D., 3 Marlborough Street.

Committee on Exhibit.

#### THE ASSOCIATION OF AMERICAN MEDICAL EDITORS. ANNUAL MEETING.

THE annual meeting of the Association of American Medical Editors will be held in New Orleans, La., April 27th, at 8 P. M. in the Medical College Building. The annual address will be delivered by the President, Dr. Henry O. Marey, of Boston, Mass., on "The Legislative Establishment of Medical Examining Boards in America." Papers are expected from Dr. F. E. Daniel, Austin, Texas; Dr. F. S. Billings, Boston, Mass.; Dr. Richard J. Dunglison, Philadelphia, Pa.; Dr. John V. Shosmaker, Philadelphia, Pa.; Dr. L. Connor, Detroit, Mich.; and others. All members of the profession are cordially invited to be present and participate in the meeting, especially journalists and authors.

H. O. WALKER, M.D., Secretary.  
 33 Lafayette Avenue, Detroit, Michigan.

#### BOOKS AND PAMPHLETS RECEIVED.

Typhoid Fever and its Treatment. By James J. Leveik, M.D. (Reprint.)

Twenty-fourth Annual Report of the Cincinnati Hospital to the Mayor of Cincinnati for the Fiscal Year ending December 31, 1884.

Announcement of Newland's College of Midwifery and Lying-in Institute for 1885. St. Louis.

## Original Articles.

## THE PRINCIPLES OF SANITARY PLUMBING. I

BY J. PICKERING PUTNAM, ESQ., OF BOSTON.

THUS we see that with the long stack of pipe our ventilation has signally failed. We will now cut off half the bends and half the length both of soil and vent pipe, leaving a medium length of each of forty-five feet.

A discharge of the closets has lowered the seal to one and one-half inch. Four discharges have destroyed the seal.

At the last lecture we found it possible to break the seal by discharging only one of the closets at a time. But it required eight repetitions of the discharge to do this, and we shall accordingly omit the experiment to-night for want of time and because our subject extends over a wider field than before. Our next experiment will be with an ordinary one and one-fourth inch vent-pipe which is really the size of the trap under consideration. Omitting the tests with a medium length of soil and vent pipe which broke the seal of this trap in two discharges, and also the test with a single closet, we will shorten the ventilation-pipe to fifteen feet by cutting off the two-inch iron pipe and all its bends altogether. This gives us a shorter vent-pipe than we should ever be likely to encounter in practice. Hence, if the friction produced in this short length of pipe is enough to prevent the effectiveness of the vent, anything longer than this would certainly destroy its power. The soil-pipe is of medium length.

*Discharge of Z and J.* Four simultaneous discharges of the closets have destroyed the seal of our trap, fully vented with a new in the manner required by the law, showing our expensive venting to be utterly untrustworthy, even under the simplest conditions. In the experiments made for the City Board of Health the same results were obtained by the discharge of a single plunger-closet.

*Four-inch by four-inch Y.* We have, up to this time, used a four-inch by two-inch Y branch to connect our lead branch with the main soil-pipe. In our experiments for the Board of Health we were severely criticized by *The Sanitary Engineer* for using a four-inch by four-inch Y branch, which, we were told, would produce an action at least four times as powerful as the smaller branch. In order to test this we will connect our waste with a four-inch by four-inch branch immediately below the one we have been using, and repeat the last test under the new conditions. I would caution those of the audience who are seated nearest the trap to hold firmly to their seats, which have been tightly screwed to the floor in order to prevent them from being sucked bodily into the drains by the prodigious siphonage power of our four by four-inch branch.

*(Discharge of Z and J.)* We find no appreciable difference in the two Ys, and I think those gentlemen can now safely release their hold upon the furniture.

We have records of comparative tests made with two such Ys, made in exactly the same position on

the apparatus, showing a greater rather than a feeble action produced by the smaller Y.

*Experiments with a Partially Clogged Vent-pipe.* When the mouth of the vent-pipe has been partially closed by gradual deposit of sediment, the supply of air through it is proportionally retarded, and it becomes less and less of a safeguard against siphonage. We have made a great many experiments in this field and found the resistance exactly proportioned to the size of the vent-pipe.

In the tests for the Board of Health we used a straight stack of pipes without any bends. The siphonic action was somewhat more severe in all the tests.

*Secondary Office of the Vent-pipe.* It remains now to examine the secondary office of the trap vent-pipe, namely, the aëration of the branch waste-pipes, promoting decomposition in them, and carrying off the gaseous products of such decomposition.

Some years ago, before it became customary to ventilate all the main lines of soil and waste pipe, as all sanitary engineers are agreed in recommending now, there accumulated in the upper part of the pipe-system large volumes of dangerous and corrosive gas generated by the decomposition of the heavy deposits in the large soil-pipes throughout their entire length. These gases, never liberated as they are now by a constant current of fresh air passing through the main pipes, sometimes formed in such large quantities as to eat through the metal and escape into the house. The water-flushing from the feeble pan-closets of that time was quite insufficient to purify the main-pipe lines, and serious difficulties arose.

Now, however, the case is very different. All our main pipes are thoroughly ventilated, and a far more liberal flushing is occasioned by the use of modern hopper-closets. This comparatively fresh air of the soil-pipe distributes itself by diffusion through the branch wastes, and gases can no longer collect to any harmful degree unless they are of unusual length and insufficiently flushed.

Consider the case of a short-branch waste-pipe leading from a well-constructed washbasin and connected with a well-ventilated soil-pipe.

Fresh air is constantly passing through the soil-pipe, carrying off the products of combustion as fast as they are formed. If the lavatory be frequently used and properly constructed the short-branch waste-pipe is scoured from end to end and kept very free from foul matter. Fresh air is diffused easily from the soil-pipe through this short branch as far up as to the trap. If the fixture is rarely used the last thin deposit of soap dries up on the sides of the pipe, and what little decomposition goes on then is inappreciable, and the products are removed by diffusion, or, if they are absorbed in the water of the trap, what could escape from its surface would, as we have seen, be absolutely infinitesimal and harmless. Not so if we ventilate this short-branch waste, as now required by law. A few days is sufficient to evaporate out all the water from the trap, and soil-pipe air may then enter the house freely. This is no careless assertion founded on theory. It is the result of a series of very careful experiments made by myself, and published in the

<sup>1</sup> Continued from page 385.

sanitary journals, and it is the experience of experts who have examined the working of the trap-vent law during the short period since its enforcement.

Consider next the long-branch wastes of lavatories. We will suppose the fixture to be a washbasin or bathtub used every day. If the outlet be properly constructed the discharge of the fixture will fill the pipe so full as completely to drive out the air that was in it and fill it with a volume of perfectly fresh air from the room. Every one has observed fresh air being sucked into the outlet of a lavatory, at the time of discharge, in volume sufficient to renew the air of the branch waste-pipe many times over, even with basins improperly constructed as they are.

We will suppose the fixture to be very seldom used, say not oftener than once a week or month, as in a spare room. The last charge of water passes off and the pipe dries up. I believe that what decomposition would then go on in pipes connected with a properly constructed lavatory would be utterly harmless; and more than this, I believe there is no case on record of harmful corrosion ever being found on such branch wastes. It certainly would not do to ventilate the trap of such a fixture left in periodical disuse. For evaporation would unseal its trap in its intervals of rest, and far greater damage would arise than could come from the unventilated pipe. Those who do not possess this degree of confidence have only to arrange their fixtures in such a way as to avoid long-branch wastes, and the difficulty will for them be avoided.

Consider now the question of branch wastes from kitchen and pantry sinks. Every one knows that grease and sediment from these fixtures will at once clog up in time any part of a trap not scoured by the water. We find the upper part of ordinary pot-traps always fouled with grease in such cases. The mouth of the vent-pipe taken from the top of such a trap also becomes similarly clogged; and it is probable that in whatever way the vent-pipe be attached to the trap of a sink it will surely become clogged and inoperative in time.

The only case in which trap ventilation can be recommended, as it seems to me, is in connection with certain kinds of water-closets. The consideration of this branch of my subject must be left for another time.

I find, therefore, no advantage whatever in trap ventilation, with the above possible exception. There are several disadvantages which, summed up briefly, are these: *First*, it destroys the seal by evaporation when ordinary S traps are used and when the vent-pipe is taken from the crown, as the law in some places requires. I find that if the vent-pipe be taken from some point six inches or more below the crown evaporation does not go on, or it goes on so slowly as to be harmless with traps holding a reasonably large body of water. With S traps, however, it is *necessary* to ventilate at the crown if they be used at all in order to prevent self-siphonage.

*Second*, The vent-pipe does not accomplish its objects, and hence affords a false sense of security.

*Third*, It increases the unscoured area of the trap, making it a cesspool. The ventilated S trap is used instead of a reservoir-trap by the advo-

cates of trap ventilation for the sake of avoiding an unscoured chamber. But in doing so they add a sediment chamber, which is not only greater in extent of surface, more easily fouled and less easily cleansed, than that in the pot-trap, but one which is far more dangerous, inasmuch as its fouling, even to a limited extent, involves the destruction of the whole system. This chamber is as certain to become inoperative after more or less use as is any reservoir or cesspool in a trap to become clogged with deposit. It is so placed and of such a form that it must inevitably receive splatterings from the filth-laden wastewater, without benefiting by its scour. I have found, by repeated test, that the water discharged

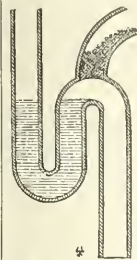


Fig. 4. Trap vent, clogged at the mouth.

from a washbasin with a large outlet and trap placed a foot or more below is thrown up over ten inches into the vent-flue at every discharge. Thus a very large sediment chamber is formed. The deposit of sediment may be rapid or slow, according to circumstances, in some cases requiring years to reduce the size of the vent-opening to the point of inefficiency. In others this will occur in a few days.

*Fourth*, It retards the outflow of the wastewater about thirty-three per cent. This is owing to the friction of the air-current entering with the water during the discharge.

*Fifth*, It renders the discharge noisy. The same air-suction which delays the water produces a disagreeable roar when the water discharges rapidly.

*Sixth*, It complicates the plumbing and adds to the danger of leakage through bad jointing and increased material.

*Seventh*, It aggravates the danger arising from capillary attraction; and, finally,

*Eighth*, It seriously increases the cost of plumbing, an increase which amounts to as much as from five to ten per cent. on the total cost of the plumbing in new work and indefinitely in old work in which the trap ventilation sometimes becomes by far the greatest part of the work to be done.

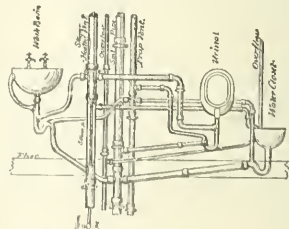


Fig. 5. Complexity with insecurity.

Figs. 5 and 6 represent three fixtures plumbed by the two different methods, the first with, and the second without, trap ventilation. In the first drawing the overflow-passage and the house-side of the trap are ventilated as well as the sewer-side, and the loss of the water-seal through evaporation is

very rapid. This double trap ventilation is not common, but yet is occasionally carried into execution by some of our more radical enthusiasts for branch-waste venting.

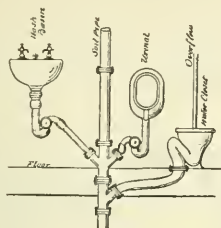


Fig. 6. Simplicity with security.

In the second drawing "Sanitas" traps are used which require no ventilation to prevent siphonage.

A washbasin, having an outlet large enough to fill the waste-pipe and trap "full-bore," scours them and keeps them free from deposit.

The use of a urinal is rarely to be recommended. It is only introduced here for purposes of illustration.

**Second Method.** Let us now examine the second method of obtaining security against siphonage. This consists in the use of a large unventilated pot or reservoir trap. A small pot-trap will not resist siphonic action, but a large one will. Their power of resistance is exactly in proportion to their size. Nothing smaller than an eight-inch pot-trap, which I have here, can be relied upon in all cases. A six-inch pot-trap will sometimes be siphoned out by discharges occurring in common practice. A five-inch pot-trap siphons out much easier. An ordinary four-inch trap has very little resisting power unless its seal is unusually deep. Three-inch and two-inch traps are altogether useless.

We will test practically the action of siphonage on a four-inch pot-trap of the usual depth of seal.

**Discharge Z and J.** We see that three discharges are sufficient to break the seal of this trap. In our last lecture we found that either the Zane or the Jennings closet alone was able to destroy the seal in eight and six discharges respectively.

Thus we see that only the largest sizes of pot-traps are reliable. To be secure in all cases, if we use pot-traps, we are required to have them as much as six or eight inches in diameter, and constantly inspect them to see that they are free from deposit. Traps of this size are veritable cesspools and as such are to be avoided wherever it is possible. They are, moreover, expensive. A plumber's scale of charges for these traps is at the rate of one dollar for every inch in the diameter of the trap. Thus a five-inch, six-inch, and eight-inch pot-trap costs \$5, \$6, and \$8 respectively.

The pot-trap is, moreover, bulky and unscientific in construction. Its cleanout cap is faultily arranged at the top, where, if improperly adjusted, it will allow of the escape of sewer gas without warning. The cleanout cap of a trap should always be wholly or in part below the normal level of the standing water in order that if an unsound joint occur it will at once be detected by an escape of

water and the defect remedied. It is better to endanger the floors or plastering than the life or health of the owner.

To ensure tightness the plumber is obliged to screw the cap on so hard that the house-owner is rarely able to unscrew it for examination or cleansing. Hence the plumber has to be sent for. Ill-feeling is aroused and the plumber is referred to in terms often lacking in refinement and politeness.

Under the name "reservoir" traps I include all water-seal traps which are not self-scouring. It includes the old-fashioned D trap (Fig. 7), the Globe trap, and the Bottle trap (Fig. 8).

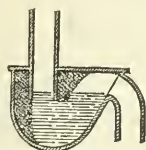


Fig. 7. D trap clogged.

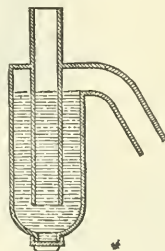


Fig. 8. Bottle-trap.

Of all the reservoir-traps, the common pot-trap, bad as it is, is the best, as being the simplest.

Balls, valves, and gates in traps add little or nothing to their power of resisting siphonage, and have no longer any value now that it is customary to ventilate the drain and soil pipes. They serve only as encumbrances and filth-collectors.

We come finally to the *third* method of obtaining security against sewer gas, of which Fig. 6 forms the general illustration. It is to give the trap such a form as to render it antisiphonic and self-cleansing at the same time.

#### ANTI-SIPHONIC TRAPS.

Let us first examine the action of fluids in traps when they are subjected to siphoning action and see if it is possible to construct a trap in such a manner as to accomplish these results. To better study the movement of the fluids we have had a number of S and pot-traps constructed wholly of glass.

We must make use of the natural forces at our command, the superior gravity and adhesive force of water over air, and construct our trap with reference to the laws governing these forces in the movement of the two fluids.

Examining first our pot-trap. Under a powerful siphonage air is driven through the water in the body of the trap in the manner shown in this drawing (Fig. 9). A quantity of water is projected out of the trap in advance of the air-column, as shown by the arrows. If the action were continued long enough all the water above the inlet-mouth, even in the largest pot-traps, would be expelled. It will be observed that part of the water is forcibly thrown up against the top of the body of the trap, whence it is deflected back in the form of spray in all directions. Part of the spray, however, falls across the outlet-mouth, and is sucked out. One of the prin-

principal reasons why the S trap is so easily siphoned out is that the curve at the top conducts the water directly into the outlet. Some form of reflecting surface should be used to throw the water back into the trap, and let the lighter air escape to supply the

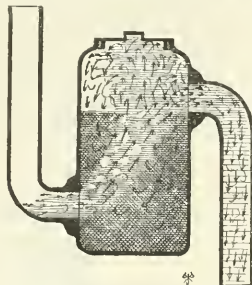


Fig. 9. Movement of fluids in a pot-trap.

vacuum in the soil-pipe. Such a reflecting surface is found in the flat top of the pot-trap above the outlet-mouth. We will therefore retain this useful feature, but reject the objectionable one of the excess of sectional area in the body over that of the inlet and outlet arms, and we have our first modification, as shown in Fig. 10. The reflecting surface,



Fig. 10. First modification.

however, should not be arranged as here shown. The pocket increases the unscoured area of the trap. It is true it is no worse than the mouth of a ventilating pipe, which under the present law it is customary to put at this place. But it is just as certain that such a pocket will become clogged in time as it is that grease and filth will deposit a sediment on everything with which it comes in contact. The higher or deeper the pocket the more readily will the deposit be formed. A shallow pocket might be partially scoured by the force of the water projected upward against it by momentum. In this case a certain portion of each deposit of filth would be washed off by friction and the process of clogging would be somewhat retarded. But let the pocket be deep enough and there will then be parts which will be within the reach of the waste-water, but beyond its scouring effect. The spray thrown up by momentum will at this height have lost its power. The drops of dirty water will simply rise to their turning-point, deposit their filth, and trickle back again into the trap. The ventilating outlet forms exactly such a pocket. At a certain height above the crown of the trap the inner surface of this flue will receive the splatterings of the filth-laden waste-water, but never receive its scour. Hence the area of the vent-opening must infallibly continue to decrease in size more or less quickly, according to the usage of the fixture, until the opening is too contracted to be of any value in resisting the action of siphonage on the water-seal. More-

over, the cool ventilating draught helps to congeal the fatty vapors arising from hot waste-water in the trap and hastens clogging. We will, therefore, simply retain the reflecting surface but reject the pocket. Furthermore, we will slightly contract the inlet and outlet mouths at their junction with the body. This allows the air rushing through the body of the trap to pass through the water instead of driving it out before it. A very slight contraction is

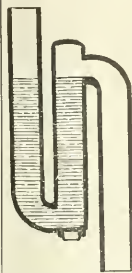


Fig. 11. Second step. Partial contraction of inlet and outlet mouths and reduction of pocket.

sufficient. These two modifications make the second step in our improvement, and are shown in Fig. 11. A trap was constructed in this manner, and proved to be very much stronger in resisting siphonic action than an S trap of equal depth of seal.

Still our trap is very far from antisiphonic. Referring to our glass pot-trap, we shall see that the water projected violently upward from the surface, by the air-bubbles rushing through the standing water under the influence of siphonage, is obliged to pass twice by the mouth of the outlet-pipe, once before and once after reflection against the top, and that it is at these moments that it is sucked out and lost. That part of the spray which happens to be thrown farthest from the mouth of the outlet-pipe will be seen to fall back safely into the trap; but that which passes near this outlet, either in rising or after reflection, is drawn out by the concentrated and powerful suction at this point and wasted. And we find that one of the principal reasons why a large pot-trap resists siphonage longer than a small one is that in the large trap the spray has more space above the surface of the standing water than in the small one, so that a smaller proportion of the water thrown up by the rushing air-bubbles passes within the influence of the suction at the outlet-pipe. If our reflecting surface could be placed below instead of beyond the mouth of the outlet this loss could be avoided. Our next step

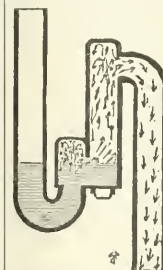


Fig. 12. Third step.

must, therefore, consist in so placing the reflecting surface. In Fig. 12 this has been accomplished, but in an awkward manner. Before this surface can come into service the level of the water must evidently be reduced to the level shown by the shading in the figure. Hence the perpendicular part of the body of the trap above the lower reflecting surface is not placed to advantage. Nevertheless, this trap will resist a very powerful siphonic action, even as it is. The two reflecting surfaces, the lower and the upper, are so effective that this form of the trap has proved more tenacious of its last inch or two of seal than a four-inch pot-trap, although its diameter is nowhere greater than that of the outlet and inlet pipes.

In this and in the preceding forms the depth of

seal is too great to allow of a free and rapid discharge of the wastes. The air, in passing through the trap, disturbs nearly all the water in it. Our next step will therefore be to diminish the height of the water-column through which the air has to pass, and thus reduce the disturbance of the water without lessening its volume. It may be done by laying the body of the trap horizontal instead of perpendicular, as shown in figure 13. This immediately

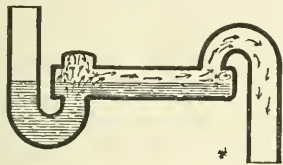


Fig. 13. Fourth step.

gives us a very important improvement in resisting power. The area of the trap is no greater than that in Fig. 11, but it is found to offer double the resistance to siphonage. Moreover, while the volume of water is the same as in Fig. 10, the seal is not so deep. Hence, the flow of water through this trap is more rapid than in the former, and its scouring effect correspondingly increased. As soon as the water in this trap has been lowered to the point indicated in the drawing, ample space is left above it for the passage of the air. It is evident that a much smaller body of water is disturbed by the passage of the air than is the case with the trap shown in Fig. 11.

Nevertheless, the trap thus made is not yet sufficiently antisiphonic. It is, moreover, awkward in form and difficult to set in such a manner that it shall remain firm in place. The long horizontal body is liable to sag and lose its form. Moreover, a single reflecting surface is insufficient to separate the water entirely from the air, and a strong and long-continued siphonic action destroys its seal. Other improvements are evidently necessary.

(To be concluded.)

## RUPTURE OF THE VAGINA DURING COITUS.<sup>1</sup>

BY JAMES R. CHADWICK, M.D.

RUPTURE of the vagina by the male organ is of so rare occurrence that its possibility has been denied by some writers of authority, hence I wish to put the following case on record.

Mrs. P. L., a woman of ordinary size and well developed in every way, applied at my dispensary on December 17, 1881, with the following story: She was forty-eight years of age, had begun to menstruate at the age of fifteen years, and had ceased at thirty-eight years. She had been six years married to a sailor, with whom she had cohabited freely without difficulty or pain. She had never been pregnant. On December 14th her husband had returned from four months' absence at sea, and had had connection. The act was accomplished

with difficulty. When it was effected she experienced a most intense lancinating pain on the right side internally. A profuse hemorrhage from the vagina ensued, which, however, ceased before morning. A purulent discharge set in on the second day, and on the third she consulted me. On examination I found that senile atrophy had taken place, as is usual after the menopause, so that the vagina was much shorter and smaller in calibre than is normal in the adult. On the right side was a fresh longitudinal rent, an inch in length, located in the upper third of the canal, and opening into the cellular tissue to the depth of half an inch.

If the woman's statements are truthful, as I believe, this laceration may be accepted as fully explaining the pain which she felt in coitus and the hemorrhage immediately succeeding. The accident must be attributed to the fact that the senile atrophy had advanced with exceptional rapidity in the period of four months' abstinence during the husband's voyage and to his undue vigor from the same cause.

Two cases of this lesion are reported by Dr. Zeiss, of Erfurt, in the *Centralblatt für Gynäkologie* for February 21, 1885. In the first case the rupture was merely an unusually deep tear of the hymen in a virgin on the first night of marriage, giving rise to a hemorrhage so profuse as to have endangered life. This occurrence is not unusual.

The second case was in a woman who had had a child three years before, and a second one six weeks previously. Coitus took place *à la ruche*, with exceptional vigor on the part of the husband, during which the woman experienced sudden extreme pain in the lower part of the abdomen on the right side; persistent hemorrhage ensued. The external genitals were found to be sound, with no signs of contusion. The uterus was greatly retroflexed. The dimensions of the vagina seemed normal. The cervix was firmly adherent to the right side of the pelvis. In the right vault of the vagina was seen a fresh rent an inch in length, into which the finger passed some distance.

## Reports of Societies.

### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

FEBRUARY 14, 1885. The President, Dr. A. D. SINCLAIR, in the chair.

Dr. W. L. RICHARDSON read the following communication on

#### CORROSIVE SUBLIMATE INJECTIONS.

In 1883 Negri<sup>1</sup> concluded an article on corrosive sublimate in puerperal antiseptics with the statement that a solution of one to 2,000 has sufficient antiseptic properties to combat puerperal septicæmia and can be substituted for a two per cent. solution of carbolic acid; that its toxic effects are almost nil, he having seen once only a case of mercurial erythema.

Although a solution of corrosive sublimate had been used for some time in Germany as an antiseptic

<sup>1</sup> Reported to the Obstetrical Society of Boston, February 11, 1885.

<sup>1</sup> Bulletin Général de Thérapeutique, October 30, 1883.

tic injection, I had never used it at the Boston Lying-in Hospital until my last term of service. When I came on duty in the spring of 1884 I continued its use, which had been begun in the winter by my colleague, Dr. W. E. Boardman. Very few cases, however, required an intra-uterine injection, and I therefore had few opportunities to observe its effects. For nearly eight months the hospital has been free from septic cases, but during December there have been three cases which occasioned some anxiety, one of them being a well-marked case of puerperal septicemia, and the other two presenting suspicious symptoms of septic poisoning, but in a much milder degree. These cases seemed to me to deserve mentioning as showing my experience with the use of corrosive sublimate as an antiseptic.

CASE I. M. A., Swede, multipara, twenty-three years of age, entered the Hospital November 9th. The child had been born on the train while coming from Gloucester. She entered the hospital at eight o'clock in the morning. The placenta came away in half an hour after her entrance. November 9th, the evening temperature being 100° F., and the lochia somewhat offensive, an intra-uterine injection (corrosive sublimate one to 2,500) was given and repeated the next day. November 12th, the intra-uterine injection was repeated, and, as the patient had had bilious vomiting during the day and no defecation since her entrance, calomel (five grains) and jalap (six grains) were ordered. November 14th, the gums were very tender and bled easily. There was a grayish deposit on the inside of the under lip and great pain on chewing. Astringent washes were ordered. The symptoms improved gradually, and she was discharged, December 1st, well. At the time I considered the salivation due to the calomel.

CASE II. C. M., twenty-two years of age, entered the Hospital December 1st: the child was born at six o'clock the following morning. Up to December 9th there were given, morning and night, vaginal douches of corrosive sublimate (one to 2,000), and, as the temperature was high and the lochia offensive, also three intra-uterines of the same. Upon December 8th the two left lower incisors were loose and the gum beneath them red and tender. Astringent washes were ordered. December 9th carbolic two per cent. was substituted for the corrosive, and the symptoms disappeared in two days.

CASE III. M. M., twenty-six years old, entered the Hospital December 2d at eight p.m. The child was born early the following morning. The patient received from the time of her entrance two vaginal injections daily of corrosive sublimate (one to 2,000), and, owing to the high temperature and offensive lochia, two intra-uterines of the same, December 5th. Complained of soreness of gums, December 6th. Complained of soreness of tongue. No especial attention was called to it until December 11th, when the upper and lower gums were reddened, especially near the teeth, and tender. No tenderness on closing the teeth sharply together. The lower lip was reddened on the inside, and there were to be seen small patches of gray exudation. The odor of the breath was characteristic. The tongue was very sore and red on the left edge and beneath, where there were also several patches of

thick gray membrane. The patient several times noticed an excess of saliva. On the morning of December 9th a change was made to carbolic acid (two per cent.) for douches and intra-uterines. The symptoms began at once to improve, and she was discharged, well.

Two other cases in which vaginal injections of corrosive sublimate (one to 2,200) had been given twice daily, presenting marked symptoms of incipient salivation, I substituted carbolic acid for corrosive sublimate during the remainder of my term of service, and shall never again return to the mercurial injection unless I change my present opinion of its danger.

Since writing the above I have heard of several similar cases occurring in private practice, and a physician in charge of the maternity wards of a large hospital has informed me of seven cases of salivation occurring in that hospital from the use of these injections: the strength of the injections in these cases was one to 2,500. Since that experience the strength of the injection was changed to one to 12,000, and no further trouble has been observed, although the injection has seemed to be sufficiently antiseptic in its character.

DR. INGALLS said that if, for instance, one grain of corrosive sublimate should be dissolved in two thousand drachms of water, and one quart of this administered by injection, the rather large proportion of the mercury, namely, one eighth of a grain, would cover the surface and be likely to produce mischief; if, however, one drachm of the one to 2,000 solution should be added to a quart of water one might feel sure of its being strong enough for his purpose and be unlikely to cause salivation.

DR. BAKER said that during the past year the one in 2,000 solution had been used at the Free Hospital for Women, both for irrigating denuded surfaces during operations and for washing out the uterine cavity: he had observed no bad results.

DR. DAVENPORT said he had used the intra-uterine sublimate injection in only one case, that of a sloughing fibroid: there was no salivation; but the patient complained of soreness and irritation about the vulva, and carbolic acid was therefore substituted for the bichloride. He was surprised that vaginal irrigation with the sublimate solution should be followed by salivation, as in two cases reported by Dr. Richardson, as the vagina does not readily absorb unless it is the seat of marked abrasions or lacerations: he had read, however, of diarrhoea following the sublimate douche in puerperal cases.

DR. RICHARDSON said, in reply to questions, that he had no knowledge that a one in 2,000 solution of the bichloride would destroy germs; in using the drug in that degree of dilution, he had relied upon the authority of others: from his clinical experience, however, he could say that a one in 2,000 solution destroyed the bad odor of fetid lochia and that its use was followed by a fall in temperature, when the elevation of temperature was attributable to septic absorption.

DR. O. W. DOE reported a case of

#### POLYGALACTIA.

DR. RICHARDSON said he had seen three or four cases of polygalactia in hospital practice, and had

had one case in private practice which very much resembled the one reported by Dr. Doe. The plan of treatment which he adopted consisted in weaning the baby, strapping the breasts, and administering fluid extract of ergot in half-drachm doses every three hours. He had been led to employ ergot in these cases from the observation of both Dr. Sinclair and himself in the Lying-in Hospital, that when ergot was given for several days after labor for the purpose of promoting the involution of the uterus or stopping afterpains the drug was very likely to arrest or retard the secretion of milk. In cases of hyper-secretion he had found marked relief to follow the use of ergot as he had stated.

Dr. CHADWICK favored strapping the breasts in these cases immediately after labor. He suggested that it might be advantageous to strap for several weeks before labor in the case of a patient who in previous labors had suffered with polygalactia.

Dr. DRAPER said that the use of ergot in these cases was based on a sound physiological principle, namely, the well known action of the drug on unstripped muscular fibre; strapping was simply a mechanical means of accomplishing the same result: certainly the combined use of the two agents was eminently rational.

Dr. REYNOLDS raised the question whether, if for any reason the mother is not to nurse her child, it is better that she should not nurse at all, or whether for the sake of the supposed effect of lactation on the involution of the uterus she should nurse for a few weeks. For his own part he doubted whether it was justifiable for such a purpose to subject a feeble patient to the strain of lactation.

Dr. BAKER said that so far as his observation went lactation unquestionably promoted the involution of the uterus: he therefore believed that the mother should be encouraged to nurse during the period of involution.

Dr. RICHARDSON remarked that a woman was far more likely to preserve the original contour of the breast if she nursed for a week or two: the breast usually became lax and flabby when the woman did not nurse at all.

#### THE TREATMENT OF THREATENED MASTITIS.

Dr. DOE said he had had good results from the use of belladonna ointment in ordinary cases of indurated breasts.

Dr. RICHARDSON said his treatment of such cases consisted in the free use of saline laxatives, proper support of the breast, and innunction with camphorated oil. He had formerly used belladonna ointment with good results; but he had equally good results with camphorated oil, and since he had instituted, at the Lying-in Hospital, the practice of carefully rubbing the breasts with this agent he had seen only five or six cases of broken breast, and these occurred in phthisical patients. He did not believe there was virtue in belladonna ointment other than that of any emollient.

Dr. SINCLAIR said he relied almost wholly on taking away the child and strapping the breasts: he believed the late Professor Buckingham had first advocated this treatment.

Dr. REYNOLDS remarked that Hardy and McClintock taught that the breasts should not be used; but

with threatening mastitis one does not want to give up nursing. Professor Buckingham believed that nursing on a cracked nipple was a common cause of mastitis: he thought the danger might often be averted by the use of a suitable nipple-shield.

Dr. GREEN said he had seen great benefit result from covering indurated breasts with thin sheet rubber, such as dentists use for a dam in filling teeth. The rubber retains the heat and moisture and therefore acts as a light poultice. From the combined effect of rubbing with camphorated oil and covering with the sheet rubber he had seen indurated breasts soften and their tension diminish by the spontaneous flow of the milk: in such cases he did not advise giving up nursing unless the nipple was badly cracked.

Dr. S. L. ARBOTH reported a case of

#### UTERINE CARCINOMA OF UNUSUALLY RAPID DEVELOPMENT.

The patient was a married lady upward of forty years old, the mother of five living children, resident of a Western city. In the spring of 1881 she returned home after a visit to her native State, Rhode Island, much worn and reduced in flesh from attending her mother during her last illness. Having recruited somewhat, about the middle of May she thought she had a miscarriage at an early period. She also had an early miscarriage while on a journey during the autumn of 1883. Two weeks after the occurrence, in May, she had a chill, which was followed by discomfort in the uterine region. Her physician found, on examination, the uterus low down in the pelvis, pressing on the rectum, the cervix being somewhat shortened and bent forward. The whole organ was very hard, and increased from fifty to seventy-five per cent. above its natural size. The posterior surface was somewhat uneven. The organ was movable in all directions, but not freely, as if held by adhesions, although no inflammatory deposit about it could be detected. There was no swelling above the pubes. The uterus was somewhat tender, and the speculum showed moderate cervicitis. The condition of the organ was regarded as due to uterine engorgement, and considerable relief was obtained from rest, with hot douches and counter-irritation above the pubes. During July the patient was well enough to visit a Western health resort, where she lost ground, however, and became very feeble, with considerable emaciation, accompanied by gastric symptoms and colicky pains in the pelvic region. In this condition she left home on August 20th for a visit to Mt. Desert, in the hope of improvement from the sea-air. The catamenia had been regular up to that time, and came on soon after she reached Mt. Desert, being somewhat profuse and prolonged in period. During the rest of her stay she rode daily in an open wagon from three to five hours. She was treated during that time for her gastric symptoms, — gastralgia, vomiting, with diarrhoea, which were ascribed to hepatic disturbance, — with considerable relief. By the patient's desire there was no uterine treatment. She arrived in Boston in the last week of September, having come through by rail, a journey of fifteen hours, in one day. She was very much exhausted, was extremely emaciated, and in walking was much

bent over on account of the uterine discomfort when upright. For weeks she had not had a good night's rest, having taken no anodyne, and having at Mt. Desert suffered extremely from uterine pain at night. Suppositories of a small quantity of morphia in the rectum at once gave her great relief.

On vaginal examination the uterus was found very low in the pelvis, the os being just within the vulva, the neck being very much shortened and flattened, so much so as to project very little above the uterine mass, from an inch to an inch and a half wide; the os was patulous. There was no hemorrhage or other discharge from it. The body of the uterus was so large as to be completely impacted in the pelvis, the surface in front and on the sides being perfectly smooth. From the posterior wall there was a projection backward from half an inch to an inch in height, an inch or more wide, which extended upward as far as the finger could reach, and very tender to the touch. The whole of the body of the uterus was of a stony hardness, but not specially tender except on the posterior surface. The posterior cul-de-sac was not more than two inches above the vulva. The abdomen was perfectly flat, and nothing abnormal could be detected in the abdominal viscera or by deep pressure above the pubes. The functions of the bladder were not disturbed, but the rectum was very sensitive to the pressure of feces, apparently from the pressure on the enlarged womb.

The patient's appetite was poor and taste capricious. Evacuations from the bowels were frequent, of small scybalous masses. By rest, soothing and anodyne remedies much relief from the local discomfort was obtained, the appetite improved, and the evacuations became nearly normal.

Ten days after the arrival of the patient in Boston the catamenia were due, and were anxiously expected in the hope of still further relief. As the case had been described in the letters which Dr. Abbot had received as one of congestion of the womb he was not prepared for the deplorable condition of things which he found, and after a few examinations he could not resist the conviction that he was dealing with a much more serious malady, in fact uterine carcinoma.

At the expected time there was a menstrual molimen, as shown by a sense of fullness and pressure in the uterine region, but there was no catamenial flow. There was great increase of local discomfort and general disturbance of the system. In a day or two great tympanites appeared, the abdomen being distended to the utmost, and resonant throughout. During the rest of her stay in Boston this condition continued with very little relief, causing very great discomfort but very little pain. The patient left for her home October 8th, arriving, after a continuous journey of two nights and a day in the cars, in a better condition than could have been expected. Her medical attendant was at once struck by the great change in her appearance and condition since he had last seen her in the latter part of August, and on consultation with a distinguished specialist was entirely satisfied that the case was one of carcinoma, not remediable by any surgical operation. At this time the abdominal distention continued, with marked evidence of the presence of fluid.

From this time the patient gradually lost ground, the appetite failed, and there was much nausea and vomiting, but little pain. She died quietly, November 13th. There had been no hemorrhage or discharge of any kind after the catamenia ceased.

An autopsy was made seventeen hours after death. The abdominal cavity contained ten quarts of foul serum. Of the omentum majus only small fragments remained, attached to the stomach and transverse colon. The intestines were of a deep purplish copper color, the external surface being studded throughout with nodules of cancer. The pyloric orifice of the stomach, the head of the pancreas and duodenum were united in a cancerous mass. The inner surface of the pyloric orifice was much thickened and corrugated, and only a small portion of the mucous membrane of the stomach presented a normal appearance. Nothing abnormal was observed in the liver, spleen, or kidneys. The pelvis was filled with a mass of cancerous disease, the uterus and its appendages being firmly united to each other. The leading features of this case may be summarized as follows:—

Supposed miscarriage in the middle of May, followed in two weeks by a chill. At this time some enlargement of the posterior wall of the uterus and unusual hardness of the whole organ were detected. Gradual failure, with marked gastric symptoms and uterine pain. Catamenia regular, their last appearance being early in September. In the last week of September uterus found to be impacted in the pelvis from carcinoma developed in its walls, without any evidence that could be detected of similar disease in the abdominal cavity. Rapid development of abdominal symptoms from the time of catamenial failure early in October, with peritonitis and extensive deposit of cancerous disease in the abdominal organs.

Dr. J. R. CHADWICK reported a case of

RUPTURE OF THE VAGINA DURING COITUS.<sup>2</sup>

## THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting April 16, 1885.

PRESENTATION OF A PORTRAIT OF THE FORMER PRESIDENT, DR. FORDYCE BARKER.

A handsome three-quarter length portrait of Dr. Barker, by J. H. Lazarus, was presented to the academy by Dr. T. M. Markoe, on behalf of the donors, Mr. and Mrs. John Jacob Astor, and accepted for the academy by the President, Dr. Jacobi. The academy is also indebted to Mr. and Mrs. Astor for the "loving cup" which graces its board on festive occasions.

Dr. JAMES B. HUNTER read a paper on

ENDOMETRITIS FUNGOSA: ITS PATHOLOGY, DIAGNOSIS, AND TREATMENT.

Having taken a glance at the literature of the subject from the writings of Robert and his master, Récamier, in 1846 and 1850, down to the paper on the use of the curette read by Dr. George T. Harrison, before the New York State Medical Associ-

<sup>2</sup> See page 413.

ation in November last, he stated that he had never found fungous growths in the cervical canal, though they are not infrequently met with immediately beyond this. They resembled small polypi, and, while seldom exceeding five millimetres in diameter, are usually much smaller than this. Neither the number of the growths nor their size seemed to have any ratio to the amount of hæmorrhage resulting from their presence. They were of a pale pink color, had an abundant vascular supply, and there was always a distinct fibrous element in their structure.

They constituted a truly inflammatory tissue, and are characterized by no process at all akin to degeneration. It had often excited remark that such profuse hæmorrhage should result from such an apparently slight cause; but this was in reality not to be wondered at when the great extent of surface presented by the cavity of the uterus when studded with these growths was taken into consideration. The superficial area of the endometrium was enormously increased by the presence of even a few of them. In making a diagnosis of endometritis fungosa it was sometimes quite difficult to exclude sarcoma and epithelioma from the examination of a single specimen, and hence it was very desirable that repeated examinations should be made. Great care and perseverance were often necessary, therefore, in order to arrive positively at a correct diagnosis.

As to the symptomatology, the principal and, indeed, only symptom of importance was menorrhagia, pain being, as a rule, quite rare. In this condition the menstrual period was likely to be increased, while in carcinoma there was metrorrhagia, rather than menorrhagia. Sarcoma usually did not appear until after the thirty-fifth year; but endometritis fungosa might occur at any time during the child-bearing period as well as (though now rarely) both before and after the latter. The affection had no connection whatever with syphilis or gonorrhœa, but was often associated with uterine fibroids. Dr. Hunter then called attention to the differential diagnosis on the one hand between this and secret benign growths as polypi, adenomata, retained residua, papillomata (which are believed to be always confined to the cervical canal, and thus occupying a distinctly different position), and the so-called villous degeneration of the endometrium referred to by Goodell, and, on the other, from malignant affections. Among the latter, rounded sarcoma was most liable to be mistaken for it, and sarcoma was not so uncommon as Dr. Mundé, in his paper sent to the Edinburgh Obstetrical Society, in 1878, and other authors had stated. In addition to microscopical differences, there were certain points by which a differential diagnosis might be made, and among these were the following: In endometritis fungosa there was little pain, while in sarcoma the pain was apt to be a prominent feature. In the one there was, as a rule, menorrhagia; in the other, metrorrhagia. In the one the discharge was odorless; in the other it was offensive. In the one the growths were of a pale pinkish color and firm in consistence; in the other they were grayish-white, amorphous, and very pliable. In the one there was no infiltration of the surrounding tissue; in the other there was marked infiltra-

tion, and the surrounding mucous membrane was destroyed. In the one the pathological changes were confined to the mucous membrane; in the other they involved the body of the uterus also.

The treatment of the fungous growths themselves was very simple, consisting merely of their removal from the endometrium by means of the curette. The treatment of the condition which gave rise to them, however, was generally a more difficult matter, and on the success of this would depend the prospect of a return of the fungosities. In his own experience he had never found it necessary to produce dilatation of the cervical canal before using the curette, as the mouth of the uterus was always sufficiently patulous for the purpose. He thought it was better to etherize the patient, as the growths could be more thoroughly and satisfactorily removed when this was done. Sims's speculum was placed in the vagina, and the instrument was the Thomas blunt copper-wire curette. After the curetting, Churchill's tincture of iodine was thoroughly applied to the whole endometrium, and, a light tampon having been inserted, the patient was put to bed for two days.

The use of the curette had an excellent effect in reducing the congestion of the mucous membrane of the cavity of the uterus, even when no fungosities are present. The contra-indications for resorting to the curette were recent pelvic inflammation or the existence of any degree of parametritis. Récamier's original curette was, undoubtedly, a cutting instrument. It had recently been claimed in England that it was blunt; but there was, in reality, no evidence that such was the case. Both Sims's and Simon's curettes were also cutting steel instruments. In the curette of Dr. Thomas, which he devised about 1870, the bluntness was the important factor, and it was the first one of its kind. Two sizes of the instrument were used. Emmet's curette-forceps was an entirely different instrument. The blunt curette was perfectly safe, and, as it was thoroughly efficacious in removing fungous growths, he thought that it was greatly to be preferred in this class of cases.

Dr. W. GILL WYLLIE said that he objected to Dr. Hunter's treatment in some respects. He agreed with him in the statement that the use of the curette was seldom followed by hæmorrhage, and he was, therefore, somewhat surprised to hear him say that he was in the habit of employing a light tampon after curetting. For himself, he never used a tampon if he could possibly avoid it, because he considered it a violation of one of the first laws of surgery—thorough drainage. Even in cases of cancer he preferred to stop hæmorrhage in some other way. By twisting the circular artery, if it had been injured, and by the application of hot and cold water styptics or pure carbolic acid, waiting an hour if necessary for the bleeding to cease, he would endeavor to avoid the use of the tampon. Before antiseptics were employed it was well known how oppressive the tampon would get, and although this might be obviated to a great extent by the use of bichloride of mercury and iodoform, he believed there was always a liability of irritating fluid being forced up into the Fallopian tubes. He was in the habit of practising dilatation in all cases, and prin-

cipally for the purpose of securing more perfect drainage. In addition, even though the os was quite patulous, there was always danger of injuring the cervical tissues with the curette unless further dilatation were made. He was, of course, thoroughly opposed to the use of sponge tents on account of the danger of septic absorption, and invariably used Sims's steel dilators. He also employed Sims's steel curette, and in regard to this instrument he thought great injustice had been done Dr. Sims. The so-called sharp Sims's curette was not, in reality, a sharp curette, although it was true that it was made of steel. At first it had been made with a flexible shank, but afterward it had been found that it was advisable to have it constructed with one universal curve. If a tenaculum were employed in connection with the curette any uterus could be straightened to such an extent as to admit of having the instrument satisfactorily applied to every portion of its cavity. The advantage of the steel curette over the dull copper one was that it did the work desired more thoroughly, while, at the same time, it did not injure the normal tissue. In many cases he believed that the blunt curette was not sufficient, because it could not remove the fungosities perfectly. Sarcoma could also be removed very thoroughly with the steel instrument.

Dr. P. F. Muxé stated that since he had sent his paper to the Edinburgh Obstetrical Society, to which Dr. Hunter had referred, some years ago, cases of sarcoma had accumulated; the disease having of late become much better known than formerly. He thought Dr. Hunter ought to have devoted some attention to the agency of laceration of the cervix in inducing endometritis, as he believed that it was often a very important etiological factor. Having dwelt for some time on this point, he spoke of the occurrence of amenorrhœa in certain cases of fungous growths; the patient sometimes going for five or six months without any appearance of the menses, and then having quite a profuse flow. In his Edinburgh paper he said he had advocated the use of the blunt curette; but since that time he had modified his views in regard to this instrument to some extent. While he was still an advocate of its use in many cases, he now agreed with Dr. Wyllie that there are also many cases where the blunt curette was not sufficient; the sharp instrument being required in order to eradicate the growths. In such cases it was necessary to scrape down the mucous membrane almost to the substratum. Still, he did not think it was advisable to use a stiff curette or one with which we could scrape through the uterine wall. A fairly flexible shank was preferable. The dull curette was very useful for diagnostic purposes, and if in any instance no fungosities were brought away with this, he concluded that the case was not suitable for curetting. In regard to the after treatment he disagreed with Dr. Wyllie and accepted the position of Dr. Hunter. When there was subinvolution there was very apt to be pretty free hæmorrhage, and he was often glad to plug both the uterus and the vagina. He did not believe it was a good plan to curette a patient except at her own house and under the influence of an anæsthetic, and he did not think it was safe to leave the house without having placed a tampon in

position. After using the curette he made an application of either tincture of iodine or of a mixture of equal parts of solution of persulphate of iron and glycerin; after which he placed a tampon in the vagina. He regarded this procedure in the light of an operation, and always called within forty-eight hours to remove the tampon. Applications of iodine to the endometrium, he thought, ought to be made twice a week at first, and later once a week; and he regarded it as very important that the after treatment should be maintained for a sufficient length of time.

Dr. C. C. LEE said he concurred, in the main, in the views expressed by Dr. Hunter. In regard to the symptomatology, however, he thought that the condition was not necessarily characterized by menorrhagia. Metrorrhagia, he believed, was a well-marked symptom in quite a large minority of typical cases, general passive uterine congestion being usually present. In treating endometritis fungosa he always prepared the case carefully before operating, and when using the curette preferred to give ether. In the choice of instruments he had no hesitation in declaring himself strongly in favor of the blunt curette, as he believed the sharp curette was quite as likely to do injury as good, even when employed by the most skillful hand. One of the worst cases of pelvic peritonitis which he had ever seen had been directly caused by the application of a sharp curette by a gynecologist of high reputation. He did not find it necessary to practise dilatation, as the cervical canal was always sufficiently patulous in these cases. He made it a rule always to wash out the cavity of the uterus, both before and immediately after using the curette, with a weak solution of carbolic acid. In addition, after curetting, he applied a solution of strong tincture of iodine to which was added a small quantity of chromic acid, a combination which he had found to have a more permanent effect on the uterine mucous membrane than any other.

Dr. B. F. DAWSON said he was heartily in accord with Dr. Hunter. The mildness of the blunt curette constituted its great advantage. Dr. Muxé had said that if he were unable to extract any granulations from the cavity of the uterus with the blunt curette he did not use the sharp instrument, and if such was the case he could not see why he should ever use the sharp instrument at all. Only recently he had seen a very aggravated case of pelvic cellulitis which followed the application of the sharp curette. He did not think it was necessary to practise dilatation, since uterine catarrh was a constant accompaniment of the condition of fungous granulations, and whenever there was uterine catarrh there was sure to be a patulous os.

Dr. HUNTER said that he was in the habit of using a light tampon for antiseptic purposes, and that he had not found it necessary to employ it for the controlling of severe hæmorrhage, like Dr. Muxé. When there was very great hæmorrhage following the use of the curette he was inclined to think it was due to the fact that all of the growths had not been removed. The dilatation of the cervix, as recommended by Dr. Wyllie, he thought was much more likely to do injury to it than the careful use of the curette. He had mentioned laceration of the cervix

as one of the causes of endometritis fungosa, but as it was not his intention to make the paper an exhaustive one he had not had time to dwell upon it at length. Like Drs. Lee and Dawson, he also had seen instances, one of which was now under his care, in which very serious consequences had resulted from the use of the sharp curette.

### THE AMERICAN SURGICAL ASSOCIATION.

THE American Surgical Association held its annual session in the Army Medical Museum at Washington, April 21, 22, 23, and 24, 1885.

The President, WILLIAM T. BRIGGS, M.D., of Nashville, Tennessee, in the chair.

The morning session of Tuesday was called to order at eleven A.M.

The first business was the reading of the President's address. In the beginning of his address the President thanked the association for the great honor conferred upon him by his election. He then spoke of the great loss which their organization had experienced in the death of Prof. S. D. Gross, referring eloquently to the labors of Dr. Gross in organizing and establishing the American Surgical Association in its present position.

In order that the association might deserve its name as the national society and its claim to a representative body, the speaker thought it essential that every reputable surgeon should be eligible to membership. And, if necessary, the constitution should be so altered as to provide for a greater membership than it now does. It was only in this way that the strength and vigor of their society could be maintained. Every member should consider it his duty to be present at all the annual meetings, and to be prepared to take part in the debate.

He also suggested that the original intention of the society be adhered to, and the meetings held in the fall of the year or latter part of the summer, at the time when most of the members need rest, so that they could combine, with the work of the association, rest and recreation. It was also suggested that it might be advisable to hold the meeting at some summer resort.

He recommended that the council select the names of some foreign surgeons to be presented for election to the position of honorary members.

The suggestions of the President were referred to the consideration of the council.

The first paper of the session was entitled

#### A DEVICE FOR ATMOSPHERIC PURIFICATION.

By DAVID PRINCE, of Jacksonville, Illinois.

The following is a description of the device:—

(1) BASEMENT.—On the right hand is an entrance ventilator, twenty inches in diameter, in which a steam-jet is made to play, in order to infiltrate the entering air with very fine globules of water.

(2) The air thus moistened passes under a curtain or diaphragm reaching within fifteen inches of the floor. Under this curtain lies an iron pipe, with numerous small holes drilled in the upper side, furnishing an interrupted spray under the curtain, and making it necessary for all the moving air to pass

through this artificial shower near to the floor and into the next room warmed by a stove.

(3) The air, thus warmed, passes through a filter, composed of shelves of thin muslin through which water is dripping. The warmed air first passes over the top of a vertical screen to avoid the entrance of cold air, then under another vertical screen, and then back and forth between horizontal screens fifteen inches apart, dripping with water, and finally through the spray which supplies this water.

Thus there are three filtrations of the air: one by steam and two by water.

(4) The air thus filtered three times emerges through an opening in the floor and goes to the top of the operating-room above.

(5) OPERATING-ROOM.—The exit ventilation is seen on the opposite, or right hand, side of the room. This is effected by a movable shaft or box, made by tacking muslin upon a frame, so that it can be set up against a window, with the upper sash pulled down to the necessary degree. The shaft can be shifted from one window to another to be free from the pressure of the wind, or on the opposite side, or from the wind. The arrangement, thus far, is to get an atmosphere more pure than that outside, and through the frequent change of the air in the operating-room, to get rid, to the greatest possible degree, of the contamination of the air (during the progress of an operation) by the emanations from surgeons, assistants, spectators, and the patient himself. This change is secured by the entrance of filtered air from the basement and the exit, from the floor of the operating-room, of the air which has been the longest in the room, having descended gradually from the ceiling where the air is hottest, after having entered from the warming-chamber below.

(6) The floor of the operating-room is made of yellow pine, and filled with paraffin to as great a depth as heated smoothing-irons can drive it. By this means, all cracks are filled so as to be non-absorbing. Under this lies a layer of tarred paper upon a common floor upon the joists. Between the joists lies a layer of tarred paper upon the ceiling, the under side of which ceiling is painted, and lined with muslin while the paint is fresh. The muslin is again painted on the under side. The floor thus has seven layers, including the joists.

(7) The operating-room is free from closets where anything unclean can be hidden, and all woodwork is either paraffined or painted.

(8) There is no opening into any other room, about six feet of space intervening between the door of entrance and the nearest wall of the main building.

(9) Before the use of the room for an operation involving the opening of a joint or the peritoneal cavity, it is intended that the rooms above and below shall be fumigated by sulphur burning in the basement. An iron pan for this purpose is placed over a Bunsen burner for the combustion of sulphur. This is to be done for the destruction of any floating material of an organic character which may have gained entrance while the room may have been out of use.

It is found by trial that when the different sprays

of water are going, one can remain very comfortably in the room above while sulphur is burning in the room below; the fumes being first absorbed by the steam and having then to pass through the two different showers of water become thoroughly precipitated.

(10) This building is the execution of a theory of combining the best known expedients for securing the best possible atmosphere for surgical operations, by excluding noxious agents and by destroying or expelling those which may have stolen in, or which may be introduced by the patients, or by the surgeon and his assistants and guests. It is supposed that enough air will enter and escape to change the whole volume of the air once in fifteen minutes. The exit draft coming from the floor will carry away most of the floating material.

(11) The employment of a spray or douche of carbolic acid of the strength of 4 to 100, or of mercuric bichloride of 1 to 10,000, or other antiseptics, locally applied, though less necessary than in an ordinary room, may yet be resorted to in order not to omit any useful precaution.

(12) The employment of solutions of carbolic acid, mercuric bichloride, or permanganate of potash with the nailbrush for cleaning the hands, should be supplemental to the fixed provisions against septic and pathogenic particulate infection.

(13) The bathing of the instruments in carbolized water, while this proceeding is incapable of disinfecting or destroying any germs which may adhere to them, may yet be useful in an antiseptic sense, that is, by destroying microbes in a developed state or freeing them from the supposed secretion by which they may be surrounded, and which may serve as their weapon of attack by which they digest or destroy the surfaces with which they come directly in contact.

(14) A useful precaution on the part of the operator may be a bath and a change of clothing, the hair and head being dampened so that dust will not escape from them; and yet another precaution may be the wearing of gowns, which will oblige all dust escaping from the clothing of the operator and his assistants to fall to the floor, whence it may escape with the draft which carries out the lowest stratum of the air.

Adjourned.

#### AFTERNOON SESSION.

#### THE FIELD AND LIMITATION OF THE OPERATIVE SURGERY OF THE HUMAN BRAIN.

By JOHN B. ROBERTS, M.D., of Philadelphia.

The following views were advanced:—

(1) The complexus of symptoms called "compression of the brain" is not due so much to displacing pressure exerted on the brain substance as it is to some form or degree of intracranial inflammation.

(2) The conversion of a closed (simple) fracture of the cranium into an open (compound) fracture by incision of the scalp is, with the improved methods of treating wounds, attended with very little increased risk to life.

(3) The removal of portions of the cranium by the trephine or other cutting instruments is, if properly done, attended with but little more risk to

life than amputation of a finger through the metacarpal bone.

(4) In the majority of cranial fractures the inner table is more extensively shattered and splintered than the outer table.

(5) Perforation of the cranium is to be adopted as an exploratory measure almost as often as it is demanded for therapeutic reasons.

(6) Drainage is more essential in wounds of the brain than in wounds of other structures.

(7) Many regions of the cerebral hemispheres of man may be incised and excised with comparative impunity.

(8) Accidental or operative injuries to the cerebral membranes, meningeal arteries, or venous sinuses should be treated as are similar lesions of similar structures in other localities.

(9) The results of the study of cerebral localization are more necessary to the conscientious surgeon than to the neurologist.

An elaborate table of the proper points for trephining in various cerebral lesions was then given.

These principles of the operative surgery of the brain were then applied to the treatment of (A) Cranial Fractures.

*Closed (simple) Fissured Fractures.* (1) No evident depression, no brain symptoms. No operation.

(2) No evident depression, with brain symptoms. Incise scalp and trephine.

(3) With evident depression, no brain symptoms. Incise scalp and possibly trephine.<sup>1</sup>

(4) With evident depression, with brain symptoms. Incise scalp and trephine.

*Closed (simple) Comminuted Fractures.* (5) No evident depression, no brain symptoms. Incise scalp and probably trephine.<sup>2</sup>

(6) No evident depression, with brain symptoms. Incise scalp and trephine.

(7) With evident depression, no brain symptoms. Incise scalp and trephine.

(8) With evident depression, with brain symptoms. Incise scalp and trephine.

*Open (compound) Fissured Fractures.* (9) No evident depression, no brain symptoms. No operation, but treat wound.

(10) No evident depression, with brain symptoms. Trephine.

(11) With evident depression, no brain symptoms. Possibly trephine.<sup>1</sup>

(12) With evident depression, with brain symptoms. Trephine.

*Open (compound) Comminuted Fractures.* (13) No evident depression, no brain symptoms. Probably trephine.<sup>2</sup>

(14) No evident depression, with brain symptoms. Trephine.

(15) With evident depression, no brain symptoms. Trephine.

(16) With evident depression, with brain symptoms. Trephine.

*Punctured and Gunshot Wounds.* (17) In all cases and under all circumstances. Trephine.

<sup>1</sup> In classes 3 and 11 he would be inclined to trephine if the depression were marked, or the fissures sufficiently multiple to approach the character of a comminuted fracture.

<sup>2</sup> In classes 5 and 13 he would trephine, unless the comminution were found to be inconsiderable.

(B) Intracranial hæmorrhage. Trephine for the removal of clot and arrest of bleeding when the probable seat of hæmorrhage is ascertainable, and the clot is believed to be a localized one.

(C) Intracranial suppuration. Trephine, and make, if necessary, exploratory punctures in all cases of abscess.

(D) Epilepsy following cranial injury. Remove portion of cranium in selected cases.

(E) Insanity following cranial injury. Remove portion of cranium in selected cases.

(F) Cerebral tumor. If can localize it, and if it is probably superficial, remove bone; and excise growth if it is found.

## DISCUSSION.

DR. HUNTER MCGUIRE, of Richmond, thought that the doctrines advanced were dangerous ones to promulgate. There were only two conditions in the whole list in which we were told not to trephine. In all other cases trephining was either positively recommended or its necessity considered possible. The adoption of these principles would carry surgery back many years. The first proposition he could not consider as entirely correct, since in some cases where the symptom of compression follows immediately the occurrence of the accident, there was not time for the occurrence of inflammation. He thought that it would not be wise to convert a simple fracture into a compound unless there was some necessity for it, for this did undoubtedly increase the risks. He agreed with the author in reference to the importance of drainage, and in order that this might be perfect, he had in his last case removed a portion of the scalp.

He then described a case of epilepsy of two or three years' standing from punctured fracture in which he applied the trephine. In this case there was a sudden gush of the cerebro-spinal fluid when the button of bone was removed. The patient recovered without trouble.

In a second case in Richmond lunatic asylum, that of a colored man who had received a punctured fracture nine years previously, and who had not uttered a word since the injury, he trephined and in a few hours the patient was talking rationally, and has since recovered entirely.

DR. MOSES GUNN, of Chicago, agreed with most of the opinions expressed by Dr. Roberts. He had himself three years ago enunciated similar doctrines. He held that depressed fractures of the cranium, whether simple or compound, were to be treated by elevation of the depression. The mere act of removing a portion of the cranial walls is not a dangerous procedure. The rules which have been given to-day, if used with judgment, will be of the greatest benefit to the human race. He said he must agree with Dr. McGuire when he says that in some cases the symptoms of compression are due directly to the depressed bone, but he believed that many of the instances spoken of as simple compression are due to irritation and inflammation.

DR. CHARLES B. NANCY, of Philadelphia, agreed with the previous speakers in regard to the first proposition. The nature of the process in these rare cases is unknown. It may be due to a spasmodic contraction of the capillaries of a portion of

the encephalon from the irritation of a sensitive nerve. He could not agree with the second proposition, for the trephining was always associated with the liability to certain accidents which it was often impossible to avert, and he thought that the risks of trephining could not be compared to those of amputations of a metacarpal bone. He agreed in the fourth proposition, but did not consider it necessary to make the exploratory operation as suggested by Dr. Roberts. He acknowledged the importance of drainage. The seventh proposition he dissented from. The speaker described one case of hæmorrhage from the superior longitudinal sinus which had been controlled by a compress sprinkled with iodoform. He had carefully studied the subject of cerebral location, and thought that the motor points were pretty well determined, but considered that there would be great risk in basing an operation wholly on irritation of sensory centres, relating a case bearing on this point.

As regards treatment, there are some cases in which the concomitant injury to the brain is so great that whether trephining is performed or not the patient will die. These deaths are often erroneously attributed to the operation. A second class is at the other extreme. Here the lesions are so slight that if the secondary effects are prevented recovery will occur. In this class there is a medium between the two, and in these trephining is usually called for.

He did not consider the puffy tumor so significant of suppuration as did Roberts. He connected it with osteomyelitis, in which suppuration is often present. In cerebral abscess, he had found the temperature normal and subnormal.

DR. W. F. PECK, of Davenport, Iowa, believed that pressure of bone might directly cause the symptoms of compression, but that these were more commonly due to the secondary effects of the injury.

He related several cases. The first was that of a brakeman struck in the temporo-parietal region on the right side. There were immediate symptoms of compression, which continued for twenty-four hours. After trephining they gradually disappeared.

Four days later he had a convulsion, and examination showed the presence of pus in the brain, which was removed by incision, about an ounce of pus escaping.

The second case was that of a child shot in the frontal region. The skull was trephined, and a clot of blood escaped; drainage was practised, and the child recovered.

In a third case, a child, there was produced a fracture with depression of half an inch without any symptoms. Nothing was done, and the child is still well.

DR. T. F. PREWITT, of St. Louis, considered the propositions advanced too sweeping, and thought that the paper should be thoroughly discussed. The symptoms of compression might be due to compression from bone or effused blood, and it is not rare to have the symptoms from the latter cause. The second proposition may be true, but still trephining should not be done without good reason. The results of a blow upon the head are not simply from the fractured bone, but are also dependent upon the effect on the brain and meninges. The fracture of the bone is not more im-

portant than fracture of any other bone. Although the antiseptic treatment gave us some control over the course of wounds, yet a compound fracture was still more serious than a simple one, and authorities are not agreed as to the value of antiseptics.

In children depressed fractures are frequently not followed by symptoms of compression. The trouble is most likely to be produced where the depressed bone proves a source of irritation to the brain and membranes. Where there is simple depression without symptoms I think that we can afford to wait.

In regard to hæmorrhage, if we believe the bleeding is going on, and the patient is going to die from the compression, it would be advisable to trephine. If symptoms were not urgent it would not be advisable to trephine. A certain amount of blood will be absorbed. If the blood is in the arachnoid space trephining would be of little service.

DR. CHAS. T. PARKES, of Chicago, did not think it proper to compare trephining with amputation through a metacarpal bone. He dissented from the fifth proposition.

He described a case showing the amount of injury which a brain might receive without production of positive symptoms. In this case there was fracture in two or three places, there being depression at vault. This was trephined. Three or four days later there was a flow of cerebro-spinal fluid from the drainage-tube. This he referred to a laceration of brain substance extending to the ventricle.

In a wound of the longitudinal sinus he controlled hæmorrhage by inserting stitches.

He described a case of fracture in which a large portion of the brain substance lying above the tentorium of the cerebellum was lost. There was, however, no evident alteration of sensation.

DR. J. COLLINS WARREN, of Boston, referred to the difficulty of securing thorough drainage on account of the bulging up of the brain tissues which occluded the opening. The brain is then apt to press upon the sharp edges of the opening and cause irritation. He then referred to the difficulties of diagnosis, relating several cases. A child had received a depressed fracture. At first there were no brain symptoms. There was some fever. In a week complete deafness manifested itself, and the child soon died. The autopsy showed pus in the fourth ventricle. In such a case trephining would have been of little service, although the aspirator might have been used.

In another case, the patient, a man, was unconscious and delirious for four weeks before he died. After death no lesion of the brain could be discovered, but a large amount of clotted blood was found in the peritoneal cavity. A case was also cited bearing on the localization of cerebral injuries from the symptoms.

DR. McLANE TIFFANY, of Baltimore, thought that a line must be drawn between the fractures in childhood and those in adult life. There is also a great difference in the effect of such injuries in the negro as compared with the white race. In the former they are not nearly so serious.

DR. S. W. GROSS, of Philadelphia, referred more particularly to gunshot injuries of the skull, and said that he considered drainage in wounds of the brain to be more essential than in wounds of other

parts. He spoke of the case of Noyes, in which a counter-opening was made and a drainage-tube carried through. He thought that the principles which guide the treatment of wounds of other soft parts should be applied to the brain, and referred to the case of Fluhler, in the *New York Medical Journal*, in which the course of the bullet was determined, a trephine applied over the opposite side of the skull and the ball removed.

DR. E. M. MOORE, of Rochester, endorsed the views of Dr. Gross. He considered drainage of great importance. He described a case in which he had traced the course of the bullet with a probe, trephined and removed it, and recommended the passage of a drainage-tube through the brain.

The further discussion of this paper was postponed until Wednesday morning.

Adjourned.

#### WEDNESDAY MORNING.

The discussion of Dr. Roberts's paper was resumed.

DR. DAVID PRINCE said that use of antiseptics in these cases had made the practice of trephining much safer than it had formerly been. The doctor then related a case showing the difference in result in cases treated with and without antiseptic precautions.

DR. JOHN H. BRINTON thought that the first thing that a surgeon looked for in a case where there were symptoms of compression was depression of bone. He thought that such depression could cause the symptoms. He described a case in which there was a fracture from one external angular process to the one on the opposite side, with overlapping of the fragments. There were marked symptoms of compression, which were at once relieved by replacing the bone. He thought that the only cases in which there could be difficulty in determining the proper course to pursue were those cases where there was a simple depressed fracture with no, or very slight, symptoms. He considered the best treatment in such cases to be operation, in order to avoid the sequelæ of such injuries, and read from Gross's *Surgery* extracts advocating this plan of treatment.

DR. THEODORE MCGRAW, of Detroit, described a case to show that although in children the brain might accommodate itself to pressure yet such was not the case in adults. A negro fell striking his head and produced a fracture which was cup-shaped. He was at first stunned, but was soon able to return to work. Dizziness after a time showed itself and this increased until a year after the accident, when he was obliged to quit work. The depressed bone was then trephined and the internal plate was found to be perfectly smooth and the dura mater was free from all evidences of irritation. The man immediately recovered and is now able to work on the highest buildings.

DR. P. S. CONNOR thought it better to use the trephine than to expose the patient to the after effects of these accidents. In the case of gunshot wounds, he did not think the treatment spoken of entirely proper. The operation of trephining he thought was not a trivial one, but the conditions in the cranial bones were different from those found in other bones of the body.

DR. WATSON, of Jersey City, described a case in

which depression of the skull of an adult was recovered from without operation, although there were at the time of the accident marked symptoms of cerebral irritation, and even after recovery the man could not indulge as freely as formerly in the use of alcoholic liquors.

The President, Dr. BRIGGS, was then called on to give his views. He divided cranial injuries into two classes, one in which the force was diffused and the other in which it was localized. In the first class trephining was of no service. In the second class trephining is appropriate. It is only in those cases, in his opinion, where the bone is doing the damage that the trephine is to be employed.

In the majority of those cases where compression is said to be due to depression, I think the operation is unnecessary. Where blood is poured out producing compression, it is different, and the trephine may be used, although with little hope of saving the patient. Where there is formation of pus the trephine is to be used on the same principle as the lancet is used in the case of soft tissues, to evacuate the pus.

The principal and only use of the trephine, in his opinion, is to remove points of irritation, produced by spicules of bone.

The trephine is to be resorted to to prevent those changes which, if once established, cannot be removed. The operation will prevent and limit inflammation. The field of the trephine is preventive and that alone. In the actual operation of trephining there is no danger. If the operation is done carefully it cannot be dangerous. The danger comes from the associated conditions.

Dr. ROBERTS, in closing the discussion, said that he made a distinction between the terms compression and pressure. By compression he meant squeezing. This was not produced in ordinary cases of fracture. The brain was so soft and its communication with the spinal canal so free that it was impossible to produce pressure to any extent.

He attributed the symptoms in those cases in which the accident was immediately followed by signs of compression to shock, laceration of the brain, or concussion. Inflammation, he thought, could develop in the brain more rapidly than was generally supposed. He supported his statement that trephining entailed but little more risk than did amputation of a metacarpal bone by presenting the statistics of the two operations. In regard to exploratory operations in obscure cases, he thought that the little risk of the operation had better be taken than to run the risks of serious consequences from the neglect of the operation. A careful reading of his propositions would show that he did not recommend trephining in all cases of fracture save two, as had been stated.

#### NEPHRECTOMY: ITS INDICATIONS AND CONTRA-INDICATIONS.

By S. W. GROSS, M.D., of Philadelphia.

The operation, he thought, was performed too frequently, and the object of his paper was to point out the scope of the operation. After a careful study of the statistics of the operation he presented the following conclusions:—

I. That primary extirpation of the kidney is indicated, first, in sarcoma of adult subjects; secondly, in the early stage of tubercular disease; thirdly, in rupture of the kidney or of the ureter; and fourthly, in benign tumors.

II. That nephrectomy should not be resorted to until after the failure of other measures; first, in urinary fistulae of the kidney or of the ureter; secondly, in protrusion of the kidney through a wound in the loin; thirdly, in recent wounds of the kidney or of the ureter made in the performance of ovariectomy, hysterectomy, or other operations; fourthly, in suppurative lesions; fifthly, in hydro-nephrosis and cysts; and, lastly, in floating kidney.

III. That the operation is absolutely contra-indicated, first, in calculus of an otherwise healthy kidney; secondly, in sarcoma of children; thirdly, in carcinoma at any age, unless the disease can be diagnosed and removed at an early stage; and, fourthly, in the advanced stage of tubercular disease.

#### NEPHROLITHOTOMY.

By L. McLANE TIFFANY, M.D., of Philadelphia.

This was the report of a case in which the doctor had performed this operation. The kidney was reached through the lumbar region. A needle was introduced and the stone felt. A digital examination was then made and it being determined that the calculus was too large to be removed in its entirety, it was broken with a spoon and removed by a stream of water. Its total weight was 556 grains. A drainage-tube was introduced and a dressing of iodoform and oakum applied. The patient recovered without any bad symptoms.

The doctor thought that the best plan of opening the kidney was to pass directly through the renal tissue without attempting to reach the pelvis or to work around to the back of the organ. There was then less danger of a fistula. The hæmorrhage was readily controlled with hot water.

A full description of the symptoms calling for the operation and the details of the operation was then given.

Dr. J. W. S. GOWLEY said that a case of a similar operation was reported to the New York Medical Association.

Dr. McGRAW, of Detroit, stated that there were but few cases of stone in Michigan, but these cases were attributable to stricture in some portion of the genito-urinary apparatus.

The further discussion of the case was taken part in by Drs. Gross, Connor, Prewitt, and Tiffany.

The afternoon was occupied by a visit to Johns Hopkins University.

#### Recent Literature.

A *Textbook of Practical Medicine, Designed for the Use of Students and Practitioners of Medicine.* By ALFRED LOOMIS, M.D., LL.D., etc. etc. With two hundred and eleven illustrations. New York: William Wood & Co. 1884.

Dr. Loomis is well known as a visiting physician to Bellevue Medical College and Professor of Pathological Anatomy and Practical Medicine in the Medical Department of the University of the City

of New York. This thick octavo volume of 1,100 pages on Practical Medicine is practically, as he tells us, a revision and an elaboration of lectures given during the last eighteen years. The classification of disease adopted is that which he has followed as a teacher: he has selected for description those types of diseases commonly observed by the American physician, and has indicated the treatment usually followed in this country. He has endeavored to avoid the discussion of unsettled questions, referring to such in brief footnotes. The morbid changes and objective symptoms of disease are, as the title-page shows, extensively illustrated by plates.

There is a short introductory chapter on Inflammation, and the rest of the book is divided into six sections. Section I. treats of diseases of the respiratory organs; II. of diseases of the digestive system, including those of the liver, spleen, and pancreas; III. of diseases of the heart, bloodvessels, and kidneys; IV. of acute general diseases; V. chronic general diseases; VI. of diseases of the nervous system, including diseases of the brain, spinal cord, and functional nervous diseases.

In the matter of treatment Dr. Loomis impresses the reader as being moderate and conservative. We notice with some surprise that he condemns, and that quite strongly, the practice of washing out the chest in empyema with a permanent opening, even when the discharge is offensive. He is opposed, and we believe very rightly, to cold applications in pneumonia, and regards venesection, cardiac sedatives, and counter-irritation as productive of more harm than good. He is not in accord with the Germans as to the extreme danger of pyrexia, but thinks moderate doses of quinine and the seasonable use of cold baths, especially in typhoid fever, are in some pyretic conditions, and before the end of the second week in typhoid, of much service. His views and rules for the administration of stimulants are eminently sensible and practical.

To Professor Loomis's students past, present, and future this book should be very acceptable. Others will find it useful for reference. Its bulk detracts somewhat from its convenience as a handbook. The illustrations are for the most part sufficiently clear and satisfactory to add decidedly to the value of the text.

Notwithstanding what we have been glad to say in praise, and not losing sight of the purpose of this volume, we still suspect if the writer were a less busy man he could have produced a book which would have added more to his reputation than this is likely to do, and one which would have been a more lasting addition to American medical literature.

—A prize of 5,000 francs and a gold medal, offered by the Emperor of Germany for the best model of a soldiers' barrack and field hospital, is to be awarded at the forthcoming Antwerp exhibition, and American inventors are invited to compete. The barrack must be large enough to contain twelve beds. It must be easy of transportation, made with interchangeable parts, and capable of being taken down and reconstructed.

## Medical and Surgical Journal.

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### THE EARLY DAYS OF THE CONNECTICUT MEDICAL SOCIETY.

THE Medical Society of the State of Connecticut has felt the propriety of rescuing its early records from the destruction which so rapidly consumes unvalued manuscripts and has published a volume which contains the early transactions and certain literary papers which illustrate medical knowledge and modes of action in the latter days of the last century.

An attempt was made to establish a State Medical Society in 1763, which was unsuccessful; but the memorial of the physicians of Norwich is considered sufficiently curious to repay reproduction. It commences:—

“The Memorial of us the Subscribers Physicians in Said Colony Humbly sheweth That whereas life is the most Desirable of all Sublunary Enjoyments and Health so Invaluable a Blessing that without it in some Degree Life is little Worth And that the Promoting Medical Knowledge among Physicians is the necessary and direct means to Restore Health and Even Preserve Life and is of great Importance as it will Render the Practice of Physic more safe and Serviceable to the Patient and at the same time yield more Satisfaction and Honour To the Profession.” etc.

But the memorial did not meet with favor in the eyes of the Lower House and when the question was put whether anything should be granted on this memorial it was resolved in the negative.

Local associations continued to be formed and further attempts at organization were made, which have left equally interesting documents, though in none is so profuse a use made of capital letters. The Society was finally incorporated in May, 1792, the act of incorporation providing for the formation of county societies, which county societies were empowered to choose by ballot certain persons who should represent them at a State meeting and be known as the Fellows of the Connecticut Medical Society, and the first meeting was held agreeably to

charter at the court-house in Middletown in October, 1792.

In the following year at a convention held at the house of David Bull, innholder in Hartford, a series of by-laws was adopted; after specifying the duties of the officers of the Society, it was ordained "that it shall be highly disreputable for any member to assume or hold the knowledge of any nostrum or paha any medicine or composition on the people as a secret."

This was a subject which strongly exercised the feelings of the convention, for at a meeting in October of the same year it was further ordained "that all physicians and surgeons who pretend to any *nostrums* or *secrets* and are willing to communicate their knowledge to the public, that they may do it under the solemnity of an oath before some proper authority, therein declaring that they have revealed every simple and composition that they are possessed of relative thereto, and their whole method of administering the same without the least reservation. And that the nostrums or secrets shall be advertised in the several newspapers that circulate in the counties where they respectively reside."

In May, 1796, it was represented to the Society that "one of their members had gleaned up from the miserable remains of animal magnetism a practice consisting of stroking with pointed metallic instruments the pained parts of human bodies, giving out that such strokings will radically cure the most obstinate pains to which our frame is incident."

Such practices the Society denounced as barefaced imposition, and ordered their secretary to cite any member practising in such manner before them at the next meeting to give reasons why he should not be expelled for such disgraceful practices. No reference to the subject is made at the next meeting, but in the records of the second meeting appears the following:—

"Whereas, Doctor Elisha Perkins, a member of this Society, having obtained a patent from under the authority of the United States for the exclusive privilege of using and vending certain pointed metallic instruments (pretending that they possess inherent powers of curing many diseases, and that they were an invention of his own), which is directly contrary to rules and regulations adopted by this Society, interdicting their members the use of nostrums; thereupon *Voted*, That the said Perkins be expelled from said Society."

But the trouble in regard to nostrums was not terminated with the expulsion of the notorious Perkins. In 1803 a committee was appointed to prosecute all members who were palming upon the public nostrums or secret patent-medicines. At least two individuals made public the composition of secret remedies under oath and their declarations were published as provided in the by-law previously quoted. Dr. Samuel H. P. Lee, who preserved his

membership by the publication of the composition of New London bilious pills, took advantage of the publication to further advertise that the Society had given its sanction to his pill and the convention found it necessary to publicly reiterate the facts in the case and advise against their use. The public spirit of the profession is abundantly shown in these records which set forth in the condensed form of society records the interest in the establishment of a general hospital in New Haven, of a retreat for the insane, of the establishment of a uniform pharmacopœia, and of various kindred matters. In 1815 William Tully was appointed to write and read at the next convention a dissertation on "The Pernicious and Destructive effects of Ardent Spirits," and in 1817 the thanks of the Society were voted to Dr. Fowler for his dissertation on "The Deleterious effects of Ardent Spirits in the Hypochondriacal Temperament." In 1823 the Reverend Mr. Leavett addressed the Society on the subject of Temperance and the president, in behalf of the Society, pledged their coöperation in all reasonable measures on the subject, and a committee was appointed to report the measures proper to be taken to promote the objects of the American Society for the Promotion of Temperance.

The report of the committee is characterized by that discrimination which is to be expected of a medical convention. After a series of remarks that to-day are platitudes it goes on to say: "It gives to diseases a character which they do not naturally possess; it renders those which are mild severe and those which are severe fatal. No medicine can withstand the progress of maladies which are aggravated by the habitual use of ardent spirits. No skill can divert them from a fatal termination. It is therefore important to us, as we value the character of the medical profession, that we unite our efforts to remove this opprobrium, and as we love our country that we labor to conquer this its greatest and most dangerous foe. . . .

"The cause of temperance is not to be promoted by intemperate measures; nor will the abuse of ardent spirits be counteracted by indiscriminately opposing their use in those cases of disease in which their utility has rarely been called in question."

The resolutions passed on this occasion were published by the Society in the public papers and doubtless had all the influence the convention desired.

The interest the Society took in the subject of medical education shows itself on almost every page of the records. One cannot fail to be impressed by the constant increase in the requirements for a degree. One of the earliest of the honorary prize questions "proposed for discussion to the *faculty* or *literati* of the State of Connecticut or elsewhere" was an inquiry into the most eligible mode of increasing and propagating medical knowledge in the State of Connecticut. Some of the votes show

a minute interest that is almost amusing. In 1800 it was voted that the by-law prohibiting the examination of a candidate until he arrives at the age of twenty-one years be dispensed with in the case of Charles Rogers who is bound on a voyage to sea.

Something seems to have been attempted in the way of collective investigation, for in 1806 it was voted that it be recommended to the several members of the Medical Society through the State that they keep a commonplace-book wherein they shall minute down the most prominent symptoms of disease (either at the bedside of their patients or at home after the duties of the day are over), the medicines prescribed and their effects, the object aimed at in the prescription, and whether the intention was answered by the operation of the medicine prescribed, with such other remarks on the case as shall occur to the prescriber; and that these be transmitted to the secretary by the first day of October or of the month preceding any adjourned convention, to be had before the succeeding convention. Nothing seems to have been done further in the way of such investigation, however.

Such are some of the points of interest in these records of which many more remain unmentioned. Their publication is a valuable addition to the medical history of the country and the example of the Connecticut Society should stimulate other societies to take equal pains to preserve their memorials of the past.

#### PROFESSOR HYRTL'S JUBILEE.

THE veteran anatomist, Professor Hyrtl, who from 1847 to 1874 was one of the brightest stars of the constellation of the Vienna University, celebrated, on March 24th, the fiftieth anniversary of his graduation as a doctor. He received delegations and compliments from his former colleagues and from the present students who knew him only by reputation. Speeches were made, cheers were given, and the event was celebrated with enthusiasm. As a crowning honor, a deputation from the Vienna Doctoren-Collegium brought a magnificent document, his diploma as an honorary member of their body. This compliment has been paid only to Prince Charles Theodore, of Bavaria, and to Professor Virchow. Let us hope that the distinguished anatomist may long wear the laurels he has so laboriously gathered.

Hyrtl was born at Eisenstadt, in Hungary, near the close of 1811. He took his degree at Vienna in 1835, and only two years later was appointed Professor of Anatomy at Prague. He held this position for ten years, when he resigned to accept the professorship at Vienna. From then till 1874, his life appears to have been one of incessant work and rich in brilliant results. Since his resignation he has lived in quiet retirement at Perchtoldsdorf.

Hyrtl's influence on anatomy has been a great one.

The cause of it is to be found in his exceptional constitution, at once a man of talent and a genius, a worker and an enthusiast. Learned in the science as a professor should be, his technical skill excited general admiration. Injections may be said to have been his specialty, and notably corrosion preparations. He published his famous work on human anatomy in 1846, which we believe has passed through seventeen editions. His work on the art of dissection, which included many instructions for various preparations, is well known, but perhaps his Topographical Anatomy is the most familiar to the profession in this country. It would be hard to say what it does not treat of. It contains quotations in various languages, ancient and modern, ranging from grave to gay, from Roman classics to negro melodies. Applications of all sorts, surgical and physiological, abound. Bitter sarcasm and witty retort are brought into play in various controversies. Those, however, who would judge Hyrtl as an anatomist by this book would do him injustice. His vast knowledge is shown by his numerous contributions to the Proceedings, and to the more elaborate Memoirs, of the Academy at Vienna during the period of his professorship. Most of these papers treat of comparative anatomy. He was particularly devoted to fishes, of which he had, we believe, a fine collection. The papers in the Memoirs are most beautifully illustrated with plates, in which the vessels are colored. Among these papers we would mention a series of five contributions to comparative angiology containing numerous plates, among which those of the arteries of sloths and ant-eaters are particularly striking. A later paper on the arterial system of rays has a plate showing an injection of the brain that is truly wonderful. Still later is a paper on vascular plexuses (*wundernetze*) in birds and mammals, showing great research. Among more recent papers is the well-known one on the pelvis of the kidney in man and mammals. Two monographs widely known are that on the placenta, a description of injections of placentae of various shapes and arrangements, and the work on corrosion preparations, in which he describes at length his methods and dwells on the points of anatomy which they show. Among his short contributions to human anatomy and physiology we should name a paper on the coronary arteries and their relation to the aortic valves, one on trochlear processes of occasional occurrence in human bones, and his demonstration of two temporal ridges.

Great changes in the study and teaching of anatomy have occurred since he began his career. Among new methods of demonstration the most important is that of frozen sections, and not least the preparation of flexible muscular preparations. But greater forces than those of mechanical ingenuity have been at work. The great improvements in the microscope have immensely widened the field of anatomy. If we judge correctly there will soon be

a new field in which much is to be learned, intermediate between the macroscopic and the microscopic, one in which the arrangement of muscular bundles, the relations of vessels and fasciæ, will be studied on sections with powers magnifying only from ten to twenty diameters. Rüdinger has done good work in this branch and should have more followers. Another and, in some respects, farther-reaching influence has been that of the theory of evolution. Anomalies formerly looked at simply as curiosities, except when they had a distinct surgical bearing, became interesting as representing in one genus or species, as a variation, arrangements that are normal in others. Various other points, both of human and comparative anatomy, that, in old times, were little considered, now become most interesting from the conclusions to be drawn from them. This advance of anatomy brings a real danger with it, namely, that its scientific aspects should encroach on the attention that is due to practical details. Our medical schools must strive not to send forth scientific *dilettanti*, but graduates whose medical and surgical knowledge rests on the sure basis of anatomy. A great service that Hyrtl rendered was to insist on the practical applications of anatomy. With the advance of all the ramifications of medicine the field of applied anatomy will enlarge, and, even by the close of this century, the change will be immense from its condition in 1847, when Hyrtl was called to the chair at Vienna, but his influence will not have passed away.

#### THE SURGERY OF THE GALL-BLADDER.

THE recently instituted French Surgical Congress, of which our Paris letter gives an interesting account, has just concluded its first meeting and during its sessions listened to two papers on Cholecystotomy and Cholecystectomy, the operations of simple incision and entire removal of the gall-bladder. Each operation as a remedy for the diseases of the gall-bladder, particularly those due to the presence of gall-stones, has its advocates. Puncture of the enlarged gall-bladder by trocar and canula in cases where adhesions had already taken place was advised by Petit as early as 1774. He also proposed the enlargement of the puncture by the knife when gall-stones could be felt by a flexible sound passed through the trocar, and some modification of the operation proposed by him has been repeatedly done. The entire removal of the gall-bladder is of much more recent origin. The exact indications for each operation have not been accurately determined, though the fact that the gall-bladder is a proper field for surgical interference is fully established.

The existing state of opinion on the subject seems to be well shown by the two papers read at the French Congress.

The paper of M. le Dr. J. Thiriar, of Brussels, on

surgical interference in certain cases of biliary lithiasis, is briefly to the following effect: The extirpation of the gall-bladder, as proposed by Herlin and Champaigue, had not been performed on a human subject when Langenbuch, of Berlin, in 1882, operated on a patient with biliary calculus. Since then seven cases have been recorded. Five operations have been performed by Langenbuch, and two by the writer. Five radical cures have been obtained, and M. le Dr. Thiriar considers the two fatal cases seen by Langenbuch as resulting from accidents not connected with the operation.

These achievements of modern surgery have encountered, up to the present time, numerous critics who have opposed the application of surgery to the gall-bladder on various grounds, both physiological and pathological, which can be epitomized as follows:—

(1) The necessity of the gall-bladder to the digestive process in the human subject.

(2) Calculi can form elsewhere than in the gall-bladder.

(3) Cholecystectomy is too severe and dangerous an operation.

(4) The formation of a biliary fistula (Cholecystotomy) ought to be preferred to Cholecystectomy.

It is clearly shown that the gall-bladder is not indispensable to the regular performance of digestion in man. This organ is absent in many mammals, and is not infrequently found in the human subject completely occluded and atrophied.

Even if it must be granted that the formation of calculi is not wholly confined to the gall-bladder, it is an exceedingly rare occurrence, certain pathological conditions excepted, which can induce the formation of concretions in the biliary canals and ducts. Also the existence of these pathological conditions (carcinoma—obstruction of the biliary passages) form an express contra-indication for cholecystectomy.

Cholecystectomy is evidently a delicate and difficult operation to perform, but considering the slight importance of peritoneal injuries inflicted in accordance with antiseptic rules, M. Thiriar regards, of all forms of laparotomy, the extirpation of the gall-bladder as the least severe and least dangerous. It is an operation admissible in cases of biliary calculi which have resisted medical treatment and cause severe crises.

That while cholecystotomy, as done by Lawson Tait, is easier to perform, still it has the disadvantage of resulting in a biliary fistula with all its dangers, and it does not remove the organ in which the calculi are produced, or prevent their re-formation.

M. le Prof. Jules Boeckel, of Strasbourg, drew the following conclusions in a paper upon "The application of cholecystotomy to the biliary calculi":—

The seriousness of the operation of cholecystotomy depends upon the presence or absence of biliary fistula.

When a fistula exists, and the presence of one or more calculi has been demonstrated, the operation is indicated.

The operation is very simple and not especially dangerous where adhesions exist between the gall-bladder and the parietes of the abdomen, and, under antiseptics, does not yield a large mortality.

When, however, there is an absence of a fistula or adhesions the operation is very grave.

If a tumor of the gall-bladder exist which when aspirated reveals the presence of biliary calculi, the operation seems indicated to M. Boeckel.

The diagnosis well established, the operation ought to be done early to avoid the grave accidents which may follow delay.

In conclusion M. Boeckel remarks that the actual state of our knowledge does not permit us to decide between the two operations. Additional experience is needed to solve the problem.

#### MEDICAL NOTES.

##### BOSTON.

— Since our issue of last week three more cases of smallpox have occurred in Boston. All have originated at the West End, but no connection can be traced with any of the foregoing cases, except in one instance. A girl who was sent to the Smallpox Hospital, April 13th, was living with a sister who had been fully exposed, and who had never been vaccinated. The latter was vaccinated that same day. On the 20th the vaccine inside attained its acme, and on the 23d the girl developed a mild case of varioloid. There are now five cases in the hospital, of which three are practically convalescent. The other two, neither of whom had been vaccinated, are very sick with the confluent form of the disease. The total number of cases in the present epidemic has been six. Free public vaccination is now being carried on.

##### NEW YORK.

— A conference of representatives of the boards of health of New York, Brooklyn, Boston, Philadelphia, Baltimore, and New Haven, was held at the Fifth Avenue Hotel, April 23d, for the purpose of discussing quarantine matters generally and uniting upon uniform regulations for the prevention of the introduction of cholera into this country. Among other things, the admission of rags from foreign ports was taken up and fully discussed, and it was concluded to establish a close quarantine against them; allowing none to be landed until after having been thoroughly boiled or steamed by the superheated steam process. The sulphurous-acid disin-

fection of rags was conceded to be ineffectual, and the conference decided against it. The opinion was incidentally expressed that one principal reason why small-pox had been of such infrequent occurrence of late in New York was on account of the stringent regulations requiring all old rags to be disinfected.

— At a meeting of the State Board of Charities, held April 16th at Albany, a resolution was passed to the effect that, in view of the frequent prevalence of diseases, due to local causes, and the possible appearance of cholera during the coming season, the managers and officers of charitable and reformatory institutions throughout the State should be requested to make a critical examination of the institutions under their charge, for the purpose of determining whether they are in all respects — but especially as to sewerage, plumbing, water-supply, and the proper disposal of filth — in the highest possible sanitary condition, to the end that these establishments may, in the emergency contemplated, prove healthful restorative agencies, instead of centres for the propagation of disease, as is otherwise possible.

— The bill providing for a free park at Niagara Falls has finally passed both houses of the Legislature.

#### Correspondence.

##### THE FIRST MEETING OF THE FRENCH CONGRESS OF SURGEONS.

PARIS, April 12, 1885.

*Mr. Editor.*—The French Congress of Surgeons, — so called, — whose first meeting terminates to-day, is not, strictly speaking, *French*. Its foundation and aims have a broader purpose than the gathering of merely French surgeons. This purpose is to bring together once yearly not only surgeons of France, but of all countries, whose language is French — Belgium, Switzerland, Canada, etc., indeed of any country, the sole condition being that all papers shall be read and discussed in the French tongue. The Congress owes its birth to Professor Demons, of Bordeaux, who, early last year, addressed a note to the Society of Surgery, proposing the creation of a Congress of Surgeons. This proposition was referred to a Committee, composed of Trélat, Verneuil, Chauvel, Horieloup, and others, and this body finally accomplished the foundation, opened a list of members, and found the scheme eagerly adopted. The chief reasons for creating the Congress were: (1) Since the destruction by Lister and Es-march of the two *bête-noirs* of surgery — purulent infection and hemorrhage — provincial surgeons, who heretofore, in serious operations, have called to their aid surgeons of the metropolis, have begun independently to venture boldly into the domain of surgery; and such has been the growth of skill and experience that a better means for the interchange of intelligence than that afforded by the Section of Surgery in the French Medical Association has become necessary. Further, provincial surgeons seem to be in danger of passing from the extreme of timidity to that of temerity. This, at any rate, suggests the value of an annual congress at which the results of this greatly increased surgical activity may be gathered, discussed, and perhaps judged. (2) The publications of the

Congress will open a far larger channel of communication with the medical public; for, subjects read and discussed will not be consigned to, and hidden in, archives or in journals not widely read, but will be so published as to make the authors and disputants quickly and widely known.

The number of members already inscribed is 193, of whom fifty-four are founders. The latter include surgeons of Paris and many departments of France, also of Strasbourg, Bâle, Geneva, Brussels, Havana, and Copenhagen. In the general list are also surgeons from Russia, Italy, and Holland. The Congress will meet in Paris annually, during Easter week, in the Amphitheatre of the *École de Médecine*. The present meeting proves that the members are deeply interested. The scheme is a broad one, and, apparently, the importance and influence of the Congress will have a rapid growth.

By-laws require that members who wish to present papers, or rather communications, for they are very brief, shall make it known to the Secretary before January 1; and, at the same time, send a concise *résumé* which will be published in whole, or in part, in the programme distributed before the opening of the Congress. The forenoon sessions are devoted to communications, and discussions upon subjects given out by the "Permanent Committee." The afternoon meetings are given to "diverse communications." No reader is allowed to exceed fifteen minutes without permission of the President, who has the power to add ten minutes. Beyond this period he must consult the Assembly. In discussion, the limit for each speaker is five minutes which the President may increase to ten. The same speaker (disputant) may not occupy more than fifteen minutes of one session without consent of the meeting.

All manuscripts are to be given to the Secretary, otherwise only a *résumé* will be published. Members who wish to take part in discussions are requested to notify the Secretary in advance. They are called in the order of their inscription.

At these meetings, both morning and afternoon, the amphitheatre was filled with a very attentive audience. The President of this Congress was Professor Trélat, of Paris; Vice-President, Professor Ollier, of Lyons. At the long presidential table sat also Eugène Boeckel and Koerberle, of Strasbourg, Socin, of Geneva, Verneuil, of Paris, Tilanus, of Amsterdam, and Chanvel, of Paris, six in all, who formed the body known as "*Présidents d'Honneur*." Each of these in turn presided, the actual President, meanwhile, taking place in the audience. At the opening of each morning session two of the "*Présidents d'Honneur*" were announced to act at the meetings of that day. This struck me as a very graceful way of honoring prominent surgeons, and at the same time a wise means of relieving the actual President of constant duty. The board of officers which attends to all the affairs of the Congress, including finances and publications, is called the "Permanent Committee," and is composed of seven members, including President and Vice-President. Every two years, two of the committee are to be replaced by a new election. The board has its own secretary who attends to all correspondence. On the right, and in front of the President, was a long table labeled "Secretaries." Here sat six secretaries facing the President. At each session one of these announced the programme of that meeting, and gathered papers as they were read. At the next session another secretary acted similarly, and thus by turns each one served, the remainder, meanwhile, taking notes of papers, and discussions for an official *résumé*.

On the President's left was a similar long table labeled "Press." Here sat six or eight reporters for medical journals. Both tables, as was also that of the President, were supplied in front of each man with a plenitude of writing material of every sort, the paper

having an official printed heading. The readers of papers and disputants sat at a small table a little lower than, and directly in front of, the President. The tables were uniformly covered with dark green cloth. Two or three servants, in plain livery, were always at hand, and so well instructed were they in their duties that they invariably knew, or did, or brought, or carried away the right thing at the right moment, without need of more than a word or a nod. The entire machinery of the Congress was simple, uncomplicated, and noiseless, and the manner of conducting meetings Spartan. When the hour arrived the chairman struck his bell and merely said: "*La séance est ouverte*." The secretary for that meeting then going to the reader's table announced the programme in detail. The President then said: "*La parole est à Monsieur X.*" and the reader came forward, and without saluting either President or audience, took his seat, and plunged into his subject. In no instance was a reader introduced by his title, not even of Doctor. The word was simply "*Monsieur*." When the reader reached his summing up, the President leaned forward and said: "You have four minutes," or two minutes, as the case was. If the quarter-hour allotted to each paper expired before the reader had concluded, the President announced the fact, and the reader was obliged to hasten and shorten. No exceptions were made, a venerable professor being pulled up with as little mercy as one of the youngest members. It was truly refreshing to observe this military promptness and decision. A much greater amount of work was thus accomplished. Every reader and disputant was applauded by the clapping of hands. Papers were read in groups of three or four, all relating to the same subject. They were at once followed by discussion (of five minutes to each man) by members who had already signified a desire to speak, and who were called upon, in order, by the invariable: "*La parole est à Monsieur X.*" and not one moment was lost. There was not a hitch nor a jar. Everything moved with the smooth quiet of an observatory clock. In the audience the utmost stillness prevailed, and attention to subjects seemed intense. Members were prompt in entering at the hour. Going, out of curiosity, into the courtyard of the school, to see whether members were chatting and gossiping during the hours of the session, I was surprised to find only two or three, and these young men, and perhaps not members. It was impossible not to recall the too frequent beggarly array of empty benches at such sessions of the annual meetings of our State Society, as are devoted to the reading of papers. A Fellow prepares his paper at great expense of time and study, and deserves a good hearing, but it cannot be denied, unless his subject be one of very marked and general interest, that his audience is mainly found in the readers of the *Boston Medical and Surgical Journal*. This is unfair and unjust, and I must confess to a feeling of mortification as I saw the vivid interest of the members of the Congress in every paper, whether it related to a simple matter like chronic abscess, to a subject of general interest to all surgeons, or whether it pertained to a special topic, as for example, ovariectomy or orthopedic operation. Indeed the warmest discussion of the meeting was, perhaps, on the proper treatment of the pedicle after ovariectomy. This, however, apparently is a matter which never will be settled.

At the opening of the final session members were called upon to vote for president and vice-president for 1886, and again I was surprised by the absolute absence of complication. Upon the reader's table were two bronze vases, respectively labeled "President" and "Vice-President." At the word from President Trélat, members, already provided with two ballots, upon which they had written the names of their candidates, came quietly forward and deposited them folded in the proper vases. This was rapidly accomplished.

The President then emptied the ballots for president upon the table and counting them aloud: "One, two, three," etc., passed them one at a time to the presidential secretary who opened and deposited them in a pile. The number having been counted, the secretary returned the ballots, open, one by one to the President, who read the name upon each, tore each half across and replaced it in the vase. As he read the names of the candidates, the six official secretaries kept score, and as soon as the President had completed the reading of names, the result of the vote was ready for his inspection. He then read, "Monsieur A., so many votes. Monsieur B., so many votes," and finally announced as elected the man who received the largest number. The same procedure was followed with the other vase and the vice-president similarly elected. Here was no nominating committee, no hidden machinery. It may be that candidates had been suggested to the members (though this is very doubtful, simply because there were at least six candidates for president), but it was not done in committee. In taking the sense of the meeting by the raising of hands, the President counted the hands aloud: "One, two, three," etc. All was done quickly and quietly. Ollivier, of Lyons, was almost unanimously elected president for 1886. The vote for vice-president ran closely between Eugène Boeckel (there were two Boeckels present, cousins, both professors, both from Strasbourg) and Verneuil, of Paris. The latter was elected.

As to the comfort of the audience the less said the better. Probably at no period of the world's history did human ingenuity ever arrange more exquisitely uncomfortable seats than those of the Amphitheatre of the *Ecole de Médecine*. They consist simply of a horizontal plank, a dolefully narrow one and hard as a curbstone, supported by planks set on edge. No back whatever, and a straight fall for the leg, unless by good fortune you have no one in front. In that case you may rest your feet on the seat before you. There is just room to move between the seats and no stretch for the leg when sitting. You probably have at least one foot of each of the two men behind you in your coat-pockets. Your only revenge is to put your feet into the pockets or upon the coat-tail of the man in front. You must hold your hat and stick in your hands, and your overcoat upon your lap, for there is no other resource. Nevertheless, the audience sat patiently all day long, for six days, without a murmur. It was noticeable that there seemed to be a regulation dress of frock coat of black broadcloth, black trousers, and a silk hat. If there was an exception to this dress it was worn by an outsider. There was a room provided with abundance of stationery for members who wished to write. In another room one officer seemed to do the whole work of supplying tickets and information and of receiving fees, and during the hours of sessions he was perfectly idle, having no callers. A few instruments were exhibited in an ante-room, but no medical books, nor pills, nor medicines, nor extracts of beef, nor *chocolat de santé*, nor any of those scores of things which are displayed at home, and with which one would think, we are so much plagued during the remainder of the year to make it quite needless to have them in our way at annual meetings.

The Congress was simply an earnest development and discussion of various surgical topics, and to these members were solidly devoted and, apparently, cared for nothing else. It was remarkable that readers, who made no use of their papers, or who spoke with no notes at all, were fluent of speech, never hesitated for words, and, evidently, were full of their subject-matter; for it was impossible to detect the slightest self-consciousness in any one of them. Ollivier was the exceptional disappointment. Giving one the impression of a man of strong physique, his voice is weak and his utterance very indistinct, but he received very

respectful attention whenever he spoke. He has an attractive face, certain expressions of which vividly remind one of a well-known doctor of our own city.

In reading the list of members of the Congress, professors are found to be as relatively plentiful as titles in Germany. There are seventy-seven of them in a list of 193 members. This is, however, very significant of the intellectual quality of the Congress. In the prospectus sent out by the secretary occurs the pathetic remark: "It is not necessary to mention our *confères* of Alsace-Lorraine, whom we do not separate from the French."

As for the subjects treated at the Congress, they naturally were very diverse. Those proposed by the Committee were briefly: the aetiology and pathology of surgical infection; indications furnished to practical surgery by examination of the urine; the best dressing to employ in military surgery in the field; the cure of cold abscesses; operative indications in deep wounds of the abdomen. These were considered from various points of view during morning sessions. Coxalgia, ovariectomy, hernia, gastrotomy, fractures, artificial anus, operations on the eye, and many matters of which space does not admit mention, were the afternoon topics. Models, specimens microscopic, bony, etc., casts, and pathological preparations were plentiful. The Congress had a most successful beginning and we shall hear more of it.

II. O.

## THE SANITARY CONDITION OF NANTUCKET.

Boston, April 20, 1885.

Mr. Editor,—Bearing in mind the necessity for brevity and the axiom that infinitely small quantities may be disregarded, I shall confine my reply to the first two of Dr. Abbott's criticisms of my communication of March 26th.

"(1) Dr. W. states: 'The report relies chiefly on its statistics for the conclusions reached.'" For the truth of this remark I refer to the report in which there are more pages devoted to statistics than sentences relating to the tour of inspection.

"(2) Dr. W. states: 'The State Board has compiled its statistics on the number of burials.' Very true and the same rule is applied to every city and town in the State." Thus Dr. A. defends the State Board, *not by saying its statistics are accurate, but by saying that they are not more inaccurate when applied to Nantucket than they are when applied to all other towns in the State.* Yet even in this defence the champion of the State Board is in error, as was shown in my former letter. Nantucket in 1840 had a population of 9,012; in 1880, of 3,727. This decrease of over 5,000 was largely due to emigration. Now, many of these emigrants died; their bodies were returned to Nantucket, and, as the report shows, their deaths were included in the record of the town's dead. Although, in life, these emigrants are not included amongst the population, yet in death they are included amongst the town's dead. As the fallacy of this reasoning does not seem perfectly clear to Dr. Abbott, let me illustrate it by a simple figure: A State official with a pen over his ear and an inkbottle at his waist calls at a house in Nantucket and demands: "How many people live within?" The answer is "Two": that the four children of the household emigrated to the mainland ten years previous. The State official writes down in his book that two people live in the house, and takes his departure not to return until the following year. In the interval between his visits the four children of the family die on the mainland, let us say of one of those peculiar epidemics of diphtheria mentioned by the State Board in its footnote; their bodies are brought to Nantucket and they are buried from their father's house. When the State official returns he asks: "How

many burials have you had from this house during the past year?" The answer is "Four." Then the State official held up his hands in amazement: "Four people have died!" he exclaims. "This must be an extremely unhealthy house if two hundred per cent. of its inhabitants die in a single year!"

However ridiculous this may appear, yet it is exactly analogous to the reasoning of the State Board. Moreover, it is upon statistics so compounded that one fourth of Dr. A.'s defence is based. Nor does Dr. A. strengthen his position when he concludes his second objection by the remark: "Dr. W. carefully omits any

allusion to Captain Allen's admission that the bodies thus brought to Nantucket were *natives of the island*, and the obvious bearing of this fact upon the subject."

When the State Board and its statistics can only be defended by claiming that emigrants *inherit* typhoid fever, dysentery, and diphtheria from their native towns it seems to me that further argument is superfluous. In conclusion, I would simply add that Dr. A.'s defence is weak because of the weakness of his cause, as any one may convince himself by perusal of the report.

Yours truly,

HAROLD WILLIAMS, M.D.

# REPORTED MORTALITY FOR THE WEEK ENDING APRIL 18, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	696	272	16.10	21.70	7.05	1.96	10.25
Philadelphia . . . . .	927,995	438	159	14.03	9.43	7.12	1.84	.69
Brooklyn . . . . .	644,526	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	201	63	9.31	26.46	4.32	2.94	—
Baltimore . . . . .	408,520	168	58	11.40	10.22	4.80	1.80	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	130	53	6.93	26.95	.77	3.08	.77
New Orleans . . . . .	234,000	120	34	11.93	9.13	3.32	—	.83
Buffalo . . . . .	201,000	58	15	12.04	10.32	1.72	1.72	—
District of Columbia . . . . .	194,310	117	42	10.20	20.40	3.40	3.40	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	143,400	50	17	38.00	20.00	28.00	2.00	—
Providence . . . . .	119,405	49	10	10.20	12.24	2.04	2.04	—
New Haven . . . . .	62,882	29	9	—	13.80	—	—	—
Nashville . . . . .	54,400	26	6	3.85	23.10	—	—	—
Charleston . . . . .	52,286	29	3	10.35	3.45	—	—	—
Lowell . . . . .	71,447	27	7	7.40	11.10	3.70	3.70	—
Worcester . . . . .	69,442	29	11	6.90	24.15	—	—	—
Fall River . . . . .	62,674	20	9	—	25.00	—	—	—
Cambridge . . . . .	60,995	34	12	14.70	23.52	8.82	—	—
Lawrence . . . . .	45,516	22	7	—	—	—	—	—
Lynn . . . . .	44,895	10	4	10.00	20.00	10.00	—	—
Springfield . . . . .	38,090	18	5	18.20	15.66	—	—	9.10
Somerville . . . . .	31,350	12	4	25.00	33.33	—	8.33	16.66
Holyoke . . . . .	30,515	5	1	20.00	20.00	20.00	—	—
New Bedford . . . . .	30,144	18	7	11.11	38.88	—	—	11.11
Salem . . . . .	29,503	15	5	13.33	6.66	13.33	—	—
Chelsea . . . . .	24,347	13	1	30.76	15.38	7.69	24.07	—
Taunton . . . . .	22,693	6	2	16.66	16.66	—	—	—
Gloucester . . . . .	21,400	9	3	—	11.11	—	—	—
Haverhill . . . . .	20,905	15	1	6.66	20.00	—	—	—
Newton . . . . .	19,421	5	2	20.00	—	—	—	20.00
Brookton . . . . .	18,323	5	1	—	—	—	—	—
Malden . . . . .	15,273	5	1	—	—	—	—	—
Newburyport . . . . .	13,947	0	0	—	—	—	—	—
Fitchburg . . . . .	13,433	5	3	—	—	—	—	—
Waltham . . . . .	13,438	8	1	—	—	—	—	—
Northampton . . . . .	13,165	—	—	—	12.50	—	—	—
92 Massachusetts towns	—	82	20	10.38	21.36	3.66	2.44	4.88

Deaths reported 2,414; under five years of age 818; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 311, lung diseases 439, consumption 422, diphtheria and croup 121, scarlet fever 50, measles 38, diarrheal diseases 24, typhoid fever 20, cerebro-spinal meningitis 16, whooping-cough 15, malarial fevers 12, purpural fever 12, erysipelas six. From diarrheal diseases, New York 10, Philadelphia five, Cincinnati three, New Orleans and Lawrence two each, Milwaukee and Providence one each. From typhoid fever, Philadelphia seven, Providence and Charleston two each, New York three, Baltimore, Buffalo, Milwaukee, Nashville, Springfield, and Haverhill one each. From cerebro-spinal meningitis, Buffalo three, New York, Philadelphia, Baltimore, and Worcester two each, Milwaukee, Springfield, and Taunton one each. From whooping-cough, New York eight, Boston and District of Columbia two each, Philadelphia, Baltimore, Lawrence one each. From malarial fevers, Baltimore four, New York and New Orleans three each, Philadelphia one.

Two cases of small-pox were reported in Boston.

In 13 cities and towns of Massachusetts, with an estimated population of 1,442,550 (estimated population of the State 1,355,101), the total death-rate for the week was 20.15, against 21.77 and 20.80 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,416, for the week ending April 14th the death-rate was 23.1. Deaths reported 3,937; infants under one year of age 937; acute diseases of the respiratory organs (London) 178, measles 173, whooping-cough 130, fever 45, scarlet fever 33, diarrheal 26, diphtheria 27, small-pox (London 26, Liverpool and Manchester two each, Birmingham and Leeds one each) 32.

The death-rates ranged from 15.7 in Leicester to 40.4 in Sunderland; Birmingham 20.2; Birkenhead 21.9; Bradford 17.8; Hull 21.3; Leeds 21.9; Liverpool 24.4; London 21.7; Manchester 28.9; Newcastle-on-Tyne 33.7; Nottingham 21.7; Sheffield 25.2. In Edinburgh 17.1; Glasgow 34.6; Dublin 33.6.

For the week ending March 28th in the Swiss towns there were 52 deaths from consumption, lung diseases 34, diarrheal diseases 14, diphtheria six, small-pox five, measles four, typhoid fever and scarlet fever each three, whooping-cough 10. The death-rates were: at Geneva 1.52; Zurich 9.7; Basle 21.9; Berne 39.3.

For the week ending April 4th in the Swiss towns there were 41 deaths from consumption, lung diseases 35, diarrheal diseases 12, diphtheria and croup seven, typhoid fever seven, measles three, whooping-cough two. The death-rates were: at Geneva 11.2; Zurich 8.7; Basle 29.3; Berne 47.0.

The meteorological record for the week ending April 18th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, Apr. 18, 1885.	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.25 A. M.	3.25 P. M.	11.25 P. M.	Daily Mean.	7.25 A. M.	3.25 P. M.	11.25 P. M.	7.25 A. M.	3.25 P. M.	11.25 P. M.	7.25 A. M.	3.25 P. M.	11.25 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, 12	29.737	36.5	38.8	32.1	79	95	92	88.4	S W	E	N W	6	12	3	O	R	O	—	—
Monday, 13	29.770	32.5	34.9	33.1	81	70	81	77.3	W	W	W	6	12	3	O	R	O	—	—
Tuesday, 14	29.971	42.1	52.1	35.7	78	43	66	62.3	N W	N W	W	14	16	1.1	F	O	C	—	—
Wednes., 15	29.925	43.3	53.0	31.6	63	25	61	49.7	W	W	N W	12	18	8	C	O	C	—	—
Thurs., 16	29.925	42.4	52.1	36.2	50	32	61	47.1	N W	N W	N W	14	17	12	C	C	C	—	—
Friday, 17	30.121	45.0	56.5	35.2	38	36	38	50.7	N W	N W	N W	14	18	12	F	C	C	—	—
Saturday, 18	30.415	45.5	47.4	37.8	43	52	57	56.7	N	E	W	14	11	11	C	C	C	—	—
Mean, the Week.	29.980	41.9	49.2	31.6				61.0										17.30	.11

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening.

<sup>2</sup> Clearing up.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 18, 1885, TO APRIL 24, 1885.

MCPARLIN, T. A., lieutenant-colonel and assistant medical purveyor, United States Army. Sick leave of absence extended three months on surgeon's certificate of disability. S. O. 88, A. G. O., April 17, 1885.

SMITH, JOS. R., lieutenant-colonel and surgeon. BILLINGS, JOHN S., major and surgeon. McELDERY, HENRY, major and surgeon, detailed to represent Medical Department of the Army at annual meeting of American Medical Association, to be held at New Orleans, La., April 28, 1885. S. O. 91, A. G. O., April 21, 1885.

ROBERTSON, R. L., first lieutenant and assistant surgeon. Granted leave of absence for one month. S. O. 43, Department of Texas, April 16, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDING APRIL 18, 1885.

YEMANS, H. W., assistant surgeon. Detailed as medical officer, Revenue Steamer "Corwin" during cruise. April 16, 1885.

BATTLE, K. P., assistant surgeon. When relieved to proceed to New Orleans, La., for duty. April 13, 1885.

BROOKS, S. D., assistant surgeon. Granted leave of absence for ten days. April 16, 1885.

#### DEATHS.

DIED, in Taunton, April 21, 1885, William Hathorne Gage, M.D., M.M.S.S., aged fifty-four years.

In Dorchester, April 22, 1885, Andrew Alexander, M.D., M.M.S.S., aged seventy-three years.

In Templeton, Mass., April 26, 1885, Joseph Cummings Hatchelder, M.D., M.M.S.S., aged seventy-six years.

#### BOOKS AND PAMPHLETS RECEIVED.

The Nature of Mind and Human Automatism. By Morton Prince, M.D., etc. etc. Philadelphia: J. B. Lippincott & Co. 1885.

Forty-second Annual Report of the Managers of the State Lunatic Asylum at Utica for the Year 1884. Transmitted to the Legislature January 13, 1885.

Does Tobacco produce Amblyopia? By Franklin Coleman, M.D., M.R.C.S. Eng., Baltimore, Md., Professor of Diseases of the Eye and Ear, Baltimore Polytechnic and Post-Graduate Medical School, etc. etc. (Reprint from the Maryland Medical Journal.)

The New York Post-Graduate Medical School and Hospital. Schedule of Lectures on Mechanical and Operative Orthopedic Surgery. By Prof. Milton Josiah Roberts. Part I. Orthopedic Technology.

Reports of the Trustees and Superintendent of the Butler Hospital for the Insane. Presented to the Corporation at their annual meeting, January 28, 1885. Providence, R. I.

Twenty-fifth Annual Report of the Medical Superintendent of the State Asylum for Insane Criminals, Auburn, N. Y., for the Year ending September 30, 1884.

Eudemic Goitre or Thyroecole, being the Thesis for the Degree of Doctor of Medicine of the University of Durham, for which the Gold Medal of the Year 1884 was awarded, etc. By William Robinson, M.D. and M.S. London: J. & A. Churchill. 1885.

Annual Report of the Librarian of Congress, exhibiting the Progress of the Library during the Calendar Year 1884.

Preliminary Report on Disinfection and Disinfectants, Made by the Committee on Disinfectants of the American Public Health Association.

Lessons in Hygiene: An Elementary Textbook on the Maintenance of Health, with the Rudiments of Anatomy and Physiology, etc. Comprising also Lessons on the Action of Stimulants and Sedatives on the Brain and Nervous System. Adapted for Common Schools. By John C. Cutler, B.S., M.D. Illustrated. Philadelphia: J. B. Lippincott & Co. 1885.

Insomnia and other Disorders of Sleep. By Henry M. Lyman, A.M., M.D. Chicago: W. T. Keener. 1885.

A Practical Treatise on Nasal Catarrh and Allied Diseases. By Beverly Robinson, A.M., M.D. (Paris). Second edition, revised and enlarged. With 152 wood engravings. New York: William Wood & Co. 1885.

Minor Surgical Gynecology. A Treatise of Uterine Diagnosis and the Lesser Technicalities of Gynecological Practice, etc. For the use of the Advanced Student and General Practitioner. By Paul F. Mundé, M.D. Second edition, revised and enlarged. With 321 illustrations. New York: William Wood & Co. 1885.

Catalepsy in a Child three Years Old. By A. Jacobi, M.D., New York. (From American Journal of the Medical Sciences, April, 1885.)

On Idiopathic Anæmia. A Report of three Cases, with Remarks, and an Analysis of the Cases hitherto published in America. By J. H. Musser, M.D. Philadelphia. 1885.

An Introduction to the Study of the Compounds of Carbon, or Organic Chemistry. By Isak Tensen, Professor of Chemistry in the Johns Hopkins University. Boston: Ginn, Heath & Co. 1885.

Operative Surgery in the Calcutta Medical College Hospital; Statistics, Cases, and Comments. By Kenneth McLeod, A.M., M.D., F.R.C.S. Eng. London: J. & A. Churchill. 1885.

The Microscope in Botany. A Guide for the Microscopical Investigation of Vegetable Substances. From the German of Dr. Julius Wilhelm Behrems. Translated and edited by Rev. A. B. Hervey, A.M., assisted by R. H. Ward, M.D., F.R.M.S. Illustrated. Boston: S. E. Cassino & Co. 1885.

Topographical Anatomy of the Brain. By J. C. Dalton, M.D., Professor Emeritus in the College of Physicians and Surgeons, New York, and President of the College. Vol. III. Philadelphia: Lea Brothers & Co. 1885.

Les Pansements et la Mortalité Epidémique de Contagion. Ferments et Microbes. Leçons d'ouverture discours de clinique chirurgicale. Hôpital Necker (Novembre, 1884). Par le Professeur Léon Le Fort. Paris: Felix Arcau, Editeur.

## SUPPLEMENT.

THE AMERICAN SURGICAL ASSOCIATION.<sup>1</sup>

THIRD DAY. — THURSDAY MORNING SESSION.

## THE HEALING OF ARTERIES AFTER LIGATURE.

By J. COLLINS WARREN, of Boston.

The speaker had for a number of years interested himself in studying the process of repair in arteries. The changes which occur in arteries after ligation may be not inaptly compared to those which occur in long bones after fracture. In both we find an external and internal callus, the former having only a provisional existence in the case of arteries, and subsequently giving place to a ligamentous union of the divided fragments, the latter undergoing such changes in the latter stages of the process that the canal or lumen of the vessel is imperfectly reestablished by the so-called "canalization" of the thrombus. In the meantime, the walls of the vessel, like the cortical bone, have undergone certain changes which enable them to participate in the final process of repair. When a large artery is tied in its continuity, the intima and a portion of the media are usually ruptured and the adventitia is gathered into a dense sheath around the constricted ends. The first noticeable change is the formation of the thrombi and the development of a granulation-like mass of cells about the ligature, which, if the ends have been cut short, is completely enveloped by them. When the injury done by the ligature is slight this new formation will be less in quantity. This granulation tissue extends some distance up and down the sides of the vessel in the periadventitial tissue, the round cells of which it is composed invading only the superficial layers of the adventitia. These cells follow the ligature as it cuts its way through and penetrate the spaces of the divided walls, make their way into the clot and contribute more or less to the development of the internal growth. This growth forms a callus-like ring at the seat of ligature, in size about twice the thickness of the vessel. At the end of a month, there are still evidences of such cicatricial mass of tissue, but at three months, a slender cord only unites the peripheral to the proximal end.

The changes in the proximal thrombus are well advanced on the fourth day. A budding from the ruptured ends of the media takes place, which spreads in various directions through the clot, attaching itself to the walls at various points, and leaving spaces or meshes still occupied with blood-clot. As these fragments of clot become disintegrated and disappear, spaces are left into which blood eventually circulates, and the so-called "canalization" of the thrombus is effected. By the fifteenth day, the new tissue has become very abundant. By the end of a month, only fragments of the thrombus remain, and the granulations now present themselves to the lumen of the vessel. There is a free communication between the spaces

of the granulation-like masses and the lumen of the vessel.

Certain changes in the meanwhile occur in the walls of the artery. There is a proliferation of the cells of the intima. This development is not sufficient to supply more than a small part of the internal callus. Whether the intima has been ruptured and the media exposed, there is an intimate connection existing between it and the new tissue. At an early stage of the process cells spring from the muscular layer and project into the thrombus; later, elongated spindle cells, like those forming the muscular layer, are seen projecting into the newly formed tissue. By the end of the second week the media and adventitia retract, leaving a space through which vessels find their way and communicate with those from the lumen.

The cicatricial process is completed in three months. The external callus and thrombus have disappeared.

In this process lies the explanation of the immaturity of cicatrices of this kind from aneurismal dilatation, so common after wounds of vessels. The protective influence of the thrombus insures the development of a tissue closely resembling the three layers of the vessel wall, and having all the powers of resistance which they possess. In the larger vessels of the human subject, where there is less muscular and more elastic tissue, the new muscular tissue is not so evident, but the connective tissue is increased in quantity, and extends a long distance into the lumen of the vessel.

The doctor also exhibited a number of specimens and microscopic preparations illustrating his remarks.

## DISCUSSION.

DR. N. SENN, of Milwaukee, had been much interested in the reading of the paper. He would, however, attribute the external callus which had been described to the force which was used in the ligation and to the neglect of antiseptic precautions. If only sufficient force was employed to bring the internal coats of the artery in contact this would not be observed. He would carry Dr. Warren's comparison of the healing of an artery to the healing of a bone after fracture still farther. If the ends of a fractured bone were kept at perfect rest and in apposition there would be but a slight amount of callus, while if these precautions were not taken the amount of callus would be greatly increased. While he hoped that the view of Dr. Warren in reference to the formation of muscular tissue in the cicatrix would be confirmed, yet he must say that it was against analogy. We always expect muscular tissue, when divided, to unite by means of connective tissue. The reason that aneurism was so infrequent after ligation, he thought, was the development of connective tissue in the vessel. As a result of the rest imposed upon the artery by ligation the muscular tissue underwent fatty degeneration and was absorbed, its place being filled by

<sup>1</sup> Concluded from page 119.

unyielding connective tissue. He suggested that the muscular cells seen by Dr. Warren might be the cells of preëxisting muscular tissue displaced by the contraction of the cicatrix.

DR. WARREN, in closing the discussion, said he had exhibited those specimens and illustrations which showed the changes in the most marked degree, but he had specimens in which the force exerted had not been excessive in which the same external callus could be seen, although to a less marked extent.

Dr. Senn had overlooked the difference between striped and unstriped muscular tissue. The former was much more complex than the latter, and healed, as had been stated, by the formation of connective tissue. In the unstriped variety, however, it was different, and in support of his assertions he referred to the great development of unstriped muscular tissue which takes place in pregnancy and in myoma of the uterus.

#### SOME POINTS IN THE SURGERY OF HYPERTROPHIED PROSTATE.

By J. W. S. GOULEY, M.D., of New York.

He first took up the mode of determining the amount of obstruction and described an instrument which he had devised for this purpose. A large portion of the paper was occupied with a consideration of the use of catheters. The catheter to be used should always be a soft one. Hard instruments were condemned. In overdistension of the bladder from retention, care should be taken to empty the bladder gradually, and it was recommended that, after a portion of the urine has been removed, a solution of boracic acid be thrown into the bladder.

He also spoke of the use of hydraulic dilatation in cases of contracted bladder, describing at length the plan to be pursued.

The speaker then took up the subjects of prostatotomy and prostatectomy, and considered the indications and contra-indications of these operations, and showed the instruments for their performance. He claimed to be the first one who had reached the prostate through the perinæum and incised it for enlargement.

#### DISCUSSION.

Dr. GROSS and Dr. PREWITT endorsed these views.

Dr. MOORE, in referring to the treatment of irritable bladder in these cases, recommended the moral treatment which consists in advising the patient to resist as long as possible the desire to urinate. In this way the intervals between the acts of urination can be gradually increased. The doctor mentioned four hours as about the proper interval.

Dr. GUNN and GOULEY had also practiced this plan with success.

#### AFTERNOON SESSION.

Dr. ERNST, of Boston, presented a number of culture tubes in which he had cultivated micrococci from various surgical affections and described the methods employed. He explained that the growth of the micrococci in the culture medium lead to changes in color according to their nature. The two most common colors were yellow and white.

He had observed a citron-like color which had not been noted before. This was produced by fluids removed from an epithelioma of the leg. The doctor stated that his experiments had been made to confirm those of Rosenbach. He intended to pursue the experiments and to perform during the coming months a number of inoculation experiments.

Dr. S. W. GROSS, in view of the great importance of the subject, moved that Dr. Ernst be invited to prepare a paper giving the results of his experiments and to read it at the next meeting of the American Surgical Association.

The motion was adopted.

#### AN EXPERIMENTAL AND CLINICAL STUDY OF AIR EMBOLISM.

By N. SENN, M.D., of Milwaukee.

This was an exhaustive paper giving the results of a number of experiments.

The following *résumé* was then presented:—

(1) The presence of adventitious air in the vascular system during life gives rise to air embolism.

(2) Each air embolus constitutes a mechanical source of partial or complete obstruction to the flow of blood in the vessel in which it is located.

(3) Aspiration during the inspiratory movements of the chest is the direct or exciting cause of the ingress of air into a wounded vein or sinus.

(4) Elevation of the head is the sole predisposing cause of the entrance of air in wounds of the superior longitudinal sinus.

(5) In veins, the predisposing causes consist in

(a) Elevation of the part wounded;

(b) Pathological or anatomical conditions which prevent collapse of the vein when it is wounded.

(6) Insufflation of a fatal quantity of air into a vein produces death by

(a) Mechanical overdistention of the right ventricle of the heart and paralysis in the diastole;

(b) Asphyxia from obstruction to the pulmonary circulation consequent upon embolism of the pulmonary artery.

(7) Insufflation of the same quantity of air into arteries is less dangerous than when introduced into veins. When death is produced in this manner it results from

(a) Acute cerebral ischaemia;

(b) Secondary venous air embolism;

(c) Intense collateral engorgement of the vessels of the brain and spinal cord, the manner of death being determined by the amount of air injected and the direction in which the injection is thrown, as well as the time which has elapsed between the operation and the fatal termination.

(8) Air injected into arteries is readily forced through the systemic capillaries into the venous circulation and right side of the heart by the powerful contractions of the left ventricle.

(9) An air embolus of the pulmonary artery is relieved in a comparatively short time, provided the contractions of the right ventricle continue unimpaired for a sufficient length of time to force the air through the pulmonary capillaries into the general circulation.

(10) The prophylactic treatment consists in

proximal or double compression, or ligation of the vein which is endangered by the operation.

(11) The indirect treatment has for its objects :

(a) Prevention of the admission of air.

(b) Administration by inhalation or hypodermic injection of cardiac stimulants.

(c) Venesection.

(12) The direct or operative treatment by

(a) Puncture and aspiration of the right ventricle.

(b) Catheterization and aspiration of right auricle, which is proposed to obviate the direct cause of death by the removal of air and spumous blood, thus relieving directly the overdistention of the right ventricle and at the same time to guard against a fatal embolism of the pulmonary artery.

(13) The results obtained by experiments on animals warrant the adoption of the operative treatment of air embolism in practice as a last resort, in all cases where the indirect treatment has proved inadequate to meet the urgent indications.

The Association then went into executive session.

#### THE FOLLOWING OFFICERS WERE ELECTED.

President, Dr. Moses Gunn, Chicago. Vice-Presidents, Christopher Johnson, Baltimore, Md., and Thomas R. Russel, Baltimore, Md. Secretary, Dr. J. R. Weist, Richmond, Ind. Recorder, Dr. J. Ewing Mears, Philadelphia, Pa. Treasurer, Dr. J. H. Brinton, Philadelphia, Pa. Dr. L. McLane Tiffany, of Baltimore, was added to the Council.

The next meeting is to be held at Washington on the Wednesday preceding the meeting of the American Medical Association. Chairman of the Committee of Arrangements, Dr. J. S. Billings, Washington, D. C.

#### MEMBERS ELECTED.

Dr. J. Edwin Michael, Maryland; Dr. Roswell Park, Buffalo, N. Y.; Dr. W. H. Carmalt, Conn.; Dr. J. Ford Thompson, Washington, D. C.; Dr. Theodore R. Varick, Jersey City, N. J.

#### THE FOLLOWING HONORARY MEMBERS WERE ELECTED.

Sir James Paget, Mr. John Eric Erichsen, Sir Joseph Lister, Prof. Thomas Annandale, Edinburgh, Prof. Fredric Esmarch, Kiel; Professor Von Langenbeck, Berlin; Professor Volkman, Halle; Professor Czerny, Heidelberg; Professor Billroth, Vienna; Professor Von Nussbaum, Munich; Professor Verneuil, Paris; Professor Ollier, Lyons.

#### FOURTH DAY. — FRIDAY MORNING SESSION.

##### DISCUSSION OF DR. SENN'S PAPER.

Dr. WARREN said that the condition known as air embolism was more frequently met with in obstetrical than it was in surgical practice. He described a case reported by Dr Draper, in which an attempt was made to produce an abortion by the injection of air into the uterus. Fifteen minutes after the injection had been made the woman gave a few gasps and died. At the post-mortem examination, the heart was found distended with air and air was also found in the ascending vena cava and in the arterial capillaries. He considered that more was to be ex-

pected from prevention than from cure, for it would be rare that the surgeon would be provided with the necessary instruments or have the time to use them when the accident occurred.

Dr. GORDON, of Portland, Maine, was introduced by Dr. Moore, and described a case which had come under his observation. In a case of pelvic abscess, he had twice removed the pus with an aspirator. On the third occasion aspiration was again proposed. The instrument employed was one which compressed or rarefied the air according to the manner in which it was used. The assistant, in arranging the instrument, so attached it that the air in the bottle was compressed. The aspirating needle was plunged into the abscess and the connection made. The woman gave a scream, placed her hand over her heart and in a minute was dead. In reply to a question, the doctor stated that he was unable to obtain an autopsy.

Dr. NAXCREDE stated that it had been shown by experiment that the free circulation of blood through the capillaries was dependent upon a proper density of the fluid and that symptoms similar to those of air embolism could be produced by altering the density of the blood by the injection of water.

Dr. SENN had considered the cause of death to be paralysis of the heart from overdistention, and this was probably the case where large amounts of air were introduced, but in the cases met with in surgical practice the amount of air was not so large. The spumous blood thus formed could not pass through the capillaries, and ischæmia of the brain with want of blood in the respiratory centres resulted.

As to treatment, he considered the preventive the most important, and in operating, in a position where there was danger of the entrance of air, he always adopted certain precautions. Complete anaesthesia was insisted upon. In operating on the neck he took care that pressure was made on the cardiac side of the veins. The deep attachments of tumors in this region were ligated before the tumor was separated.

In the direct treatment he recommended artificial respiration in the recumbent position with the feet elevated, pressure being made on the femoral arteries. The use of atropia was advised for its effect in causing dilatation of the pulmonary capillaries, thus permitting the freer passage of blood.

Dr. Senn, not being present to close the discussion, was given the privilege of submitting his reply in writing.

##### THE ETIOLOGY OF TETANUS.

Dr. P. S. CONNER, of Cincinnati, submitted a paper on this subject, of which we give an abstract :

The cases placed under the generic head of tetanus may be divided into two classes, the one characterized by spasms primarily affecting the injured part, the other by spasms primarily located in the muscles whose nerves have origin in the medulla oblongata. There is little doubt that the disease is located in the central nervous system and scarcely more that it is essentially an exaltation of the reflex irritability.

It has not yet been determined whether the affection is brought about by the nerves, by the blood current, by extension of inflammation, by reflected irritation, by septic changes, or by the presence and

development of micro-organisms. These different views were taken up and the evidence in favor of and against them given.

The view commonly held is that it is a reflex neurosis. It is argued that peripheral irritation will give rise to movements affecting a whole extremity which are independent of the will; that nerve injury is often connected with cramps and jerkings of the limb; that the disease is most commonly seen in cases where crushing of nerves has occurred; that the affection usually follows injuries in which a part liberally supplied with sensitive nerves is involved; that it is so quickly developed as to be possible only through reflex irritation, and, lastly, that it can be experimentally produced.

This view cannot be adopted positively because our knowledge of physiology will not warrant us in believing that an irritation starting, it may be, in the foot will pass over all the intervening portion of the cord and produce an influence in its upper part. The infrequency of tetanus is also against its causation by nerve injury.

In regard to the statement that hand and foot injuries were most frequently followed by tetanus, it was stated that in the late war there were 16,000 foot injuries, with only fifty-seven cases of tetanus, while in 12,000 hand injuries there was not one case of tetanus reported. The disease more frequently follows injury to the palmar and plantar fascia than wounds of the more sensitive fingers and toes.

If the disease cannot be accounted for on any of the above theories, it must be attributed to changes in the quantity or quality of the blood-supply. Experiment has shown that overfilling or emptying of the bloodvessels will cause convulsions. These however, are not tetanic. We must then look to the quality of the blood-supply. It must be found in the presence of a septic element developed in the wound, or from a micro-organism from without. This theory is only rendered probable from reasoning and analogy. The absence of fever has been supposed to be opposed to the idea of its infectious nature. It can only be presumed that the irritant is developed in the secretions of the wound. It is difficult to explain the idiopathic cases on this or any other theory. There is a possibility of the chemical development of poison both in the fluids and in the decomposed tissue.

It was suggested that the liability of tetanus in injuries of the hand and feet was due more to the pent-up secretions than to nerve injury. The vessels of the nerve itself may be the channel through which the morbid material is carried, and the anatomical fact that a relation exists between the sensibility of the nerve and the number and closeness of its lymphatics may go far to explain why tetanus is so frequently associated with wounds of parts endowed with high sensibility.

It was concluded that the nature of tetanus was uncertain, although the balance of evidence seemed to be in favor of a septic origin.

#### DISCUSSION.

Dr. MOORE asked if Dr. Conner had investigated the reason why tetanus so frequently followed injuries inflicted with the toy pistol.

Dr. CONNER had attributed these cases more to

the nature of the wound leading to the discharges being retained, than to any poisonous compound in the powder employed.

Dr. PREWITT thought that in all probability tetanus was not produced by a ferment multiplying in the blood, but by a poison which produced its effects by a constant introduction of increased quantities into the blood. He was inclined to adopt the view presented by Dr. Conner.

Dr. MEARS referred to the importance of this disease, and the great desirability of more thoroughly understanding its nature as a preliminary to its more successful treatment.

He could not understand the infrequency of the disease after hand and foot injuries during the war. Many cases would naturally have been expected in the conditions under which the soldiers were placed.

Dr. WEIST, reported one case of fatal tetanus following an injury to the finger of a soldier from Maine. He also reported three cases which he had seen result fatally during the past two years. In these cases the affection followed crushing injuries of the hand.

Dr. TIFFANY said, in reference to tetanus following the use of the toy pistol, that he had known of fourteen cases resulting fatally within a period of ten days. He had the powder used in the pistol examined, but with negative results. He stated that tetanus was extremely frequent among negroes and this led him to doubt that it was due altogether to reflex nerve irritation, for the dark race is not so liable to such affections as is the white race.

Dr. MEARS had also had the fulminate examined with negative results. He was inclined to attribute the liability of tetanus to follow such injuries to the fact that the cartridge is broken into pieces which penetrate the hand.

Dr. NANCYERDE referred to a number of cases which had come under his observation. He had seen but two recoveries. The cases which he had seen had usually followed trivial injuries. He referred to the many methods of treatment which had been adopted. He had seen most of them applied without beneficial result. In one case marked relief appeared to be afforded by nitrite of amyl.

Dr. PREWITT reported two cases in which tetanus had developed some time after the receipt of the injury. In these cases the treatment was the administration of bromide and chloral with five-drop doses of Fowler's solution every three hours continued for two weeks. In these cases there seemed to be a special tolerance to this remedy for one of the cases, that of a man who received an injury of the right arm; the tetanus was followed by paralysis of the flexor muscles of the left foot.

Dr. GUNN had seen many cases of this affection, most of them ending fatally. He had had three recoveries. In two the nerve was stretched and in the other amputation was performed and calabar had been administered. He stated that the most hopeful cases were those in which the tetanus developed some time after the receipt of the injury. This idea was formulated as follows: The fatality is in direct ratio to the acuteness of the attack.

Dr. BUGGS considered predisposition a very important element in the causation.

Dr. CONNER, in closing the discussion, said that the more he had heard the more had he been impressed with the evidence in favor of the humoral theory. While he admitted the possibility of predisposition, yet the fact that these individuals had many times before received severe injuries was against this idea.

#### THE IMMEDIATE CURE OF FISTULA IN ANO.

by STEPHEN SMITH, M.D., of New York, was read by title.

#### A CASE OF CHOLECYSTOTOMY,

by C. T. PARKES, M.D., of Chicago, was read by Dr. MOSES GUNN.

The patient was a lady aged twenty-nine, who had suffered for some time with symptoms of hepatic trouble. The diagnosis of obstruction of the common duct was made. All forms of medical treatment having been tried without result an operation was performed. This consisted in making an incision over the position of the distended gall-bladder, aspirating it, stitching it to the abdominal incision, then opening it freely, and evacuating a considerable quantity of muco-biliary fluid. No stone could be detected at this time. Several days later seven small calculi were removed. The patient recovered from the operation without any bad symptoms. The condition was improved, but the bile still failed to flow into the intestine. One month later a second operation was performed, which consisted of extending the incision, and passing a sound through the cystic duct into the bowel. This was followed by decided benefit, the bile escaping into the bowel, and it still continues to do so. The fistula soon healed. Four months later she was attacked after exposure with pain similar to that which she had originally experienced. This was attributed to increased narrowing, preventing the free escape of bile, and an incision was therefore made, reopening the old fistula. This gave complete relief.

#### DISCUSSION.

Dr. MEARS insisted on the surgeon having a thorough knowledge of these affections, so that he might be able to make a correct diagnosis. He then enumerated the different conditions in which the operation described was indicated. He did not favor the exploratory operations in these cases, which had been suggested by some writers. The importance of instituting proper treatment to prevent the recurrence of the trouble was spoken of. If this was not done the operation would probably prove of only temporary benefit.

Dr. TIFFANY called attention to the difference between the behavior of a unilateral and that of a bilateral organ when its duct was obstructed. In the cases of the liver almost complete obstruction might exist for a long time without serious injury, while if there was obstruction in the kidney it would in a comparatively short time become disorganized.

Dr. FLEWITT, in speaking of the difficulties of diagnosis, described two cases in which the distended gall-bladder was distinctly felt on palpation. One was the case of a man seventy years of age who had never exhibited any symptoms of hepatic colic, who was suddenly seized with pain and collapse. On palpation the distended gall-bladder, containing

a number of stones, was distinctly felt. The patient never reacted from the collapse and the correctness of the diagnosis was shown at the autopsy.

#### PHOSPHOROUS NECROSIS OF THE JAWS.

By J. EWING MEARS, M.D., of Philadelphia.

The paper was based upon the treatment of sixteen cases. The subject was elaborately treated and a number of specimens, showing the portion of the jaws removed, was exhibited. In closing, the reader presented the following conclusions:—

(1) That phosphorous necrosis of the jaws is a local expression of the constitutional condition produced by the inhalation of the vapor of phosphorus and by particles of the agent taken into the system with the food by operatives in match factories who do not give proper attention to cleanliness of the hands.

(2) That the introduction of the agent into the system is, as a rule, very gradual, and in such small quantities as to avoid the production of symptoms of acute poisoning. That, in this way, the chronic toxic condition of the system is induced, characterized chiefly by disintegration of the red blood-corpuscles and fatty degeneration of the arterial coats.

(3) That the toxic condition precedes the development is shown by the fact that the disease does not attack operatives recently exposed to the action of the agent, but those who have been exposed for a period of years.

(4) That examination of teeth of operatives has shown that many who have a condition of caries, and that many who have returned to work immediately after the extraction of teeth, have enjoyed immunity from the disease, showing that the agent has not attacked the periosteal tissue thus exposed. (In one of the cases the disease did not appear until three months after labor in the factory had ceased.)

(5) That individuals vary in their susceptibility to the action of the poison: for this reason many suffer immediately with symptoms of acute toxic conditions, such as nausea, vomiting, etc., and are compelled to abandon work in the factories.

(6) That the conditions under which experiments have been made on animals to prove the absence of the disease until exposure of the periosteum and peri-alveolar tissue was effected were not similar to those to which operatives in match factories are subjected.

(7) That treatment of the disease in the primary stage in the manner outlined is efficient and prevents its progress.

(8) That the antidotal powers of turpentine have been established, both in neutralizing the effects of the poison upon operatives during their work and also in the treatment of the early stage of the disease.

(9) That the disease is to be prevented among operatives by the adoption of thorough methods of ventilation, stringent rules with regard to cleanliness and the free disengagement of the vapor of turpentine in all the apartments of factories in which the fumes of phosphorus escape.

Remarks in discussion were made by Drs. Moore, Nanerode, and Mears.

An apparatus for rapid anaesthesia was exhibited by Dr. Mears. This he had devised in August, 1884. It consisted of a metallic mask fitting over the mouth and nose and connected by a tube with a bottle containing ether. The bottle is placed in a basin of warm water which causes the ether to be vaporized and it thus reaches the patient in a very concentrated form. If preferred, the bottle may be connected directly with the mask and the ether allowed to pass slowly on to the sponge within. In this way the escape of ether into the room is largely prevented.

The committee on publication were authorized to add the vignette of the late Prof. S. D. Gross to the seal of the Association.

The President-elect was then conducted to the chair and made a brief address, thanking the Association for the honor conferred upon him.

Notes of thanks were then extended to the retiring officers and the committee of arrangements, after which the Association adjourned.

#### ANNUAL MEETINGS OF THE AMERICAN SURGICAL AND OF THE "FRENCH-SPEAKING" SURGICAL ASSOCIATIONS.

THROUGH promptness on the part of our reporter, and by issuing a supplement of six additional pages, we are enabled to give the readers of the JOURNAL a full report in one issue of the annual meeting of the American Surgical Association, which was held in Washington last week from Tuesday to Friday inclusive. Such a report as that to which our readers' attention is called is in every way more satisfactory and of more genuine value than any telegraphic report of such an affair could possibly be, and, at the same time, the utmost possible dispatch in publication has been secured by the method adopted. By adopting the supplement, a device so commonly resorted to by our overcrowded daily contemporaries, our readers, and those participating in the proceedings of the Surgical Association, enjoy the advantages of a continuous report, covering from nine to ten pages of print, without injustice to other departments of the JOURNAL.

We are fortunately in a position, at the same time, to publish an interesting letter from a correspondent in Paris, giving a very graphic account of the late

meeting of the French Congress of Surgeons, by which a comparison can be made of the methods and results of the American and French-Speaking Associations — a comparison which cannot but result in favor of the French Association. It is evident that much may be learned from the arrangements contributing so materially to the success of the Paris meeting, and it is also evident that our Surgical Association, in common with other American associations and societies which it is unnecessary to particularize, might greatly improve the conduct of business and the character of the discussions of papers.

If the members had an early synopsis or summary in print of the conclusions reached by the writers of papers, the discussions would quickly and easily assume a directness and pertinency which they now lack, and the value of the papers submitted to discussion would increase in direct proportion to the reasonable expectation of a debate which would be an illumination to the subject and a compliment to the reader.

We shall doubtless have occasion to revert to this subject again during this present season of Annual Meetings.

## Original Articles.

## THE PRINCIPLES OF SANITARY PLUMBING.]

BY J. PICKERING PUTNAM, ESQ., OF BOSTON.

A FIFTH step consists in increasing the number of reflecting surfaces, and in breaking up the long horizontal body by making it return upon itself in a quadrangle, as shown in perspective in Fig. 14. In this form of the trap we have still further greatly increased the reflecting surfaces and the power of resistance to siphonic action, and we are now able to dispense with reflecting pockets, but we have obtained a trap exceedingly

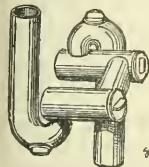
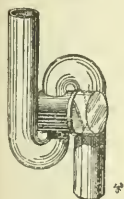


Fig. 14. Fifth step.

difficult to manufacture, awkward in appearance, and troublesome to clean out in case of accident, as when a match or any such foreign substance is dropped into the waste-pipe and becomes lodged in a bend of the trap. This form of trap must be simplified so as to render it practical, without losing any of the advantages we have thus far arrived at.

Figs. 15 to 19 show the manner in which this may be done, and the arrangement forms the final step of our improvement. We have here retained all the reflecting surfaces; the horizontal body, which allows the air to pass above the water after a small quantity has been driven out, without disturbing the rest; and the slight contraction of the inlet and outlet pipes at their junction with the body of the trap. We have added a cylindrical cleanout cap of glass, and obtained an apparatus which can be readily cast in lead in moulds of iron. The quadrangular shape

Fig. 15. Sixth step.  
"Sault Ste." trap.

of the horizontal body is retained, but the two parallel cylinders are brought together and merged

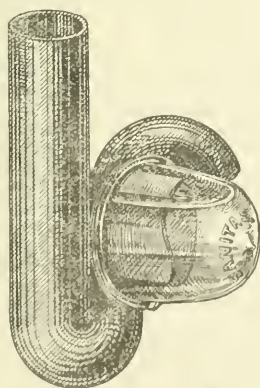


Fig. 16. "Sault Ste." trap.

of the horizontal body is retained, but the two parallel cylinders are brought together and merged

<sup>1</sup> Included from page 409.

<sup>2</sup> This trap is manufactured by the "Sault Ste." Manufacturing Co., No. 4 Pemberton Square, Boston, Mass.

into a single cylinder having a central partition about two thirds of its length, or extending from one end to the edge of the cleanout cap, which at the other end forms about one third of the total length of the cylinder.

In ordinary use the waste-water passes through this trap in such a manner as to act to the best

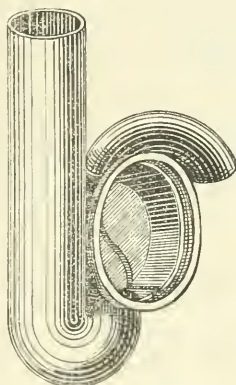
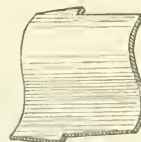
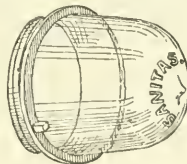


Fig. 17. Body of trap.

advantage in scouring it. The partition wall in the centre of the body causes the water to scour each side in succession. Thus while in outward appearance the body resembles a small pot-trap placed horizontally it has in principle the self-scouring form of the S trap. It must be understood, however, that like the S trap it is only self-scouring when properly set, namely: with a free outlet from



Figs. 18 and 19. Glass cap and bridge.

the bowl somewhat larger than the inlet-arm of the trap at its largest part, or at its point of junction with the fixture. If set under a fixture giving a clear water-way of only an inch or of half an inch, this trap will not scour itself, nor will the waste-pipes with which the trap is connected. A good-sized washbasin holds, up to its overflow, about two gallons of water. This will escape through an average length of one and one-half inch waste-pipe, running full-bore and having a good fall, in about three seconds. Hence, through such a pipe the water rushes at a rate of more than half a gallon

a second and fully scours the pipes. With lavatories constructed on this principle, the argument for trap ventilation based on the supposition that it is necessary to keep the branch wastes clean no longer holds good.

Let us examine now the action of the air and water in our trap under the influence of a very powerful siphonic action. We will suppose the trap to be placed in position under a fixture with the water standing in its normal condition up to the level of the outflow, as shown in Fig. 16. When, through siphonic action, a partial vacuum is created in the waste-pipe below the trap, the water in the inlet-arm of the trap descends under the influence of the atmospheric pressure on its surface tending to restore the equilibrium, until it reaches the dip of the trap. The air then being lighter than water passes into and through the body of the trap and drives a portion of the water, not already driven out, before it into the waste-pipe. The water remaining in the body falls back and maintains the seal. Subsequent siphonic action cannot remove this water for the following reasons: The water standing in the inlet-arm after its partial removal from the body of the trap by siphonic action, as described, is again lowered by a repetition of the action to the dip. Air again rushes into the body to fill the partial vacuum and passes into and through the water standing therein. This water, though increased in depth by that which enters from the inlet-pipe, is, nevertheless, shallow enough to give room for its passage. It projects upward a certain quantity of water in its passage, with greater or less violence, according to the strength of the siphonic action produced. This water strikes the under surface of the partition in the body, and is partly reflected backward by it, and partly follows the air-current toward the opening between the end of the partition and the cleanout cap. Owing to the greater weight and momentum of the water over that of the air, the water is reflected back, while the air passes on. A second reflection takes place against the surface of the cleanout cap. More water is thrown back, and a small remaining portion only succeeds in following the air into the passage above the partition. Of this small portion part again is reflected back by the upper inner curved surface of the horizontal body, and under very strong siphonic action a few drops may reach the last reflecting surface at the end of the body opposite the cleanout cap, whence it is once more arrested, and the air alone escapes into the waste-pipe. The spray falling upon the partition and upon the various reflecting surfaces collects at the bottom of the body and increases the depth of the seal. The greater cohesive and attractive force of the particles of water over that of air aids in the separation, since it causes a quantity of the former to adhere to the reflecting surfaces while the air escapes. This arrangement of the reflecting surfaces evidently also prevents loss of the water-seal by the momentum of the water descending from the fixture.

Although the seal is not excessively deep, yet the trap, owing to the considerable horizontal extension of its passages, contains a large enough body of water to protect it from the dangers of evaporation

and back pressure. The contraction of the inlet and outlet arms at their junction with the body of the trap renders it secure against self-siphonage. The form also renders loss of seal through capillary attraction impossible, as will be hereafter shown.

When used where trap ventilation is prescribed by law, this trap can, of course, be ventilated like any other. The vent may be applied at any part of the outgo, either at or below the crown. But since, unlike S traps, its seal cannot be destroyed by self-siphonage or momentum, the vent need not be applied at the crown. It may be applied anywhere below the crown far enough away to quite avoid the injurious effects of evaporation. Hence, ventilation does not produce the destruction to the seal that it does with other self-cleansing traps, and may be used with impunity. Trap ventilation is, nevertheless, in this case, as in most others, absolutely useless, and its installation is a total loss to the house-owner.

Having now explained the theory of the construction of the "Sanitas" trap, let us make a practical trial of its operation.

The first discharge of both closets, the soil-pipe extension being forty-five feet, will lower the seal considerably, say to a point below the centre of the glass, but subsequent discharges will have very little further effect upon it, and when the seal has been reduced to about an inch and a half, or in the very severest possible cases long repeated, possibly to an inch and a quarter or eighth, even the most powerful suction that can be applied with an apparatus used in practice will have no further appreciable effect upon it, even though the siphonic action be strong enough to destroy the seal of a fully ventilated S trap or of a six-inch pot-trap. Ordinary siphonic action will simply lower the water in the trap enough to permit the passage of air above it, leaving a seal of two inches or more permanently in the trap. The test which we are about to apply to this trap is severe enough to siphon out completely in a single second a fully ventilated S trap or a four-inch pot-trap.

*Discharge Z and J.* After this very severe test we find a seal left of one and one-half inch.

*Repeated.* Only an eighth of an inch has been removed by a second discharge.

*Repeated ten times or more.* Five repetitions of the discharges have lowered the seal less than an eighth of an inch, leaving a full seal of one and one-fourth inch. Five further repetitions produce no further visible effect on the seal. In our previous experiments we have repeated the test fifty times without apparent diminution of the seal.

*Snow.* We will now apply a test stronger than any we have tried this evening. It is a test severe enough, as we found in making the experiments for the City Board of Health, to siphon out a pot-trap eight inches in diameter.

We will retain the full length of our soil-pipe and stop up the opening above the roof with oakum. Then, by discharging both closets together, we shall produce a suction as great as any which could possibly be produced in practice as when the top of the soil-pipe is closed up by ice or snow.

The first discharge has left one and one-half inch of seal. At the end of five discharges there

is still one and one-eighth inch of seal left and five more produces no further apparent diminution of it. Thus we see the seal of this trap cannot be broken by any siphonic action we can try with ordinary apparatus used in plumbing.

*Self-cleansing Property of the "Sanitas" Trap.* It remains now to determine if the "Sanitas" trap is actually as self-scouring as it is claimed to be.

We have had a "Sanitas" basin and trap set above a waste-pipe of glass in order to examine the scouring action of the water discharged from a basin with a properly proportioned outlet both on the trap and the pipe below it.

*Discharge of the Basin.* We see that the water rushes through the trap and waste-pipe at a very rapid rate. The basin, when filled to the brim, holds about two and one-half gallons. It empties itself, when set with a waste-pipe having a good fall, in about three seconds. Hence, the water flows at the rate of nearly a gallon a second, and has an enormous scouring-force on all the branch piping connected with it.

We will now throw various substances into the bowl and trap and see whether they are retained in them or not.

We will first try a quantity of coarse coal ashes, and, to make the test somewhat severe, we will remove the strainer and throw into the trap pieces of coal with the ashes nearly an inch in diameter. Filling now the basin we find a single discharge has removed all the dirt and a second discharge has left the trap and waste-pipe as bright as ever.

I will now form a paste of softsoap and loam. The loam is a mixture of earth and clay. The combination of this and the soap forms in large quantity the kind of waste matter to which wash-basins are most accustomed.

All this matter is instantly carried through the trap and waste-pipe, and, after a second flushing, it does not leave a stain behind.

After trying a few other substances we will make a strong solution of soap and dirty water and let it dry on the pipe and then see if it will wash off after drying.

Large pieces of hair-felt, strings of jute, and tow, coarse gravel, pieces of stone an inch in diameter, nails, and matches are all whisked through the trap as easily as if they were nothing but house-flies. In short, every kind of substance likely to be met in usage, and a great many others, are carried through and away with speed and certainty, and the self-cleansing power of the trap is demonstrated.

We have found the soap dried on the glass tube is completely removed by the strong flushing from the basin. (This last test was tried on another occasion before the lecture.)

*Capillary Attraction.* The seal of a trap is sometimes slowly and silently drained off by bits of hair, sponge, or twine which get caught across the outlet of the trap, as shown in Fig. 20, and draws out its water by capillary attraction. Numerous experiments have been made of late on this insidious enemy to the life of water-traps, and it has been found that there is a limit to the height which these substances will carry the water above its normal level. We find this limit of height to be within three

inches for small quantities of long and fibrous substances such as might get lodged in traps. We must, therefore, form our trap in such a manner that the water will have to travel along the fibrous substance more than three inches before its seal



Fig. 20. Seal of S trap destroyed by capillary attraction.

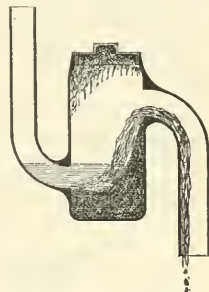


Fig. 21. Seal of pot-trap destroyed by capillary attraction.

can be broken. The "Sanitas" trap has been so constructed (Figs. 22 and 23), and in no



Fig. 22. "Sanitas" trap resisting capillary attraction.



Fig. 23. "Sanitas" trap resisting capillary attraction.

case has it been possible to destroy its seal by the capillary attraction of substances which could be lodged in it in practice.

*Back Pressure.* Back pressure is a force now but little to be feared in plumbing. Before it became customary to ventilate our waste and soil pipes, pressure



Fig. 24. S trap emptied by back pressure.

in the sewers, either from winds or tides, or the heat of steam or chemical action, sometimes produced a serious back pressure in our house-pipes. Now we

no longer encounter the difficulty from these causes, since we are accustomed to have our pipes properly ventilated. It is only under certain rare conditions, such as when a trap is situated near the bottom of a tall stack of pipe and close to a sudden bend, that back pressure is produced by falling water compressing the air in advance of it. The bend in the soil-pipe prevents the escape of the air below as fast as it accumulates above under the falling water-plug.

To resist this pressure it is only necessary to have a sufficient body of water in the trap and to set the trap at a distance below the fixture it serves sufficient for this water to form in the pipe when subjected to back pressure, a column from twelve to sixteen inches long. (Fig. 25.) The weight of

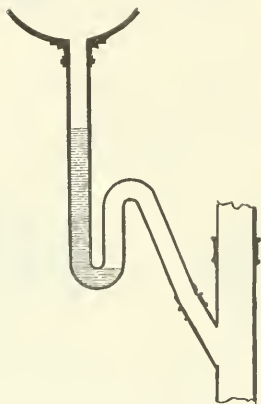


Fig. 25. Deep seal S trap resisting back pressure.

such a column is ample to withstand any back pressure ever now encountered in good plumbing.

The "Sanitas" trap is made to contain a body of water heavy enough to easily resist any back pressure it can ever be called upon to bear in modern plumbing work.

**Evaporation.** When traps are not ventilated evaporation goes on with such slowness as to be scarcely perceptible. Nevertheless, it is best to have the trap contain as large a body of water as is consistent with its self-cleansing properties. An ordinary one and a half inch S trap holds about three eighths of a pint of water. A one and a quarter inch S trap holds less than one fourth of a pint. The "Sanitas" holds one and a half pints, or about as much as an ordinary three-inch pot-trap. This is sufficient to last, under ordinary conditions, over a year without renewal when the trap is unventilated.

Where the trap is ventilated, however, in the manner customary under our present plumbing laws, the seal of an ordinary machine-made S trap is licked up by the air-current in a very short time, varying in my own experiments from four to eleven days.

**Size and Material.** Traps for the smaller fixtures should be manufactured in one size, that is, of a capacity sufficient to fill the usual one and

a half or one and a quarter inch waste-pipe full-bore. In other words, the size of the traps should be governed by the size of branch waste-pipes. These pipes should never exceed one and a half inch in diameter, except for water-closets. Waste-pipes should not be less than one and a quarter inch in diameter. Hence, the capacity of the trap should not be less than this at any part, and to be self-scouring should not exceed this capacity at any part. The cleanout cups should be made of glass or of metal. Glass should be used for washbasins only, and then only when a possible fracture will not produce serious damage to frescoed ceilings below. With bathtubs, sinks, laundry-tubs, and all other fixtures metal cups should always be used, since even the best annealed glass is liable to be broken by sudden changes of temperature or by careless usage.

### THE PREVENTION OF OPIUM ADDICTION, WITH SPECIAL REFERENCE TO THE VALUE OF GALVANISM FOR RELIEF OF NEURAL- GIC PAIN.<sup>1</sup>

BY J. B. MATTISON, M.D., OF BROOKLYN, N. Y.

PAIN is the paramount cause of addiction to opium. Barring slaves to the pipe—who are simply victims of a vicious indulgence—exceptions to this statement are so infrequent as to weigh little against its correctness as a whole. In an experience embracing many cases but a single instance to the contrary has been noted. Granting this, the great generic factor, and believing prevention better than cure, one can appreciate the surpassing importance of the therapeutics of pain in relation to the prophylaxis of this growing neurosis.

Peerless among anodynes is opium, yet it is potent for evil as well as good, and its power for ill is one of which we believe the profession at large has not an adequate conception, or, if aware of it, fails to realize it to the extent it deserves; and not until the mischief is done beyond their undoing do they rise to an appreciation of what a subtle enemy is often unbrushed behind a seeming friend.

The power of opium to make itself a necessity, to create a demand for continued taking, would be almost incredible were it not so often attested by sad experience. The writer's belief in this peculiar property becomes more profound with each case coming under his care, and when medical men in general accept it as a fact, and act accordingly, we believe the steadily growing proportions of this toxic disorder will be speedily checked and decline.

Pain, be the character what it may, if sufficiently persistent, and the giving of opiates too prolonged, will, almost unfailingly, beget this disease. But it is to the strictly neuralgic type, the one so often encountered by every-day medical men, that this assertion preëminently applies. It goes without saying that in no other land does this outcome of impaired nerve tone prevail as with us. Why this, is well enough known, and need not detain us here. The fact cannot be gainsaid that neuralgia abounds,

<sup>1</sup> Read before the Kings County Medical Society, February 17, 1885.

and that its treatment with opiates—especially morphia hypodermically—has made more opium habitués than can be placed to the credit of any other one cause.

It would illly become us to assert that this lamentable sequel can be entirely prevented, but we certainly think it can be largely lessened, and the special point of this paper is to invite renewed attention to a remedy the value of which the profession at large has not, we think, proper knowledge and appreciation, and which, in our opinion, outranks all others as a substitute for opium in the relief of neuralgic pain.

Dr. Anstie, in his unrivaled work on "Neuralgia," speaking of electricity in its treatment, said: "I shall make bold to say that nothing but the general ignorance of the facts can account for the extraordinary supineness of the mass of English practitioners with regard to this question." Nearly a decade and a half have passed since this was written, and yet we believe it is true, to-day, of many American medical men. Certain it is, no physician who has not had properly directed experience on this subject can form any idea of the possibilities for good possessed by a well-equipped galvanic battery. Anstie's estimate of it was: "The constant current is a remedy for neuralgia unapproached in power by any other save only blistering and hypodermic morphia, and even the latter is often surpassed by it in permanence of effect, while it is also applicable in not a few cases where blistering would be useless or worse."

With this opinion we are in full accord, and a growing experience serves only to strengthen our conviction of its truth.

In a paper by the writer<sup>2</sup> attention was called to the value of this agent in relieving migraine. Our present purpose is to ask consideration of its merit, by actual trial in the hands of those who have not employed it, for the relief of other neuralgic pain. Every physician who has given attention to the treatment of opium habitués well knows how often some form of neuralgia follows among the sequelæ of an opiate disusing. Those that slumber, as it were, during the opiate addiction often seemingly take on a new lease of life. Others that may be pronounced are, essentially, the outcome of impaired nerve tone due to the opium-taking. In either event they must be remedied, if we would have the prospect of permanent cure at all promising.

One danger ever menaces the ex-opium habitués,—the occurrence of pain and the risk in again using opiates. To guard against this latter he must needs lend every effort, for on its success his future depends. He who has escaped the thralldom of opium is no longer like his fellows. The boon granted them, if required, is denied him, for one dose of the old narcotic may undo all done months or years before, a truth many a habitués learns by sorrowful experience, but one which, happily, proves at times an increased and assured protection against future ill.

To the ex-habitués some substitute for opium is, then, a *sine qua non*, and of all such with which we have had any experience not one equals the galvanic current. It is a most valued ally, and our estimate

of its worth increases as experience with it extends. Points in its favor as compared with remedies given by mouth, so far as regards unpleasant gastric or other results, need not be stated; they are self-suggestive. One great advantage it possesses is promptness of effect, often surpassing in this respect even hypodermic morphia. The latter is sometimes ineligible, and when it acts kindly as an anodyne is frequently followed by such nausea, vomiting, headache, or general discomfort as to make the freedom from pain a relief dearly bought. No such charge can be made against the current, for when it fails, as at times it will, disagreeable sequelæ are not noted, if the battery has been properly equipped and rightly managed.

We are not aware that ex-opium habitués possess any peculiarity or susceptibility that makes neuralgic pain in them any more amenable to galvanic treatment than when it occurs in those not addicted to this drug. If this be true, it follows that the latter are as eligible subjects for the constant current, with just as rich promise of successful result as the former. Authorities agree as to its value. Bartholow says: "There is no fact more certain than the power of galvanism to relieve pain." Others, commending it, declare, as did Anstie, that lack of knowledge as to its value and consequent failure to employ it are largely the cause of its limited use.

This paper, as asserted, is a plea for securing a practical acquaintance with it at the hands of those who are now unaware of its worth. Electricity need not and should not be limited to the specialist. Every practitioner, if he will, may avail himself of it. Careful study of its theory will pave the way for success in its practice. Varied works on this topic are at his service, and, without disparagement to others, it may be said that the last edition of De Watteville's treatise will bring him quite abreast the times regarding it.

One obstacle to its more general employment may have been the lack of a battery that combines three features desired: lightness, smallness, cheapness. Faradic batteries of this type abound, but the interrupted current is of very limited value in true neuralgic pain. Had the demand for such a battery, incident to a more extended use of the constant current, been created, we are inclined to think it would have been promptly supplied. At present we know of no galvanic battery, unless specially constructed, that contains less than ten or twelve cells. Absence of a smaller and less costly instrument has, we think, been a bar to more extensive use of electricity. As a fact, in very many cases, the larger batteries are not needed. Of all forms of neuralgia facial is the most frequent, and in many instances a current of from two to four cells will suffice for its relief. We have repeatedly proved this with the Bartlett battery, made by the Galvano-Faradic Company, which, when a large instrument—twelve to thirty-six cells—is desired, has many points in its favor.

For those desiring a smaller battery the Kidder Manufacturing Company make one of four cells, which we have known give entire relief in severe neuralgic pain. It is small, inexpensive, and efficient. Not only is it valuable in professional hands, but it is especially adapted to domestic use, details

<sup>2</sup> Louisville Medical News, February 23, 1884.

of its management being easily acquired and applied.

Galvanism is not here lauded as a specific for neuralgia, nor is it intended to serve as a substitute for well-directed general treatment to improve the impaired nerve status on which the painful bouts depend. Neither of these rôles will it fill, although cases have been recorded where entire and permanent freedom from suffering has followed a single application, but this is not the rule. The great point gained by it is relief from pain without resort to opium, the exceeding importance of which will be all the more appreciated when one considers the oft-recurring outbreaks so peculiar to this disorder and the consequent need of repeated narcotic doses to secure the desired result.

Having decided on a trial of galvanism, the strength of current, points of application, and length and frequency of sittings must be duly considered. Regarding all these careful study should be made of some standard work on the subject; but in general it may be said, as to the first, it must be painless, nothing more than moderate tingling, burning, or redness under the negative pole. When used about the head a current strong enough to cause slight flashings of light if the eyes are closed when the circuit is broken will usually relieve the pain. In a battery newly charged we have known two cells suffice. Minimum strength is required about the brain; marked flashes, vertigo, or faintness are excesses, and must be avoided.

Neuralgia of the trunk and extremities requires a stronger current, the extent of which individual peculiarity must determine.

The site of the electrodes varies according to the nature of the case, but, as a rule, the positive pole over the vertebra corresponding with the exit-point of the nerve affected and the negative over the painful part will succeed. Some insist on a reverse order,—that is, negative to the spine,—but in general it is not essential; either will answer, though, as a fact, we have invariably noted in bilateral cases earlier subsidence of pain under the negative pole. In the latter, exceptions to this method may be practised: for instance, in migraine an electrode on each mastoid, or in supra-orbital or temporal, over each eye or temple.

Length of sitting varies. Anstie asserts five to fifteen minutes the rule. We have repeatedly known less than the first sufficient, and have not hesitated to continue it more than the latter if the attack showed tendency to subside. Prolonged *séances* are more allowable to parts other than the head and face. Pelvic neuralgias and sciatica most often require extended sittings. If several painful points, the current can be no longer given by varying the site of application, taking care not to break it, by lifting the electrode, but allowing it to glide from one place to another.

Frequency of sitting depends on frequency of attack. Every bout should at once be arrested. The more promptly this is effected the better. It lessens nerve exhaustion and tendency to recur. Dr. Herbert Tibbets cites a striking case bearing on this point. A patient for two years had been subject to attacks of neuralgic pain, occurring from six to twenty times daily. She was galvanized

twenty times on the first day. Improvement was rapid; after a month's treatment attacks were reduced to one or two weekly. In three months patient was cured. Dr. Tibbets believes that in severe and obstinate cases the full sedative effect of the current is only to be obtained by applying it as frequently as the paroxysms of pain recur.

Two cases, under personal care, will illustrate. Mrs. A. became a habitué from using morphia for relief of pelvic pain. After twelve years' addiction, reaching a daily taking of twelve grains hypodermically, she came under the writer's care and recovered. During her convalescence she had repeated attacks of neuralgia—seventeen in all—and some exceptionally severe. Thirteen were ovarian, three trigeminal, and one intercostal. In every instance, the constant current gave entire relief after a *séance* ranging from six to twenty minutes, with a strength of six to sixteen cells. The negative pole was always applied to the painful part. This lady's husband is a physician, and in his hands the battery has since served her well.

Mrs. B., recovering from an opiate addiction, had from one to four neuralgic attacks daily, for nearly three weeks, and then at increasing intervals a fortnight longer. They were bilateral, supra-orbital, and through temples. Some were intense. Without exception, every one was entirely relieved in from three to seven minutes by a two to four galvanic current. The poles were applied to the painful points, and it was invariably noted that the pain first subsided under the negative pole. Patient was instructed how to use the battery, and repeatedly did so with success. Leaving our care she sailed for the Bahamas, and in order to be prepared for possible neuralgic returns, we supplied her with a four-cell Kidder galvanic, the efficacy of which we had determined by several trials, in which a two-cell current gave entire relief. Tidings received since her leaving prove it retains its power to remove the occasionally recurring pain.

Nothing could be more satisfactory—in fact we know of nothing so much so—as the prompt and complete success of galvanism in these cases. And they are not isolated examples. Their like abound in medical annals. The Germans, notably Niemeyer, have given some most striking cases, making them, as has been well asserted, “among the most interesting facts in therapeutics that have ever been recorded.”

Since, then, there is at command a remedy so effective and, withal, so free from unpleasant results, we urge the profession to avail themselves more largely of this powerful auxiliary in the therapeutics of neuralgic pain, instead of the so common resort to opiates, and especially the facile—but yet so often fatal as regards the mental and physical health and happiness of many—hypodermic syringe. It is a trite story, but it is a true one—this using of opium to one's harm. Its importance cannot well be over-insisted on, and the right-minded physician must admit and appreciate it if he would conserve the well-being of many who consign themselves to his care.

But it is so easy to prescribe an opiate for neuralgic pain, that medical men—unmindful of possible harm—have been too often content to

follow the old routine. Is it not time to begin a new order of things, to get out of the old path into one that will lead to better results, since free from the former risk?

Would it not be wiser for every practitioner to equip and acquaint himself with galvanic battery, and make trial of this, rather than, at once, to opium? Would it not be far more prudent to provide his neuralgic patient—if occasion required—with this, and instruct as to its use, rather than supply morphia, or an opiate prescription, which, as every one knows, can be so easily refilled, to excess, or, most pernicious of all advice,—since it is almost sure to have a ruinous ending,—to counsel the purchase and self-using of a hypodermic syringe?

Let each one put this query to himself and weigh well the answer.

A CASE OF DERMOID OR PILIFEROUS TUMOR, WITH CURE BY SPONTANEOUS OPENING INTO THE INTESTINE.<sup>1</sup>

BY WALTER F. ATLEE, M.D., OF PHILADELPHIA.

M. C. came to me in May, 1884, on account of a lump she had that day discovered in the lower part of the belly. She was thirty-two years of age, of medium size, with the appearance of good health. Her menses always came regularly every four weeks, never were profuse, and, as a general rule, lasted but two days.

This lump appeared to be egg-shaped, the long diameter in the direction of the spinal column, in size perhaps six inches in its greatest length, and placed rather above the womb, and somewhat to the left of the median line. She complained of pain and of obstruction to the passage of the stool. For this condition the use of a pill composed of opium and of the compound extract of colocynth was advised. A few days afterward, on account of complaint of difficulty in passing the urine, a drink of bitartrate of potassa was recommended for use. In July, on account of troubles of digestion, bismuth and strychnine were prescribed, to be used before meals, and pills of carbonate of iron to be taken after. Early in September pills of ergotine were ordered, and their use was continued again in October and in November and December. During this time the lump appeared to be growing rather smaller, and it was certainly becoming softer. On the eleventh of November a considerable quantity of matter like thick gruel, white, and with no odor, came away from the bowel. This, under the microscope, was seen to be composed of the exfoliated epithelial cells and the secretion from sebaceous glands. This continued to come from time to time, and, as it did, the lump became smaller. On the tenth of January hair began to come, some of it long and very black, and the most of it of a light brown, and but four or five inches in length.<sup>2</sup> On the sixteenth of January the matters that came away were very small in quantity, greenish in color, and of a very bad odor. Since that time there has been nothing of notice in the discharges from the bowels, except twice a slight quantity of blood. There is now no sign of the tumor.

These dermoid or piliferous tumors are interesting, surgically, from the obscurity they throw over diagnosis, and in the complications they occasion. In the case just related the tumor was believed to be a uterine fibroid for several months; in fact, until it was observed to become quite soft, from hard, as it had always been before. In a pathological point of view their interest is very great indeed, and also in one of comparative physiology. By far the larger number of dermoid cysts—indeed, the immense majority of them—are ovarian; but no matter in what part of the body they may be found, or what may be the sex of the patient, the doctrine of “the continuous development of tissues out of one another,” as Virchow calls it, will suffice to account for the growth of all ordinary dermoid or piliferous tumors. Inherent in the tissues of the body is a peculiar formative and reproductive power, and it operates in the production of these strange tumors, as it does in the large number of multiform morbid growths which spring up everywhere under circumstances impossible for us to explain.

In ovarian morbid growths the kind of tumor that is formed depends upon the strength of the formative impulse. In ordinary cases the force of formative power goes no further than the production of cyst-walls with a secreting endothelium which pours out fluid contents. In some cases the cell growth is enormous, and yet there is no disposition to organization, and piliferous excrescences, cancerous and colloid masses, show themselves. In others again, imperfect attempts at organization are seen, as in those called dermoid or piliferous, on account of what is most usually found in them.

The origin of all these cysts is traced, indirectly by way of exclusion, and directly by way of observation, to the development of the ovaries or Graafian vesicles; and, when we consider what these ovaries are, we need never be surprised at the contents of these cysts, and at the abundance, the nature, and the variety of these contents. When skin, hair, teeth, and so on, are met with it is quite in accordance with known facts in comparative physiology to look upon tumors containing them as imperfect attempts at organization arising from the powerful germinative aptitude of the ovary. The formation of imperfect tissues is reached without ever going so far as the formation of an organ, let alone that of an organism. Such formations may be looked upon as examples of parthenogenesis, as imperfect vestiges in the higher animals of a regular physiological act in some of the lower ones.

REPORT ON DERMATOLOGY.

BY G. H. TILDEN, M.D.

GASTRO-ENTERITIS FAVOSA.

At a meeting of the Imperial Society of Physicians in Vienna, Professor Kundrat showed pathological specimens taken from an individual who had suffered from severe and extensive favus, not only of the scalp, but of the whole cutaneous surface, the development of the disease having been so excessive that the patient at one time had been exhibited by Professor Kaposi. The patient soon

<sup>1</sup> Read before the College of Physicians of Philadelphia, March 4, 1885.  
<sup>2</sup> A considerable quantity of this hair was shown to the College.

<sup>1</sup> Wiener Med. Zeitung, No. 49, 1884.

afterward developed phlegmonous inflammation in the right popliteal space and died therefrom. The revelations of the autopsy were extraordinary. Besides fatty infiltration and degeneration of various organs, due to chronic alcoholism, and extended hypostatic pneumonia, a peculiar state of things was found to exist in the entire alimentary canal. Upon the gastric mucous membrane, which was somewhat swollen and mammillated, were to be seen a large number of small erosions, and also many yellow spots situated in the epithelium and upper layers of the mucous membrane. There were also losses of substance as large as hempseeds, covered with yellowish-brown exudation, and at the pyloric orifice of the stomach extensive infiltration of the mucous membrane, which was covered with croupous exudation. In the small intestine, besides the appearances of catarrh, there existed here and there small gangrenous spots, while in the large intestine ulcerations as large as a cent were to be seen, situated singly and in groups, the lowest layers of the mucous membrane and the submucosa itself being either exposed or covered with necrotic tissue. The picture presented by the stomach was so unusual that the idea of a parasitic disease, favus affecting the mucous membrane of that organ, suggested itself and the use of the microscope confirmed the correctness of this supposition, the yellow spots being composed of masses of the *Achorion Schonleini*, while the same vegetable organism was found to exist in abundance in the croupous exudation which covered the gastric mucous membrane. In neither the small nor large intestine, however, could the presence of the fungus be established. This condition of things is interesting, being unique, inasmuch as one of the mould fungi was found to be the cause of extensive pathological changes in the stomach and intestines. Although in dilatation of the stomach or in necrosed portions of that organ mould fungi are often found, their presence in such cases is accidental and of no aetiological significance in connection with any pathological process which may be present. In the present instance, however, there existed in the stomach severe inflammatory processes of a croupous nature, and wherever these processes were situated, the organisms peculiar to favus were to be detected. In the intestines, although none of these organisms could be found, the picture presented was so unusual, the distribution of the ulceration only between the folds of mucous membrane represented so little the ordinary appearances of enteric diphtheritic processes, that Kundrat was inclined to regard the whole pathological process as *gastro-enteritis favosa*.

#### CUTANEOUS REGIONS OF SPECIAL SENSATION.

During the past year three observers have investigated this subject independently of each other, and with remarkably concurrent results. Blix<sup>2</sup> takes as starting-point Müller's law of the specific energy of nerves, that any irritation of a sensory nerve arouses one and the same sensation, whatever be the nature of the irritation. If this is true it follows that functional activity of any peripheral sensory apparatus produces always the same effect: that of exciting the nerve fibres to which it belongs. The

kind of sensation which is thus aroused is dependent upon which nerve fibre conveys the irritation to the central nervous system, while the peculiar function of any given terminal sensory apparatus is, so to speak, selective, being capable of receiving only the one form of impression to which it is adapted.

As is well known, there are methods of irritation which influence the nerve fibres themselves and which, therefore, in case there exists a specific energy of nerves, should be capable of exciting different sensations according as they affect different nerve fibres leading to central nervous apparatus possessed of diverse functional activity. If it were possible to apply such irritation so as to affect only a single primitive nerve fibre, the irritation should arouse the special form of sensation which is peculiar to the central apparatus of the irritated nerve, irrespective of the method of irritation employed.

That the skin is the seat of several kinds of terminal nerve apparatus is apparent, not only from its anatomical structure, but also from the many varieties of sensation which are perceived upon appropriate cutaneous irritation. These sensations are usually divided into three classes: sensations of pressure, of differences of temperature, and of pain. The question now arises as to whether the specific nerve structures in the skin are the same or different for different sensations, that is, whether the same terminal sensory apparatus is capable of transmitting different sensations. If the terminal nerve structures in the skin are different for different sensations, they must occupy different regions of the skin, and however near to each other they may be situated, it should be possible to excite isolated activity in only one of these organs or its attendant nerve fibre.

Inspired by such reflections, Blix adopted local faradisation of the skin as a means of irritation. One pole of an induction coil was attached to a flat, moist conductor of large size so as to be in contact with an extensive surface of skin, the other pole being in connection with a small metallic point. By this arrangement the current of electricity, provided it is not too strong, is perceived only at the point of contact with the skin of the metal point. The use of a sufficiently strong current causes merely a generalized sensation of pain, while a milder current causes pain only in regions of the skin where the epidermis is thin, but not where the epidermis is thick. For purposes of experiment the most suitable strength of the electric current was found to be that which excited no feeling of pain when the pointed electrode was merely in contact with the skin, but only caused such sensations when the instrument was pressed firmly against the skin. In this way, by gradual increase of pressure, a gradually increasing irritation of the cutaneous nerves may be brought about. Contact of the electrode with the skin causes at first merely the sensation of pressure, provided the current is of the proper strength. By gentle increase of the pressure exerted, this sensation gradually changes to the characteristic feeling of pain caused by the application of the faradic current to the skin. Occasionally, however, the point of the electrode, while being moved about in contact with the skin, strikes a region where by gradual increase of pressure a well-defined sensation of heat or cold, most commonly cold, is

<sup>2</sup> Zeitschrift für Biologie, Band XX., Heft 2, s. 111.

aroused. By still further increase of pressure, this feeling of warmth or cold is transformed into the ordinary impression of pain, which assumes in different, although contiguous, regions of the skin different character. Usually it consists of a sensation of burning or pricking, sometimes being, here and there, more dull and vibrating in quality. Electrical irritation, therefore, causes different sensations in different regions of the skin. In one place it excites only pain; in another the feeling of cold; in a third the sensation of warmth; and in a fourth the sensation of pressure; from which it follows that the kind of sensation is not dependent upon the nature of the irritation to which it is due, but upon the specific energy of the nerve structure which happens to be affected. The cutaneous regions which offer the most favorable conditions for promptly detecting these points of different sensation are the backs of the fingers and hands.

Similar results are obtained by using merely a metal point without electricity. If a rounded point of cool iron or steel is slowly moved over the back of the hand, in contact with the skin, it arouses the sensation of cold only at certain points, while between these points are larger or smaller areas of skin where no such sensation is felt. Only when the instrument arrives in the neighborhood of a region which is sensitive to cold is there perceived a slight feeling of cold, which increases in intensity as the metal point approaches the sensitive spot. Of course, the nearer such spots of cold perception are to each other and the thinner the epidermis, the finer must be the metallic point which serves to differentiate them. In regions of the body where they are more discrete and where the epidermis is thick, it is necessary to use a more blunt and colder instrument in order to detect them. By the application to the skin of a metal point which could be kept at any desired degree of heat, the author discovered that there also exist in the skin certain spots which are affected only by the application of heat, and that these spots are separate from, and do not coincide with, those at which the sensation of cold is perceived. As a rule the cold points are more numerous than the warm points and both kinds are most thickly grouped upon the backs of the hands and fingers, less so upon the face, while upon the arms they are less numerous and upon the legs are quite sparsely situated. Upon the legs, for instance, there are cutaneous regions, of several square centimeters in extent, which are non-sensitive to both heat and cold. These points of special sensation are irregularly distributed and without definite arrangement, save that on the backs of the hands and fingers they are more thickly grouped than elsewhere. The thicker the epidermis the more difficult is their detection; but even on the palmar surface of the hands and fingers it is possible to demonstrate their separate and individual existence.

Goldscheider<sup>3</sup> has arrived at practically the same conclusions as Blix, but is of the opinion<sup>1</sup> that these cutaneous regions of special sensation have a more or less definite arrangement, the prin-

ciple of which is as follows: They are disposed in straight or slightly curved lines which radiate from certain points in the skin. By reason of the fact that the lines radiating from different points cross each other, there ensue inclosed areas of skin in which no points of special sensation exist. The central points, from which radiate the spots sensitive to differences of temperature, also serve as radiating centres for the spots sensitive to pressure, and as a general rule these central radiating points are situated directly over the hair papillae, but even in hairy regions of the body there are also to be detected central points of radiation which bear no such relation.

Donaldson, of Johns Hopkins University,<sup>5</sup> using thermal stimuli, has found that the distribution of sensitive spots in corresponding parts of the body differs in different individuals; that in the same individual the disposition in symmetrical regions of the skin is different; that the number of points sensitive to cold is greater than that of the points sensitive to heat; that the relative abundance of the two kinds varies in different parts of the skin; and that in a general way there are two grades of each kind of sensitive points, that is, those which react almost always and those which react less than half the time, and in which the sensation is comparatively faint. He finds that the spots are very small, as a rule less than a millimeter in diameter; that their power of perception is easily exhausted, and that the sensation called forth by a single stimulus often lasts for some minutes after the removal of the stimulus. That these points of special sensation are situated in the skin and not beneath it is shown by the fact that they move with the skin. To determine whether any definite histological peculiarity could be detected in the anatomical structure of these spots, two such regions of skin, one sensitive to heat and the other to cold, were excised and subjected to microscopical examination. No special structure, however, could be found which might have any association with the special sensitiveness of the spots, while experiment further demonstrated the fact that cicatrices are also possessed of regions of special sensation.

Eulenber<sup>6</sup> has been investigating cutaneous sensibility as to differences of temperature, with an instrument composed of two thermometers, adjusted after the manner of the two points of an aesthesiometer, and so arranged that one thermometer could be heated to any desired degree. He finds that he is in a position to "confirm the conclusions of Goldscheider, so far as they concern cutaneous sensibility to heat and cold, in almost every essential particular."

#### ETIOLOGY OF LUPUS VULGARIS.<sup>7</sup>

This subject was under discussion in the Dermatological Section of the Medical Congress at Copenhagen, during last summer. The opinion of every one who took part in the debate, except Kaposi, was in favor of the view that lupus vulgaris is tuberculosis of the skin, the undoubted presence in the nodules of lupus of a bacillus in every way

<sup>3</sup> Monatshefte für prakt. Derm., Nos. 7, 8, and 9, 1880, and Vierteljahrsschrift für Derm. und Syph., 3 and 4 Heft, 1881.

<sup>4</sup> Monatshefte für prakt. Derm., No. 1, 1885.

<sup>5</sup> Advance sheets.

<sup>6</sup> Monatshefte für prakt. Derm., No. 1, 1885.

<sup>7</sup> Vide Dermatological Reports in the Journal of October 25, 1885, and May 1, 1884.

corresponding to the bacillus of tuberculosis, its cultivation in media outside of the body, and the production of tuberculosis in animals by inoculation with such cultivation, being the reasons for this opinion. Kaposi vigorously opposed this idea, relying chiefly upon the manifest difference in the clinical course and appearance of lupus and of tuberculous ulcers of the skin, and expressing his conviction that such diverse phenomena could not result from the same cause. In answer to this it was suggested that it is not an impossible or unusual thing for the same pathological process to give rise to different manifestations, a common example of which is syphilis, the polymorphic nature of its cutaneous lesions being one of their most characteristic features. The consension of those present was that although "all tuberculosis of the skin is not lupus, yet lupus is always cutaneous tuberculosis."

Evidence is accumulating which goes to show that tuberculosis and scrofula are closely allied processes, and lupus thus takes its place among the scrofulodermata hitherto generally assigned to it by the French school of dermatology, but with a vagueness of mental grasp necessitated by ignorance of the nature of scrofula: "Ce panier dans lequel on jette, indistinctement, toutes les maladies, qui frappent les enfants de moins de quatorze ans, et dont on ne connaît pas la cause." There are three cases mentioned in a footnote in the number of the French *Annals of Dermatology* for October, 1884, which are interesting in this connection. The feature common to these cases was the development of the typical lesions of lupus vulgaris in portions of the skin which had for a long period of time been in continual contact with the purulent discharge, in one instance from a presumably tuberculous fistula in ano, and in the other two from tuberculous disease of bone. These observations were made before the existence of such a thing as the bacillus of tuberculosis was thought of, and are therefore of suggestive rather than evincive value.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE. SPECIAL MEETING.

ALBERT N. BLODGETT, M.D., SECRETARY.

FEBRUARY 16, 1885. By courtesy of Gen. F. A. Walker and the Boston Society of Arts, the Clinical Section met in the hall of the Massachusetts Institute of Technology.

The chairman not being present, Dr. J. W. ELLIOT was chosen chairman *pro tem*.

The paper for the evening was by J. PICKERING PUTNAM, Esq., upon

#### THE PRINCIPLES OF SANITARY PLUMBING.

The paper was illustrated by drawings and by elaborate fixtures with water-supply, by which practical demonstrations were introduced showing the behavior of various forms of traps under the conditions of actual use. The efficacy of sewer

ventilation was also alluded to, and the action of the air in ventilating shafts connected with the sewer-pipe was demonstrated by means of a long coil of iron pipe at variable points within the sewer-main. The flushing of the system of pipes was effected by a deluge of water liberated by the simultaneous discharge of two closets of enormous water capacity. In no case was there a tight seal during the experiments, but the air always traversed the trap in the direction of the flush. The point most earnestly advocated by the speaker was that traps of such a construction should be employed in house drainage as should allow the passage of air through them and still not be exhausted of water, and thus offer an obstacle to the passage of the emanations of the drain into the air of the dwelling.

MR. E. S. PHILBRICK, civil engineer, remarked that the closets exhibited in the experiments differ from those in common use. These closets are uniformly regulated so as to receive but two thirds of the full capacity of the closet as a flushing charge. This does not allow so large a quantity in any closet as was employed in the experiments. In practice the water is not running when the closets are discharged, as is the case in the experiments.

So far as the risk of siphoning is concerned, the trap shown seems to be a safe and proper substitute for trap ventilation, and is a means for avoiding such ventilation. It does not, however, follow that ventilation is superfluous. The ordinary S trap does not easily lose its seal. Even when two plunger-closets of the large size shown in the demonstration are simultaneously discharged, a thing which surely must occur very rarely only, if ever, in actual practice, it requires several such sudden plunges of this unusual amount of water to break the seal in the trap.

Furthermore, the closet used for the experiments is an antiquated style, which has been abandoned for more practical and economical forms of closet, and is not now made and cannot be bought. The outflow is too large and the amount of water used far too great. The discharge in these closets is from thirty to forty per cent. quicker than in the improved forms of closet.

The pressure is also much greater here than in closets in practical use in dwellings. The destruction of the seal in domestic traps from siphoning due to the gush of water from closets must be practically a rare occurrence.

Another faulty point in the experiments is the fact that air is allowed to enter the drain only at one point, namely, the single place at which the S trap is inserted, and a most unusual suction force is thus brought to bear at one isolated spot. In practice there are numerous traps in domestic service, and the suction is not exerted solely at one selected point, as is the case in this demonstration. In point of fact domestic traps do not siphon out in practical usage when guarded by ventilating pipes.

The pattern of closet shown, the Jennings model, is not cleanly, and is now replaced in use by other simpler and more desirable forms.

The free access of air to every branch of the soil-pipe is important, not only as a means of assisting the escape of gases from the interior of the pipe,

but also as a means of facilitating the passage of water through its lower parts. The flow of water through a closed system of drain-pipes may be compared to the escape of a liquid from a bottle. In order to obtain a free discharge it is necessary that some provision be made for the entrance of air at the upper end of every branch. The accumulations of gas in lateral branches of sewers are not influenced by ventilation of the main shaft. Lateral drains, therefore, should be ventilated independently of the main shaft, so as to allow air to traverse their entire length. The general system of soil-pipe ventilation as now enforced is not the most desirable or efficacious. The laws enacted by the city government in relation to plumbing are oppressive, and the plan which is enforced in regard to sewer ventilation is not perfect.

MR. E. W. BOWDITCH, sanitary engineer, stated that the lateral drains in house sanitation should be ventilated if for no other purpose than to prevent corrosion of the interior of the pipes from the action of the gases formed in or accumulating in the branches of house-drains. Sewer gas attacks lead pipe more than air does, and the parts which are corroded are always those which are dry, and thus exposed to the action of the gaseous contents of the pipes. Soil-pipes which were put in years ago and were not ventilated are always found corroded on removal. The old form of trap is also often found corroded, sometimes presenting numerous perforations through the entire thickness of the trap; and this, when observed, is always above the water-line of the trap. This is not confined to water-closet traps, but affects the traps of all kinds of domestic fixtures. No amount of flushing will keep the interior of drain-pipes clean so that noxious gases and probably also vegetable fungous growths will not be found in them. The provision for a freely circulating current of air is necessary to prevent these two sources of contamination. The soil-pipe exhibited seems to be excellent, and an improvement on that now in use. It would seem that this might be lined with porcelain, a thing much to be desired. It will certainly allow repairs and renovations much more easily and economically than any form of soil-pipe now in use.

MR. TUTT, a plumber, thought the trap shown would be likely to clog with the greasy matters from a kitchen sink.

MR. PUTNAM stated that the trap had never been tried in the drain from a kitchen sink.

MR. BOWDITCH thought the improved joint for drain-pipes would make it possible to construct a better quality of pipe. Some of the pipe now manufactured is cast so unevenly that it will not sustain a column of water of its own height. The strain on the pipe from variations in temperature would also be greatly diminished by the improved joint.

An opportunity was offered, at the close of the discussion, for a thorough examination of the apparatus by the audience, after which the meeting adjourned at 10.15 o'clock.

—Dr. Holmes makes a suggestion in *The New Portfolio* to the effect that while a doctor's patients must put their tongues out, a doctor's wife must keep her tongue in.

## NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, April 20, 1885.

### INCONTINENCE OF URINE IN CHILDREN.

DR. J. LEWIS SMITH read a paper on this subject, the first portion of which was devoted to a consideration of the anatomy and physiology of the bladder, especially as regards its muscular coat and nerve-supply. The enuresis, which was more common among males than females, might be both diurnal and nocturnal, but was more frequently nocturnal. He mentioned eight causes, two of which might sometimes be present in the same case.

(1) Too great acidity of the urine, causing undue contraction of the bladder.

(2) Increased quantity of urine.

(3) The presence of stone in the bladder, in which case the incontinence is both diurnal and nocturnal.

(4) Abnormal contractile power of the muscular coat of the bladder. The importance of this cause is shown by the fact that belladonna, which controls muscular irritability, is useful in such a large number of cases of enuresis.

(5) Weakness of the muscular fibres constituting the sphincter of the bladder. This is rare in children in good health, and Dr. Smith gave an account of one case in which it was associated with spina bifida.

(6) Reflex action through the agency of the nerves supplying other organs in addition to the bladder. In this class are the cases due to structural disease of the spine, ascariides in the rectum, phimosis, preputial adhesions, etc.

(7) The dreaming of the child that it is in a convenient place for urinating. To this psychical cause attention has been directed by Dr. Roberts Bartholow. That the enuresis is to a considerable extent under the control of the will is shown in cases where the habit has been broken up by the sending of the child among strangers or to boarding-school, where the sense of shame has constituted an influence sufficient for the purpose. Numerous instances are also on record where a flogging has permanently broken up the habit.

(8) Malformation of the bladder or its appendages. Dr. Madden has reported the case of a young lady who suffered from a constant dribbling of urine, both by day and night, in which he found, on examination, that there was a malformation of the right ureter, which discharged the urine from the kidney on that side directly into the vulva instead of into the bladder.

The prognosis, Dr. Smith said, naturally depended on the cause or causes of the trouble. When the affection was not controlled before, the influence of puberty or of marriage and pregnancy seemed to be well founded; but, of course, treatment was not to be delayed with any such idea in view. In the treatment the great point was to discover the cause. If the affection seemed to depend on the character of the urine, this was to be rendered as bland and unirritating as possible, and Dr. Smith said that since he had recognized the acid character of the urine as a frequent cause of incontinence he had been able to treat very satisfactorily quite a large

class of cases which had formerly proved troublesome. It was his practice to endeavor to render the urine as bland as tepid water. If there was acidity he gave from three to five drops of liquor potassæ, well diluted, three, four, five, or six times a day, until the urine became neutral in reaction, and then to continue the alkali in just sufficient quantities to maintain the neutral condition.

When there was increased functional activity the great reliance was to be placed on belladonna. The tincture was the preparation commonly used in this country, and of this five drops might be given every night and morning, the dose being increased by one drop each day until the desired effect was obtained or the physiological action of the drug had become apparent. When belladonna was found efficient it was to be kept up for some weeks in full doses, and the quantity then gradually diminished. This agent had been highly lauded by Tronseau, who used it in large doses. Dr. Smith related a case in his own practice in which a girl eleven years old, who suffered from both diurnal and nocturnal enuresis, and who had previously taken belladonna and other remedies, was cured. The urine was highly acid, and the treatment which he prescribed was five drops of liquor potassæ three times a day (or more, if this was necessary to keep the urine neutral in reaction), and tincture of belladonna in nine-drop doses, the quantity gradually to be increased to fourteen or fifteen drops.

If the enuresis were due simply to the large quantity of urine secreted, the liquid food was to be restricted, especially toward evening, and if diabetes were present, of course the treatment appropriate to that disease was to be adopted. In diabetes insipidus ergot was found to be of great service. Suspicion of the presence of a stone in the bladder would be excited by painful micturition, increased quantity of mucus in the urine, and the sudden stoppage of the full stream. The use of the sound would confirm the diagnosis, and the stone could then readily be crushed. In every case of incontinence it was important to make a careful examination of the parts contiguous to the bladder, such as the rectum and the genital organs, for the existence of ascarides, phimosus, preputial adhesions, hardened smegma, etc. If the enuresis were due to paresis of the sphincter, a treatment very different from that of belladonna was required, and here ergot, either alone or combined with nux vomica or strychnia, was found very useful in restoring the impaired innervation and stimulating muscular contractility. Two years ago Dr. George B. Fowler, of New York, had reported two very interesting cases, in which there was fecal incontinence also, treated with ergot in combination with strychnia. In one there was a relapse, which was successfully treated with ergot alone, given by the rectum. Here there was a markedly relaxed condition of the sphincter ani, indicating, no doubt, that there was also relaxation of the sphincter vesicæ.

A considerable number of remedies which had been formerly employed to a large extent for incontinence of urine were now seldom used; but some of them were still deserving of confidence in certain special cases. Among these was strychnia. In children under four years of age there was some

danger in giving it, and it was better to employ nux vomica under the circumstances, but above that age it was perfectly safe to use it. Tincture of cantharides, although as a rule an unpleasant remedy, could sometimes be employed with advantage if given in small doses. Cubeb and vegetable tonics and astringents were also sometimes called for. Dr. Smith then related a case reported by Enstace Smith, in which he successfully employed drachm doses of tincture of belladonna in combination with bromide of potassium and infusion of digitalis. It was to be borne in mind, however, that the English tincture of belladonna was only half the strength of the American preparation. Local treatment was often attended with a satisfactory degree of success, and the best agent for the purpose was nitrate of silver, applied for the cauterization of the neck of the bladder. Having referred to the use of baths and douches, Dr. Smith closed by speaking of the suggestion of Tronseau, that the patient should be required to urinate as frequently as possible during the daytime.

#### DISCUSSION.

Dr. WILLIAM DETMOLD thought that in the majority of instances nocturnal enuresis was simply a vicious habit, but one which was very difficult to get rid of. He did not believe it was advisable to use the term incontinence of urine in this connection. The condition was one of enuresis, and not properly incontinence, true incontinence being indicated by a constant dribbling of the urine, both by day and night. This was observed in patients where there was some organic defect, as in the case of Dr. Madden, referred to by Dr. Smith, where the right ureter discharged into the vulva. When medicine had an effect in nocturnal enuresis he thought it was simply a moral effect, produced by the fear of the doctor or the nauseousness of the dose. The more unpleasant the remedy, therefore, the more efficacious it was likely to be.

Dr. J. W. S. GOULEY said that he thought Dr. Smith's anatomy and physiology needed a little revision. There was no sphincter vesicæ in the same sense anatomically as physiologically, the so-called sphincter vesicæ not being at all comparable to the sphincter ani. Forty years ago it had been demonstrated beyond question that there was no such thing as an anatomical sphincter to the bladder, though there was a distinct physiological one. It was not the circular muscular fibres, but the longitudinal and oblique ones, which exerted this sphincter-like action. In regard to the compressors urethre having any power to control the stream after it had once emerged from the bladder, as maintained by Dr. Smith, this was undoubtedly a mistaken idea, the physiological sphincter alone having any such control. He agreed fully with Dr. Detmold that the word incontinence, when applied to children who wet their beds, was incorrect, nocturnal enuresis being the proper term for this condition. The urine was passed, not because the bladder could not contain it, but because it had to hold too much. Dr. Smith had attributed to Professor Bartholin something which did not belong to him, as it was Jean Louis Petit, who lived more than a hundred and fifty years ago, who first called atten-

tion to the cause of nocturnal enuresis mentioned in connection with Dr. Bartholow's name. Petit stated that there were three classes of children who wet the bed: (1) those who were too lazy to rise and urinate; (2) those who slept so soundly that the sensation of desire which precedes the act of micturition was not sufficiently strong to awaken them; and (3) those who dreamed that they were urinating. Trousseau had added a fourth class, namely, those who through fear would not arise to urinate; but this class of Trousseau's, as well as the first class mentioned by Petit, he thought ought to be excluded, so that there would remain simply the second and third classes just stated. The most frequent causes of the enuresis were lithuria and polyuria, the latter being often met with in nervous children. Children, after they had become two or three years old, did not wet their clothing in the daytime, but only at night. In some instances such children retained the habit until they were grown, and he had seen men twenty-five, thirty, and forty years of age who were still subject to it. No amount of whipping could cure a child of wetting the bed; on the contrary, corporal punishment could do harm, and only make the condition worse. Lithuria was much more common in young subjects than was generally supposed. When this was present there was not an accumulation of urine, but a constant enuresis, both diurnal as well as nocturnal. Dr. Gouley said he did not at all agree with Dr. Detmold that treatment was of no service. On the contrary, he believed that there should be both local and general treatment. He thought, however, that it was a mistake to attempt to make the urine as "bland as tepid water," as Dr. Smith spoke of doing. This would only increase the enuresis, as very bland urine, like pure water itself, was known to be irritating to the bladder. Dr. Smith had spoken approvingly of lithotrity in cases of stone, but in children under the age of ten this operation had been tried and found wanting, lithotomy being in reality much more safe. As to cauterization, he trusted that Dr. Smith did not mean that this should be done with Lallemand's *porte-caustique*, as he regarded this as excessively dangerous. But in connection with the internal administration of iron, more particularly the old-fashioned tincture of muriate of iron, he had often afforded great relief by the introduction of the sound or catheter every two or three days. As a rule the steel sound, if skillfully used, was preferable to the gum catheter. In both girls and boys (although the number of the former that he had seen suffering from enuresis was quite small) he had observed excellent results from this practice, and he did not think Dr. Smith had mentioned the simple passing of the sound.

The Secretary, Dr. P. BRYNBERG PORTER, said that he merely wished to call attention to the much greater tolerance of belladonna, proportionally, in children than in adults. In the *British Medical Journal* of February 7, 1885, Dr. E. Paget Thurston had reported a case of nocturnal enuresis in a girl seven years old. At first she was given ten minims of tincture of belladonna three times a day, but this had no appreciable effect upon the condition. He then ordered the belladonna in drachm doses,

one dose to be taken in the afternoon, and another four hours later, just before going to bed. The second night there was no enuresis, after which only one dose a day was taken, at bedtime, and this was continued for four more nights. The cure was then complete and permanent. He had himself also often noticed in giving belladonna what large doses children could bear without showing the constitutional effects of the drug. He would like to ask Dr. Smith whether he had had any experience with chloral hydrate in nocturnal enuresis. During the last few years this agent had been highly lauded in this condition, and he had personally tried it in a number of cases where the affection did not seem to be dependent on any removable local cause. While, however, in certain instances it had seemed to afford partial relief, as a rule he had been disappointed in regard to its action.

Dr. E. G. JANEWAY made some remarks in which he said that from his own experience he could abundantly confirm the truth of Dr. Porter's assertion in regard to the very marked tolerance of belladonna in children.

Drs. C. S. Wood, F. V. White, and T. R. Varick, of Jersey City, also participated in the discussion, which was brought to a close by Dr. Smith.

Dr. SMITH said that in his account of the anatomy and physiology of the bladder he had derived his information from some of the highest authorities, and that for the statement in regard to the action of the compressor urethre Belfield was responsible. In regard to the rendering of the urine bland and neutral in reaction, the good results which he had obtained since he had adopted this practice were sufficient, he thought, to justify him in continuing its use. He fully agreed with the gentlemen who had spoken in reference to the greater tolerance of belladonna in children, as was also the case with arsenic. In regard to chloral, he said that he had not tried it in this connection, but it seemed to him that if it was given in nocturnal enuresis it would only tend to aggravate the trouble by inducing more profound sleep. He agreed with Dr. Varick that it was very important that a careful study of the probable cause should be made in every case presented for treatment, and on this point he said he could not speak too strongly.

#### TRANSACTIONS OF THE CHICAGO GYNÆCOLOGICAL SOCIETY.

REPORTED BY W. W. JAGGARD, M.D., SECRETARY.

REGULAR meeting at Palmer House, Friday evening, March 20, 1885. The President, Dr. H. P. MERRIMAN, in the chair.

1. Dr. J. SYDAR KNOX read a paper entitled "The influence of *Cimicifuga Racemosa* upon parturition."

After a *résumé* of the medical history of the drug, Dr. Knox gave the results of his clinical observations in one hundred and sixty cases of labor, — fifty-seven primiparæ, ninety-three multiparæ, — in which black cohosh had been exhibited. The average duration of the first and second stages of labor, in normal cases, in primiparæ, was seventeen and three hours respectively. Under the influence of black

coshoh the duration of the first and second stages of labor, in the fifty-seven cases observed, was six and one-quarter, and one and three-quarters hours, respectively. The average duration of the first and second stages in normal cases in multiparæ was twelve and one hours respectively. Under the influence of black cohosh, in the ninety-three cases observed, the average duration of the first and second stages was three hours and twenty-seven minutes respectively.

From these clinical observations Dr. Knox drew the following conclusions:—

(1) Cimicifuga has a positive sedative effect upon the parturient woman, quieting reflex irritability. Nausea, pruritus, and insomnia, so common in the last six weeks of pregnancy, are always rendered less distressing and often disappear under its administration.

(2) Cimicifuga has a positive anti-spasmodic effect upon the parturient woman. The neuralgic cramps and irregular pains of the first stage of labor are ameliorated and often abolished altogether. In fact, during the first indiscriminate use of the drug in all cases I had the mortification, with a few women, of terminating the labor so precipitately and without prodromic symptoms as to be unable to reach the bedside before the birth.

(3) Cimicifuga relaxes uterine muscular fibre and the soft parts of the parturient canal by controlling muscular irritability, thus facilitating labor and diminishing risks of laceration.

(4) Cimicifuga increases the energy and rhythm of the pains in the second stage of labor.

(5) It is my belief that cimicifuga, like ergot, maintains a better contraction of the uterus after delivery.

It is my habit, however, to administer fifteen to thirty minims of the fluid extract of ergot after the birth of the fetal head, and I have had but few opportunities of testing this effect of the cohosh.

My method of administration has been to give fifteen minims of the fluid extract of cimicifuga in compound syrup of sarsaparilla each night for four weeks before the expected confinement.

One fluidounce of the fluid extract of cimicifuga to three fluidounces of compound syrup of sarsaparilla—dose, one teaspoonful—makes just the required quantity.

#### DISCUSSION.

DR. PHILIP ADOLPHUS had employed the cohosh, in the manner indicated by Dr. Knox, in one case with negative results.

DR. EDWARD WARREN SAWYER thought the results obtained by Dr. Knox were astonishing. He thought there could be no doubt but that the drug had the physiological action to which allusion has been made. He would, at once, act upon the suggestion in his private practice.

DR. W. W. JAGGARD thought that if the influence upon parturition, so clearly sketched by Dr. Knox, was capable of demonstration, he could agree with Dr. Sawyer's panegyric. Dr. Knox's carefully prepared paper was worthy of study and investigation. Dr. H. Webster Jones, formerly a prominent obstetrician in Chicago, had advanced similar views with reference to the physiological action of black cohosh,

in a paper published in the *Transactions of the Illinois State Medical Society* a few years since. Dr. Jones's advocacy of the drug as an oxytocic was well known to every practitioner in the city.

Dr. Jaggard desired to call the attention of the Fellows to the following subjects in Dr. Knox's paper:—

(1) Dr. Knox had stated that the average duration of the first stage of labor in primiparæ and multiparæ was respectively seventeen and twelve hours. Under the influence of black cohosh, the duration of this stage was abbreviated to six and one-quarter, and three hours, respectively. It was a matter of extreme difficulty to define the limits of the duration of the first stage of labor with such mathematical accuracy. The "personal equation" assumes great importance as a possible source of error. The subjective signs and physical explorations are not always sufficient to justify the diagnosis of the commencement of labor. Thus Dr. Lumpe<sup>1</sup> concludes, from the observation of several hundred primiparæ, that the cervical canal begins to dilate from eight to fourteen days before the expulsion of the child. Other observers assign a period of much briefer duration than the typical seventeen hours of Spiegelberg, to which Dr. Knox alluded.

Apart from the difficulty in the determination of the commencement of the first stage, the duration is capable of infinite individual variation.

(2) One hundred and sixty cases were insufficient to warrant such positive deductions upon an intricate therapeutical problem. In every one of the cases cited by Dr. Knox it was clearly indeterminate whether or no the effect was *post hoc* or *propter hoc*.

Black cohosh had been employed on an extensive scale in large lying-in hospitals in Germany. Every condition for accurate clinical observation had been supplied. Such conditions were: competent observers, numerous cases under absolute control for a sufficient period of time, chemical purity of the drug, and an approximately perfect system of keeping records. Up to the present time results had been of a purely negative character. It was true that Schatz had reported favorably as to the action of the drug in the treatment of certain pathological conditions of the uterus.

Dr. Jaggard did not wish to be understood as dogmatically condemning the drug. The evidence in favor of its action as an oxytocic, as collected from experiments upon the lower animals or from clinical observation, was entirely insufficient to warrant the positive conclusions of the author of the paper. The subject was worthy of further investigation.

(3) He thought the practice of the exhibition of ergot before the completion of the second stage of labor was reprehensible. It was in conflict with the obstetrical principles of the day, as deduced from clinical experience and the nature of the case. This remark was applicable exclusively to physiological labors.

DR. CHARLES WARRINGTON EARLE had used black cohosh, at the suggestion of Dr. Jones and Dr. Knox, in a variety of cases with negative results. He had about the same number of precipitate labors

<sup>1</sup> Archiv für Gynäkologie, 1883, Bd. No. XXI., Heft 1, p. 29.

as occurred in his practice prior to the introduction of the drug. It was possible that he had not employed doses of sufficient size, nor for a sufficient length of time before labor.

Dr. HENRY T. BYFORD wished to enter a protest against all methods of rendering the process of labor shorter. Quick labors were wrong labors as a rule.

Dr. GEORGE M. CHAMBERLAIN had no experience with black cohosh, but he was opposed to the exhibition of ergot before the expulsion of the child in physiological cases.

Dr. KNOX closed the discussion. In reply to Dr. Jaggard, he said that the results of his clinical experience with black cohosh were of such a convincing character that he would continue the exhibition of the drug in the future. In regard to the exhibition of ergot before the expulsion of the child, he did it to save time. The drug was not absorbed until twenty minutes after exhibition, and long before the expiration of that time the child was born. He could not spare the twenty minutes required to secure contraction of the uterus after delivery of child and placenta. In reply to Dr. Byford, he said that, at the present day, there were no physiological labors. Women were not Eves. By the judicious use of a drug like black cohosh, labor was made to resemble the ideal physiological process, as still observed among savages.

II. The Secretary then read the inaugural thesis of Dr. EDMUND J. DOERING (M.D., Chicago Medical College, 1874), entitled

SOME REMARKS ON THE VALUE OF PERMANGANATE OF POTASH IN AMENORRHEA.

After a brief description of the physical and chemical characters of the drug, Dr. Doering discussed its physiological action. Bartholow, who has great faith in the drug, claims that, although it parts with its oxygen with great readiness, this readiness is *not* sufficiently great to prevent the distribution of the gas into the blood. "His opponents deny this, and argue that the organic matter contained in the stomach and mucous membranes is sufficient to appropriate the oxygen of the salt and thus prevent its entrance into the circulation."

Prof. N. Gray Bartlett, a Chicago chemist, gives the following opinion:—

"From the readiness with which the permanganate of potassium is decomposed by organic compounds, it would seem to be ineligible for internal use. When so administered, it is immediately brought into contact, in the stomach, with a relatively large amount of organic matter and must necessarily be very rapidly destroyed, the manganese of the permanganate separating, in all probability, in the form of the hydrated manganese dioxide. The latter compound is an active oxidizing agent, and is possibly capable of exercising in the economy the oxidizing function, which has been ascribed to the permanganate of potassium. It would seem rational, therefore, anticipating the change which follows the administration of the permanganate, to substitute the hydrated dioxide of manganese, which can readily be prepared in a state of purity for medical use.

"Whatever view may be adopted as to the

chemical change which the permanganate undergoes in the human economy, the main question is as to its therapeutic value."

Prof. T. Gaillard Thomas, M.D., in his address to the New York State Medical Association, expresses faith in the value of the drug as an emmenagogue. Dr. Ringer and Dr. Murrell recommend the remedy. Dr. Doering had given the drug a careful trial in thirty cases of amenorrhea, depending upon anemia and general atony of the sexual apparatus. In about half the cases the observations were unsatisfactory from various causes, that is, inattention to the general directions, want of perseverance in taking the medicine, so that the conclusions arrived at were based upon fourteen cases, in each of which the cause of the amenorrhea was entirely clear, the remedy carefully and continuously given, and the effect clearly observed.

The cases were tabulated.

(1) Permanganate of potash in doses of from two to four grains is an efficient emmenagogue, if administered for a period of not less than two weeks.

(2) Its administration in doses large enough to be effective is accompanied by severe pain, which frequently necessitates the discontinuance of the remedy, and hence impairs its value as an emmenagogue.

(3) The most efficient method of administering the drug is in capsules, taken midway between meals, and followed by large draughts of some pure mineral water, like Silurian.

Dr. DOERING was elected Fellow of the Society.

REPORT OF THE PROCEEDINGS AT THE THIRTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS.

GENERAL MEETINGS.—MEDICAL SECTION.

The thirty-sixth annual session of the American Medical Association opened on the morning of April 28th, under the most favorable conditions of wind and weather. With a delightful breeze, a mild June heat, and the dust laid by timely showers of the day before, there was nothing lacking to personal comfort.

The Association was called to order at eleven o'clock by DR. SAMUEL LOGAN, of New Orleans, chairman of the Committee of Arrangements. After prayer by the Rev. B. M. Palmer, D.D., the President, DR. HENRY F. CAMPBELL, of Augusta, Ga., was introduced.

Dr. LOGAN then delivered an address of welcome, after which Dr. CAMPBELL delivered the annual address.

PRESIDENT'S ADDRESS.

After reviewing the records of the various Presidents, and the past work of the Association, he treated more especially: "The relations of the medical profession to tribunals of laws," or more summarily: "The doctor in the courts."

At the present time and in the eyes of most communities, the plane to which the medical deponent and expert has at last gravitated is but little above that of the ordinary, if not the partisan, witness.

The light of scientific truth he sheds is even sometimes suspected of coming with bent and refracted rays through the distorting lens of self-interest and a paid opinion. From circumstances which condition his testimony, he seldom now occupies in this country the honorable position of *amicus curiæ* or friend and instructor of the court on scientific questions, upon which may rest an important judicial decision. He is almost invariably presented as the medical witness or the medical expert in behalf of one side or other of the case upon trial. He is cited to appear as a witness in its behalf more frequently, not because he possesses superior knowledge of the scientific truths about which his testimony is to be conversant; not because his medical opinion *per se* is entitled to more confidence than that of another; but because he is known to hold opinions favorable to the side on which he is to depose. Quite often his only claim to the character of a medical expert depends upon a summons thus conditioned. The reliance upon medical testimony and, in time, confidence and respect for the medical profession must necessarily be depreciated by such exponents of them both.

The three principal positions or attitudes in which, as professional men, we most frequently stand related to the tribunals of law, are: first, as the medical witness; second, as the medical expert; and, third, as a defendant in suits of malpractice.

In each one of these relations it could readily be shown that the medical man labors under disadvantages which do not, in the same degree, embarrass either the testimony or the defence of any other class of citizens. Prussia, recognizing the evils of ignorant and unworthy experts in the medical profession, as well as in all others from which scientific testimony has to be elicited in grave questions pending before the courts, has a toxicologist appointed by the Government, and a permanent commission of experts in matters connected with medical science. In Scotland, medical witnesses are said to deliver their examinations in writing, but are subjected to oral cross-examination before the court; in France, the judges decide who shall act as experts in certain cases, also what questions shall be submitted to them, the answer being returned to the jury in writing; "and practically it is said to have the weight of conclusive evidence." In England, thus far, no system has been adopted. In most of the European courts mentioned there is an incidental protection given to the scientific medical witness from the assaults and indignities offered by the examiner and the advocate.

Practically the private communications from the patient to his medical adviser are the only ones that ever become the subjects of extorted testimony. "As the law now stands, in some of our States, the medical person confided in by his patient has no protection in the law; and if the judge choose to overlook his refusal to appear, to his patient's detriment, the doctor, like any other ordinary witness, may be prosecuted for damages sustained by the party calling him if it can be shown that by the withholding of testimony the party's interests had suffered."

It is, however, in suits for malpractice that the danger and the evil lie, in the course of years,

grown so unpleasantly familiar to the medical profession. The scientific, skilful, and faithful surgeon, particularly should he be known to possess means to meet damages, no less than the ignorant and unscrupulous pretender, is constantly liable to have laid to his charge often the unavoidable results of injuries, as the consequences of either incompetence or neglect.

That portion of the address relating to medico-legal matters was, on motion of Doctor Quinby, of Jersey City, referred to a committee of five, to be appointed by the chair.

Dr. J. G. RICHARDSON, of Philadelphia, read the report of the committee appointed last year to take action on the death of Professor Gross.

Dr. J. S. BILLINGS reported the success of the special committee appointed to secure from Congress an appropriation for the erection of a fireproof building for the Army Medical Museum and Library at Washington.

Dr. Billings reported the action which had been taken concerning the next International Medical Congress, and the Executive Committee, in accordance with resolutions adopted at the last annual meeting of the Association, has invited the Congress to hold its next session in this country and has made arrangements to that effect.

On motion of Dr. Keller, of Arkansas, the report was made the special order for Wednesday at 12 noon.

The report of Dr. Albert L. Gihon, U. S. N., on the subject of the erection of the monument to Dr. Benjamin Rush, was presented, and on motion by Dr. Toner, of Washington, was made the special order for Friday morning.

Several papers were read by title and referred to the chairman of the Section on Surgery, having been received too late to enter the printed programme.

The following gentlemen were made

#### INVITED GUESTS:

Drs. Edward Jones, A. B. Miles, and C. J. Bickham, of New Orleans; A. E. Forte, of Philadelphia; J. J. Gauthereaux, of Welcome P. O., St. James Parish, La.; and James R. Scarborough, of Clinton, Ky.

#### THE DISCOVERY OF ANÆSTHESIA BY SULPHURIC ETHER.

Dr. R. A. KINLOCH, of Charleston, S. C., presented the following resolution from the South Carolina Medical Association:—

*Resolved*, That the delegates from this Association be requested to present to the American Medical Association, at its next session, the report of the committee on the discovery of sulphuric ether made to the Association at its last session, and request that body to take such action on the subject of the report as they in their judgment may determine in view of the claims therein set forth.

On motion by Dr. Beverley Cole, of San Francisco, it was referred to the Section on Practice of Medicine and Materia Medica, with the request that it consider the subject and report to the Association.

The Association then adjourned to Wednesday morning at ten o'clock.

GENERAL SESSION. WEDNESDAY. — SECOND DAY.

The Secretary announced the following

## COMMITTEE ON NOMINATIONS:

John Cochrane, Alabama; R. A. Kinloch, South Carolina; L. P. Gibson, Arkansas; R. B. Cole, California; H. O. Walker, Michigan; C. C. Wycokoff, New York; William Pierson, New Jersey; W. H. Phillips, Ohio; R. S. Sutton, Pennsylvania; D. W. Kronse, Iowa; J. A. White, Virginia; J. H. Murphy, Minnesota; N. T. Nelson, Illinois; T. G. Richardson, Louisiana; C. H. Shackford, Massachusetts; Job W. Smith, Florida; J. B. Robertson, Texas; S. S. Riddell, Wisconsin; E. F. Upham, Vermont; A. Y. P. Garnett, District of Columbia; L. D. Waterman, Indiana; G. W. Baldwin, Kansas; B. F. Coleman, Kentucky; S. C. Gordon, Maine; R. J. Nunn, Georgia; J. McAbran, Wyoming; Joseph R. Smith, United States Army; George Peck, United States Navy; John Godfrey, United States Marine-Hospital Service; D. T. Nelson, Illinois; John S. Lynch, Maryland; G. M. Taylor, Mississippi; Le Grand Atwood, Missouri; R. C. Moore, Nebraska; W. E. Anthony, Rhode Island; D. J. Roberts, Tennessee; J. H. Pipes, West Virginia; C. J. O'Hagan, North Carolina.

Dr. DIDAMA then delivered the address of the chairman of the Section in Medicine.

Dr. R. STANSBURY SUTTON, of Pittsburgh, then delivered the address in Obstetrics, on the

## OUTGROWTH OF THE FIRST OPERATION OF OVARIOTOMY,

in which he showed that from McDowell's operation nearly all the intra-abdominal operations in surgery had sprung, and noted carefully the lectures and papers delivered on the subject during the last twelve months. He insisted upon greater care in the surroundings of all abdominal operations, and pointed to the admirable results obtained by John Homans, of Boston, and Robert Battey, of Georgia, both of whom used the carbolic spray. He stated that for himself he did not use the spray, but looked upon cleanliness and Listerism as linked so closely together that they might be said to be inseparable, for Listerism is the gospel of cleanliness. He closed with a tribute to Dr. J. Marion Sims.

Dr. W. C. VAN BIBBER, of Baltimore, read a paper on

PENINSULAR AND SUB-PENINSULAR AIR AND CLIMATE, which was intended to give information on winter resorts, especially in regard to Florida.

The special order in regard to the

## INTERNATIONAL MEDICAL CONGRESS

being then in order, Dr. John V. Shoemaker, of Philadelphia, protested against the acceptance of the report, and stated that the American delegates who were present at Copenhagen had been entirely ignored by the Committee. He declared that the Committee had recognized the New Code men. He asked whether the Association had authorized this Committee to elect officers for the Congress. The members of this Committee had ignored the Association, and they have made fun of it for the last ten

or twelve years. He asked what was meant by the statement that a complete programme would be presented at the next meeting? It meant the Councils of the Sections would be filled by a clique.

Dr. F. E. DANIEL, of Fort Worth, Texas, offered the following preamble and resolution:—

*Whereas*, At the last meeting of the American Medical Association a committee was appointed to confer with the International Medical Congress, at Copenhagen, with a view to securing the next meeting of that body, in 1887, at Washington, and to arrange for the said meeting; and

*Whereas*, This Committee, after accomplishing this object, have proceeded, without authority from this body, to appoint the officers of the Congress, which have been published in detail in the *Journal* of the Association and other publications, thus giving the aspect of authoritative action on behalf of this Association; and

*Whereas*, This Association recognizes the Committee as a Committee of Arrangements only, and in so far as the duties of the Committee have been performed, it declines to endorse the said appointments; therefore,

*Resolved*, That the Committee on Nominations be instructed to prepare and present to the Association nominations for the officers of the Congress and its various Sections.

Dr. J. S. BILLINGS, U.S.A., denied *in toto* Dr. Shoemaker's statement that any bargaining was had with any one. No New Code men were consulted by the Committee, unless Dr. Moore, of Rochester, could be considered a New Code man. He called attention to the resolution of last year which appointed the Committee, and gave it the power—if the invitation was accepted—to add to its membership, to perfect its organization, to elect its officers, and to act as an Executive Committee, with full power to make all necessary and suitable arrangements for the meeting, and to solicit funds for this purpose. This committee, which consisted of Drs. Austin Flint, of New York; H. F. Campbell, of Georgia; L. A. Sayre, of New York; I. Minis Hays, of Philadelphia; Christopher Johnston, of Baltimore; George J. Englemann, of St. Louis; J. M. Browne, U.S.N., and J. S. Billings, U.S.A., presented the invitation at Copenhagen, and, upon its acceptance, were constituted the Organizing Committee of the Congress. This Committee, under the power given it, enlarged its number to twenty-five, so that it should be representative of every section of the country. It then proceeded with the necessary preliminary work for the organization of the Congress, which was done, thus early, in accordance with the advice of the Committee of Arrangements of both the London and Copenhagen Congresses. The Committee had acted to the best of its ability and with honest motives. He hoped that no hasty action would be taken to overthrow the reported work of the Committee, because such action would cause an unfortunate delay in the organization of the Congress, and was calculated to create an unfavorable impression abroad.

Dr. J. F. GAMMEL, of Piqua, Ohio, complained that the delegates had not been consulted at Copenhagen by the Committee.

Dr. J. M. KELLER, of Hot Springs, Arkansas, considered that the Committee was responsible to the Association for its action, and had overlooked its responsibility. He offered the following amendment to Dr. Daniel's motion:—

*Resolved*, that the committee appointed by the American Medical Association to arrange for the meeting of the International Medical Congress in 1887 be enlarged by the addition of members from this Association, one from each State and Territory, and from the Army and Navy, and Marine-Hospital Service, and the District of Columbia, to be appointed by the present presiding officer, Dr. J. S. Lynch, of Baltimore, first vice-president, and that this committee thus enlarged shall proceed to review, alter, and amend the action of the present committee as it may deem best.

Dr. COLE, of California, said that the committee had erred, though probably not intentionally. He was strongly opposed to the exaltation of New Code men.

Dr. WILLIS P. KING, of Sedalia, Mo., said that he could not doubt the honesty of the members of the committee, but they had entirely neglected the West and South and had only considered the North and East.

Dr. SHOEMAKER repeated that the New Code men had made threats at Copenhagen.

Dr. DANIEL said that Texas had been ignored in the composition of the committee.

Dr. D. D. SAUNDERS, of Memphis, Tenn., moved as an amendment that the report of the committee be accepted and the committee continued.

Dr. J. B. ROBERTS, of Philadelphia, said it would be better to endorse the action of the committee than to publish the dissensions that exist at home. A motion to adjourn was lost, 44 to 360. Dr. Saunders's resolution was lost, 88 to 129. Dr. Keller's substitute was adopted.

#### THURSDAY.—THIRD DAY.

The amendment to the By-laws providing that each Section shall elect its own officers which was offered last year by Dr. Foster Pratt, of Michigan, was called up, and its further consideration postponed till next year.

Dr. N. S. DAVIS read the report from the Standing Committee on

#### METEOROLOGICAL CONDITIONS AND THEIR RELATION TO THE PREVALENCE OF DISEASES.

Dr. Davis also read a report of the Committee on the

#### COLLECTIVE INVESTIGATION OF DISEASE.

Dr. Davis also submitted the report of the Committee appointed last year to give an authoritative explanation of certain clauses of the Code in the following preamble and resolutions:—

*Whereas*, Persistent misrepresentations have been and still are being made concerning certain provisions of the Code of Ethics of this Association, by which many in the community, some in the ranks of the profession, are led to believe its provisions exclude persons from professional recognition simply because of difference of opinion or doctrine; therefore be it

*Resolved*, That Clause I., Article IV., in the National Code of Medical Ethics, is not to be interpreted as excluding from professional fellowship, on the ground of difference in doctrine or belief, those who in other respects are entitled to be members of the regular medical profession, neither is there any

other article or clause in said Code of Ethics that interferes with the exercise of the most perfect liberality of individual opinion and practice.

*Resolved*, That it constitutes a voluntary disconnection or withdrawal from the medical profession proper to assume a name indicating to the public a sectarian and exclusive system of practice, or to belong to an association or party antagonistic to the general medical profession.

*Resolved*, That there is no provision in the National Code of Medical Ethics in any wise inconsistent with the broadest dictates of humanity, and that the article of the Code which relates to consultations cannot be correctly interpreted as interdicting, under any circumstances, the rendering of professional services whenever there is pressing or immediate need of them; on the contrary, to promptly meet the emergencies occasioned by disease or accident and to give the helping hand of assistance without unnecessary delay is a duty fully enjoined on every member of the profession, both by the letter and spirit of the entire Code, but no such emergencies or circumstances can make it necessary or proper to enter into professional consultation with those who have voluntarily disconnected themselves from the regular medical profession in the manner indicated by the preceding resolution.

Signed, N. S. Davis, Chicago; A. Y. P. Garnett, Washington; H. F. Campbell, Augusta, Ga.; Austin Flint, Sr., New York; J. B. Murdoch, Pittsburgh.

This report was adopted unanimously as an interpretation of certain clauses in the Code.

The address in Surgery was read by Dr. DUNCAN EVE, of Nashville.

The Treasurer's report showed a balance of \$932.11 in the treasury.

#### THE COMMITTEE ON PUBLICATION

presented its report in which it stated that the *Journal* is free from debt. The number of members entitled to receive it is 3,050, the number of subscribers is 850, and the exchanges and advertisers require 120 more. The total number of copies published is 4,200, and the probable income is not much less than \$6,000. The total income from dues is \$21,000. The expenses are \$12,000, not including the expenses of the editorial office. The Committee had unanimously requested Dr. Davis to continue as editor.

Dr. Davis spoke at length of the difficulties in conducting the *Journal*. He opposed increasing the annual dues, as it would have the effect of decreasing the number of members—especially of new members. He said that in ten years the *Journal* would stand at the head of medical periodicals.

Dr. HARVEY REED, of Ohio, moved that the Association offer yearly in each Section prizes for the first and second best papers containing original research. Adopted.

Dr. J. B. ROBERTS, of Philadelphia, from the Section on State Medicine, offered a resolution recommending the appointment in each State of an examining board whose certificate shall be a license to practise. Laid on the table temporarily.

The Committee appointed to consider the advisability of erecting

#### A MONUMENT TO BENJAMIN RUSH,

in the city of Washington, recommended that such monument be erected by dollar subscriptions.

The Nominating Committee then presented the following list of

#### OFFICERS FOR THE ENSUING YEAR:

*President*.—William Brodie, M.D., of Michigan.  
*Vice-Presidents*.—Samuel Logan, M.D., of Louisiana; A. Y. P. Garnett, M.D., of the District of Columbia; Charles Alexander, M.D., of Wisconsin, and W. F. Peck, M.D., of Iowa. *Section of Medi-*

*cine.*—J. T. Whittaker, M.D., of Ohio, chairman; B. L. Coleman, M.D., of Kentucky, secretary. *Section of Obstetrics.*—Seth C. Gordon, M.D., of Maine, chairman; J. F. Y. Paine, M.D., of Texas, secretary. *Section of Surgery.*—N. Senn, M.D., of Wisconsin, chairman; H. H. Mudd, M.D., of St. Louis, secretary. *Section of Ophthalmology.*—Eugene Smith, M.D., of Michigan, chairman; J. F. Fulton, M.D., of Minnesota, secretary. *Section of Diseases of Children.*—W. D. Haggard, M.D., of Tennessee, chairman; W. B. Lawrence, M.D., of Arkansas, secretary.

*Dental and Oral Surgery.*—Dr. J. H. Marshall, Illinois, chairman; Dr. J. E. Baldwin, Illinois, secretary. *Committee on State Medicine.*—Dr. J. S. Rauch, Illinois, chairman; Dr. F. E. Daniel, Texas, secretary. *Committee on Necrology.*—Dr. J. M. Toner, Washington, chairman.

*Judicial Council.*—Drs. R. A. Kinloch, South Carolina; D. D. Saunders, Tennessee; T. G. Richardson, Louisiana; D. A. Ketchum, Alabama; George Beard, West Virginia; J. M. Toner, District of Columbia; A. M. Pollak, Pennsylvania.

*Place of Meeting.*—St. Louis, Mo., on the first Tuesday in May, 1886.

The following members were added to

#### COMMITTEE ON INTERNATIONAL CONGRESS:

Drs. D. A. Linthicum, Arkansas; George A. Ketchum, Alabama; A. R. Smart, Michigan; J. V. Shoemaker, Pennsylvania; F. A. Sim, Tennessee; J. W. McLaughlin, Texas; A. Y. P. Garnett, District of Columbia; S. C. Gordon, Maine; John S. Lynch, Maryland; Ellsworth Eliot, New York; C. C. Scott, Ohio; W. C. Dabney, Virginia; Nicholas Senn, Wisconsin; Robert Battey, Georgia; J. W. Dupree, Louisiana; W. E. Anthony, Rhode Island; R. D. Murray, Florida; E. P. Cook, Illinois; R. B. Cole, California; Charles Denison, Colorado; F. W. Beard, Indiana; D. W. Stromont, Kansas; L. P. Bush, Delaware; A. H. Wilson, Massachusetts; William Pierson, New Jersey; R. A. Kinloch, South Carolina; W. H. Watson, Kentucky; E. French, Minnesota; N. F. Essig, Missouri; R. C. Moore, Nebraska; G. Baird, West Virginia; Surgeon-general Murray, United States Army; Surgeon-general Gunnell, United States Navy; Surgeon-general Hamilton, Marine-Hospital Service.

The Secretary announced the following committee on that part of the President's address relating to forensic medicine: Drs. Quinby, of New Jersey; Scott, of Cleveland, Ohio; Dawson, of Cincinnati, Ohio; Daniel, of Texas; Shoemaker, of Philadelphia; Foster and Campbell, of Augusta, Georgia.

#### MEDICAL SECTION.—FIRST DAY.

At 3.30 p.m. the Section of Practice of Medicine assembled in Tulane Hall, with Dr. H. D. Didama, of Syracuse, N. Y., as chairman.

The first paper presented was upon

#### THE TREATMENT OF CARBUNCLE WITHOUT INCISION,

by DR. L. DUNCAN BULKLEY, of New York. As a text for his article, Dr. Bulkley reported the case of a man fifty-six years of age, who had a carbuncle upon the back of his neck. During its development

this carbuncle reached the size of four inches in diameter, and the case was complicated by the presence of glycosuria.

The treatment pursued was as follows:—

*Internally.* Patient was given quarter-grain sulphide of calcium pills every two hours, irrespective of meals. The following mixture was also prescribed in teaspoonful doses after each meal:—

R. Magnesie sulphatis . . . . .	3vj
Ferril sulphat. . . . .	3j
Acidul sulph. dil. . . . .	3ij
Syr. Zingib. . . . .	5j
Aque ad. . . . .	5ij

*Locally.* No poultices were allowed, but the following mixture was spread thickly on the woolly side of lint and applied to the inflamed part:—

R. Ext. Ergotae fl. . . . .	3ij
Unguent aque Rosae . . . . .	3ij
Zinci Oxid. . . . .	3j

This dressing was to be renewed twice daily, or oftener if there was much discomfort. The patient was allowed to attend to his business, which he did without much complaint. From the beginning of the treatment the pain and soreness of the carbuncle began to diminish, although the tumor itself increased in size.

This constituted the whole of Dr. Bulkley's treatment. The points which he attains by this method are: the careful avoidance of unnecessary irritation to the inflamed surface; the avoidance of all warm and moist applications, such as poultices, which he thinks increase discomfort; the avoidance of painful surgical proceedings; the perfect protection of the inflamed part by a soothing ointment, which is always gratefully acknowledged by the patient. The system is sustained, not by stimulant food and medicine, but by securing a healthy performance of the functions of the system with nutritious and healthful food and fresh air.

Dr. Bulkley has employed this treatment in many cases, and the advantages which are observed to follow it are: (1) A comparatively short duration of the entire process. (2) A comparatively small amount of pain. (3) A comparatively small amount of scarring. (4) The avoidance of a surgical operation. (5) The avoidance of detention in bed.

#### DISCUSSION.

DR. JAMES F. HIBBERD, of Richmond, Indiana, cordially indorsed the suggestions of the paper. He had long abandoned the use of crucial or other incisions for carbuncles, nor did he employ poultices unless driven to it by the interference of friends. During the last year he has treated carbuncles by the gentle inunction of oleate of morphia applied every three hours. He reported several cases where this plan of treatment had not only diminished the sensitiveness of the swelling, but had also apparently aborted the disease. The carbuncle ceased to develop, diminished rapidly in size, and disappeared. Dr. H. had not accumulated a large enough number of cases to make any definite assertions as to the infallibility of the remedy, but it had appeared to work in a wonderful manner.

DR. SAVAGE, of Jacksonville, paints a zone of cantharidal collodion, from one half to an inch in

width, around every carbuncle. A blister is formed, and the result is great relief from pain and a relatively comfortable progress of the disease.

In closing the discussion, Dr. BULKLEY said he never opens a carbuncle, even at an advanced stage, when its contents are liquid, as shown by fluctuation. Nature provides a way for the safe discharge of the pus, whereas an incision exposes the patient to the possibilities of absorption and subsequent danger.

The second paper of the day was presented by Dr. ASA F. PATTEE, of Boston, Mass., on the

#### PERCUTEUR: ITS USE IN DISEASES OF THE NERVOUS SYSTEM.

This paper consisted of a *résumé* of Dr. J. Mortimer Granville's book on "Nerve Vibration and Excitation," with notes upon cases from his own practice. Dr. Pattee exhibited a percuteur which he had had constructed for his own use, and in which he employed electricity as the motive force for the hammer.

The third paper, upon

#### HYDATID TUMORS OF THE BRAIN,

was by Dr. N. HARVEY REED, of Mansfield, Ohio. This paper contained the clinical history of four peculiar cases with the post-mortem discovery of cystic tumors in the brain. These cysts, Dr. Reed maintained, were hydatid tumors, and he asserted that he had found microscopic evidence of the same, although he presented no such evidence to the Section. This paper evidently aroused considerable doubt in the minds of those who heard it, and Dr. J. T. Whittaker, of Cincinnati, expressed regret that the microscopic evidence had not been presented with the paper.

Dr. WHITTAKER has made diligent search for hydatid specimens in his section of Ohio to use for clinical teaching, and he had met with but little success. He suggested that apoplectic cysts into the substance of the brain may closely resemble hydatid tumors. The reading of this paper will inevitably occasion a closer scrutiny of such cysts in the future.

The last paper of the day was read by Prof. J. T. WHITTAKER, of Cincinnati.

#### AN ATTEMPT AT THE RADICAL TREATMENT OF TUBERCULOSIS.

Dr. WHITTAKER said: "It may be taken for granted that every one now believes the disease (tuberculosis) to be a mycosis. With the double purpose of directly attacking the cause of this disease with an antimycotic agent, and of producing the imitation which might result in proliferation of the connective tissue of the lung, I have made a number of parenchymatous injections into the lungs with solutions of the mercuric bichloride of varying strength."

He chose patients in whom the disease existed in what is commonly called the first stage. He stated that seven years ago he lost a patient while aspirating a large cavity in the left upper lobe, before the class. "I may state parenthetically that I had upon this occasion to appear before a coroner and fortify my position with the citation of an array of cases in which this operation was successfully performed,

though, as was later ascertained, with no permanent benefit in any case."

The essayist then related his observations upon five patients carefully selected where accurate thermometric records were kept, and all points of history were noticed with regard to cough, night-sweats, appetite, condition of bowels, and weight. The bichloride was injected into the lung, daily, at a depth of four to six inches, in quantities varying from one thirty-second to one eighth of a grain. At the same time all patients inhaled from an atomizer a solution of the bichloride with common salt, three times daily for five weeks. There was, as a result of this treatment, no change whatever in the course of the disease. What fluctuations were observed were of the same character precisely as before. Dr. Whittaker next spoke of the value of the bichloride as an antimycotic agent in general, and sought to account for its failure in tuberculosis.

To render the bichloride less painful and more permanent, as well as to secure a preparation more easily absorbed and assimilated, it has been proposed by Stern Rader and Gechirhahl to make of it a neutral solution, by the addition of common salt in the proportion of ten parts of salt to one of the sublimate. This also renders the solution less productive of inflammatory *dépôts*.

Regarding the efficacy of sublimate in destroying the tubercle bacillus, the experiments of Hollander with tuberculous sputa show that small quantities of no disinfectant suffice to render such sputa innocuous. To absolutely destroy all tuberculous germs, it requires a proportion of two tenths of one per cent. corrosive sublimate. To produce the same effect with carbolic acid requires a strength of three per cent. Two fifths of one per cent. equals practically one grain to the ounce. A hypodermic syringe full of this solution contains about one eighth of a grain. This quantity can be injected with impunity into the lungs.

In conclusion, Dr. W. said: "But the question arises whether the destruction of a large mass of the bacilli tuberculosis will cure the disease. Will not a few, which must under any circumstances escape, continue to multiply as before? Or, will not the soil remain just as fertile to the reception of new seed? The mycologists themselves do not, as a rule, look with favor upon experiments of this kind. Yet clinicians can never be content with prophylaxis alone. There is still hope of effecting by drugs such chemical changes in the lung tissue as will make it infertile to the growth of the bacilli, and bring about the condition which takes place in the process of natural recovery."

#### SECOND DAY.

The first paper of the day, before the Medical Section, was offered by AUSTIN FLINT, M.D.

#### A UNIFORM NOMENCLATURE OF PHYSICAL SIGNS WHICH OCCUR IN CONNECTION WITH THE RESPIRATORY SYSTEM.

The International Medical Congress in London, in 1881, recognizing the dire confusion and frequent contradiction of terms applied to physical signs in different countries, appointed a committee of five to consider the subject of a uniform nomenclature for

these signs. This committee consisted of Dr. Flint (chairman), of New York; Drs. Mahomed and Powell, of London; Professor Ewart, of Berlin; Professor D'Espine, of Geneva.

The unfortunate death of Dr. Mahomed deprived the committee of an enthusiastic and able worker. Since his death Professor Lépine, of Lyons, France, and Professor Trier, of Copenhagen, have been added to the committee.

Professor Flint's paper at the meeting was simply a provisional statement of these facts and included the accompanying tabulated list of such terms as the committee have already agreed upon. Professor Flint hopes that those who are interested in this subject in America will communicate to him such suggestions as may occur to them.

TABULATED LISTS

Of terms proposed by the British members and the American member of the Committee appointed at the meeting of the International Congress in 1881, to report on a uniform nomenclature of physical signs which occur in connection with the respiratory system.

PALPATION.

BRITISH LIST.	AMERICAN LIST.
DRS. POWELL AND MAHOMED.	DR. AUSTIN FLINT.
1. Vocal fremitus.	Vocal fremitus.
2. Rhonal fremitus.	Rhonal fremitus.
3. Friction fremitus.	Friction fremitus.

PERCUSSION.

1. Tympanitic resonance.	Tympanitic resonance.
2. Amphoric resonance.	Amphoric resonance.
3. Diminished resonance. Dulness.	Diminished resonance. Dulness.
4. Absence of resonance. Flatness.	Absence of resonance. Flatness.
5. Increased resonance.	Increased or vesiculo-tympanitic resonance.
6. Bell sound. <sup>1</sup>	(Not included.)

AUSCULTATION.

First Group. Varieties of Breath Sounds.

1. Exaggerated. Syn. Puerile. Compensatory. Supplementary.	Exaggerated, etc.
2. Diminished. Syn. Feeble. Weakened vesicular murmur.	Diminished, etc.
3. Suppressed. Syn. Absence of breath sound.	Suppressed, etc.
4. Prolonged expiration. General or local.	Prolonged expiration. High or low in pitch.
5. Interrupted inspiration. Syn. Jerking, wavy, cog-wheeled.	Interrupted inspiration, etc.
6. Tubular. Syn. Bronchial. High pitched blowing.	Tubular. Bronchial.
7. Vesiculo-tubular. Syn. Broncho-vesicular. Harsh, coarse, sub-tubular.	Broncho-vesicular. Syn. Vesiculo-tubular.
8. Amphoric.	Amphoric.
9. Cavernous.	Cavernous

Second Group. Adventitious Sounds.

1. Rhonchi. Dry musical sounds. (a) Sonorous, (b) Sibilant.	Rhonchi or dry bronchial rales. (a) Sonorous, (b) Sibilant.
2. Stridor.	Stridor.
3. Râles. Syn. Bubbling rales, etc. (a) Medium, (b) Large. High or low in pitch.	Moist or bubbling rales. (a) Medium, (b) Large, (c) Small. High or low in pitch.
4. Gurgling.	Gurgling.
5. Clicking.	Clicking.
6. Crepitation. Syn. Crepitant rale.	Crepitant rale or crepitation
7. Metallic tinkling.	Metallic tinkling.
8. Splash.	Splash.
9. Friction. (a) Dry, (b) Moist.	Friction.

<sup>1</sup> This term is applied, by some English writers, to a sound produced by percussion, a coin being used as a pleximeter, and the ear applied to the chest. It is supposed to be characteristic of pneumonia.

Third Group. Varieties of Voice Sounds.

1. Increase of vocal resonance.	Increase of vocal resonance.
2. Diminution or absence of vocal resonance.	Diminution or absence of vocal resonance.
3. Bronchophony.	Bronchophony.
4. Pectoriloquy.	Pectoriloquy.
5. Egophony.	Egophony.

Dr. J. V. SHOEMAKER, of Philadelphia, then read a paper on

THE HYPODERMATIC INJECTION OF OIL.

Experimental and clinical observations have taught us that oils that cannot be swallowed or are rejected by the stomach can be absorbed by innunction and subcutaneous injection, and numerous instances of the absorption and assimilation of oil and fat by the skin also have been reported, and their value in certain conditions, employed in this way, has been fully recognized; but the more rapid and effective use of these agents, subcutaneously, while known, has had little or no practical application.

Menzel and Perco<sup>2</sup> first demonstrated the subcutaneous absorption of fat by injecting an ounce of it in a fluid state under the skin of a dog, and in the course of forty-eight hours it disappeared, without leaving any local effect. The first practical application of this discovery was probably made by Krueg<sup>3</sup> on an insane patient who refused to eat. Subcutaneous injections of olive oil, twice daily, were then administered, affording sufficient nourishment to keep the patient in good bodily vigor. At the end of a month he was induced to take his food in the natural way, and the injections were discontinued.

Shortly after this announcement of the practical effects in Krueg's case, a most important result from hypodermatic alimentation in a case of gastric ulcer was reported by Dr. James T. Whittaker, of Cincinnati, Ohio. According to Dr. Whittaker's report,<sup>4</sup> after exhausting other medication, the patient was given subcutaneous injections of drachm doses of milk, alternated with beef extract, every two hours for three days; the temperature declined, the pulse became stronger, and the existing pains and delirium disappeared. The milk and beef extract not being well borne by the skin, cod-liver oil was substituted for them, two drachms being given every two hours for two days, and one day as much as eight ounces was thus introduced. Two abscesses formed from the milk, but no ill effects followed the oil, which was well borne; its introduction was also free from pain.

The inability of some of his patients to bear medicine by the stomach, induced the reader, a few years ago, to test thoroughly the subcutaneous absorption of oil, and the effects which followed its use in a number of diseases were highly gratifying.

Oil can be used subcutaneously alone, or combined with other suitable agents that can be easily dissolved in it. It is a valuable menstruum for suspending in it other drugs for hypodermatic use. It can be given in connection with a suitable diet, and even with other medication by the mouth, or it can be used alone for alimentation. Oil deposited in this way in the tissues is absorbed, and is, no doubt, assimilated and will alone keep up the

<sup>1</sup> Wiener Medizinische Wochenschrift, April 17, 1880.

<sup>2</sup> Wiener Medizinische Wochenschrift, Aug. 12, '78.

<sup>3</sup> Hypodermatic Alimention, by Dr. James T. Whittaker. Cincinnati Clinic, January 22, 1876.

nutrition of the body. It is especially useful in diseases of the alimentary canal, as well as in all affections depending upon deficient nutrition. It will very often overcome an impoverished state and give tone and vigor to the system.

For a purgative action, one or two injections of a drachm or two of castor oil usually suffices, but for a nutritive effect the same quantity of one of the bland nourishing oils, for example, cod-liver or olive oil, should be administered two or three times daily. In the event that alimentation is depending solely upon the injections, they should be given about every two hours.

For the purpose of giving oil hypodermatically a large syringe, provided with a needle of good calibre should be used, and the instrument should have a capacity of from two to eight drachms. The injections can be made in almost any part of the body well provided with subcutaneous cellular tissue, into which the oil should always be thoroughly deposited.

### Recent Literature.

*The Law and Medical Men.* By R. VASHON ROGERS, Jr., Barrister-at-Law. Toronto and Edinburgh: Carswell & Co. 1884.

This book is designed for the convenient reference of practitioners of the two professions — medicine and law, but appeals especially to medical practitioners. The different chapters treat of such subjects as Fees, Who Should Pay the Doctor, Who may Practice, Negligence and Malpractice, Criminal Malpractice, Professional Evidence, Medical Experts, etc. There is a table of cases cited. The laws and decisions of courts in the United States, as well as those of Great Britain, are referred to. The book is handy for reference, and, we suppose, as far as it goes, is reliable. It is cheaply got up and the printing is, in some places, careless.

*Medical Diagnosis. A Manual of Clinical Methods.* By J. GRAHAM BROWN, M.D. Second edition, illustrated. Birmingham & Co. 1884.

This attempts to condense into 270 pages, small-octavo, a description of the signs and symptoms of disease, and to show what is their value from a diagnostic point of view. There is a demand for such attempts, and the Edinburgh school of teachers, with their competitive experience in extra-mural classes, should be able to satisfy that demand as well as any others, but the value of such attempts, even when well done, is very questionable. The present edition is cheap bookmaking, and can be called illustrated only by courtesy.

*Handbook of Diseases of the Skin.* Edited by H. v. ZIEMSEN, M.D. New York: William Wood & Co. 1885.

This translation of the fourteenth and last volume of Von Ziemsen's "*Handbuch der speciellen Pathologie und Therapie*" is issued as a sort of "extra dividend" to the original subscribers to the whole series. It is a good and somewhat abridged trans-

lation of a valuable book, the most complete work upon Dermatology which has yet been published, being the combined product of the writing of various men distinguished as paying especial attention to this branch of medicine.

G. H. T.

*Minor Surgical Gynecology.* By PAUL F. MUNDÉ, M.D. Second edition, revised and enlarged. New York: William Wood & Co. 1885.

We are very glad to see a second edition of this book. When it first appeared as one of Wood's Medical Library Series, its merits were so conspicuous that we regretted it could not be bought separately so as to be within the reach of all, and that its dress was unworthy of it.

Both of these defects have been happily remedied by this second edition. It now comes with type, illustrations, and binding worthy of its contents, and can be had separately. It is not necessary to speak of its value as a gynecological work. Suffice it to say it occupies a field of its own and fills an important gap in the literature of this subject. Its very minuteness of detail is its strong point. It tells the general practitioner a thousand and one little facts of practical importance which other more pretentious books omit, and which make all the difference between knowing and not knowing how to do a thing.

The author has in this edition judiciously pruned and emended, and has given us in addition a chapter on some of the more common operations on the cervix and vagina, notably those for laceration of the cervix and for ruptured perineum. This adds to the value of the book, for these operations are fast becoming common property of the profession.

It would be impossible to read a book of this size and elaborateness without finding numerous points where one has to disagree with the author, but these are usually of minor importance, and taken as a whole it deserves high praise for its completeness, conservatism, clearness of statement, and catholicity of opinion.

Many of the illustrations are very good, and we are glad to see some of the old veterans discarded. They have so long done service they deserve a rest. We can cordially recommend the book to the profession in general, feeling sure that not only specialists but all practitioners will find its perusal profitable.

F. H. D.

— A convict in an English prison recently died shortly after being taken off the treadmill, and the inquest developed the fact that he had suffered from heart disease. The high death-rate in some of the English prisons where this punishment is employed suggests that perhaps the criminal class, as a whole, by reason of dissolute habits, exposure, etc., followed by a removal of stimulants and subjection to prison discipline and low diet, are liable to degeneration of the muscular fibres of the heart, so that severe exercise like that of the treadmill becomes injurious and even dangerous. In view of the uselessness of this punishment intrinsically and upon a reformatory standpoint, its abolition would seem to be desirable.

# Medical and Surgical Journal.

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## MEETINGS OF THE AMERICAN MEDICAL AND SURGICAL ASSOCIATIONS.

THE United States has, taken in its length and breadth, a system—one might even say a want of system—of medical education which is, to say the least, not the best that could be imagined; but notwithstanding some very obvious defects it presents some most admirable results in the character of its graduates.

The surgical work done in this country in the last twenty-five years may well be regarded with pride. A long list of surgeons might easily be made out that would compare favorably with a similar list from any country in the world. A congress of American surgeons ought to produce a series of papers and debates that would attract attention everywhere. But it is, perhaps, easier here than elsewhere to fall into ways that will utterly destroy the usefulness of such an association, and it is not too early to utter a word of warning. The great extent of our country makes it necessary that particular attractions and few chances of being bored should be offered to draw together the best class of men.

To insure success in a surgical association the following would seem to be essentials:—

Careful selection of members.

Meetings held in a place of interest and at a proper time of year.

A careful selection of papers, and their restriction to as brief a time as is consistent with clearness.

A good debate kept to the point, and a proper restriction of the time occupied by each speaker.

Many papers which contain what is well worth stating in five or fifteen minutes may empty the seats of a single session and prevent an adequate attendance for years afterward. The same may be said of lengthy comments on papers interesting in themselves. Probably a good discussion is the most entertaining thing that can be presented to a medical society. The free interchange of thought between men who have worked independently at the same

subject, with the same object in view, is sure to be of value, and such a discussion best meets the purpose of such an organization as we are considering. That such a discussion may be good it is necessary that members shall know beforehand the points to be discussed, and that no one man shall monopolize the time at the expense of others equally well posted as himself.

To meet such requirements a committee of arrangements must be perfectly ruthless in the slaughter of all that is tedious, trite, or worthless. Even the best men may ride hobbies to the distress of their associates, and need to be restrained for the best good of all; much more is it necessary to restrain those men whose hobbies have gained the control of their riders. Much may also depend upon the presiding officer, who should execute the rules of debate in an impartial, but in the strictest, manner.

We have no wish to depreciate the work of the Surgical Association nor to criticize the papers, but a comparison of our own Surgical Congress with the French and German shows many points in which our countrymen may profit. Nor do our marks apply alone to the Surgical Association. They are equally applicable to other National and State Societies. In a body so given over to medical politics as the American Medical Association, where there is such a struggle for sectional and personal representation in all departments and in all details, there is little room to expect much progress toward the improvements we have outlined, at least in the general meetings. The work of the Sections promises more at the present and in the future.

As the reports of the general meeting at New Orleans show, the Medical Association has done its utmost to make a mess of the proposed International Medical Congress at Washington in 1887. Representation on Committees would be a poor and barren substitute for an International Congress.

The Association has, we cannot but think, made another mistake in not adhering to its last year's resolve to meet in Washington every second year.

It seems so perfectly possible to make the American Surgical Association the professional and scientific peer of any similar association in any country that friendly criticism is neither ungracious nor superfluous. A step in the right direction was taken by the resolution that names of candidates for admission must be accompanied by a statement of official positions held, writings, and the claims upon which the application is based.

It was also determined to limit the time allowed for a paper to one hour. We cannot but think the time too long, though it is a great advance to establish a limit at all. It is not necessary for the speaker to enter into every detail. The minutiae of the observations that go to prove the truth of the speaker's assertions may well be left for the printed paper. It is sufficient for the speaker, and he should

be a speaker rather than a reader, to show that which is new, to bring into relief the striking point of the communication, and leave the tedious figures to be studied at leisure in the future.

We do not find fault from the mere love of fault-finding nor from a desire to disparage the work of our societies, but from an ardent and patriotic desire to see them raised to a higher standard, and because we believe that faults must be seen to be corrected. Our societies fall short of the standard which American societies ought to reach. We have pointed out the manner in which we believe an improvement may be made, not because we believe ourselves alone gifted with the power of prophecy, but because it is necessary that the truth be told if our societies are to flourish. We have spoken what we believe to be widely felt. We should be glad if our suggestions led to discussion and amendment, and should welcome improvement however brought about.

#### OVERPRESSURE AT SCHOOL AS IT AFFECTS GIRLS.

THE subject of overpressure at school, as the readers of the JOURNAL are aware, has attracted a great deal of attention of late in England, and the discussion appears to have occasioned a good deal of bitterness, partisanship, and hasty assertion. The subject is, of course, an old one in New England, and probably every schoolboard has in a measure been obliged to consider it, but at the present time, when the courses of study are so varied and the educator is obliged to seek for excellence for his pupils in many departments, the risks of overwork are greater than ever.

The editor of one of our most estimable medical contemporaries in New York, in commenting on the subject; stated lately that American physicians do not meet cases alluded to by English writers. We are not to infer from this that the metropolis is to be regarded as that happy land where it is an accepted fact that ignorance is bliss, but rather to believe that our brother has generalized from his own experience, which apparently has not led him to the examination of schoolchildren. If the girls of the high and normal schools on their way to and from school, or if the freshman classes at our female colleges, recruited from the training-schools in different parts of the country, are attentively observed, the query forces itself upon the mind of the thoughtful as to whether our present civilization, which prides itself so much on attempts at intellectual development, is not really as barbaric as the social state of the flat-headed Indians who attempt to increase their "long-headedness" by squeezing the antero-posterior diameters of their crania. We fear the educator, in his theoretical zeal, has overlooked the most important factor of all—the making of good citizens and good parents.

The following instance may serve to point the moral, and though an extreme, is not an exceptional, case.

A young girl of sixteen, of a healthy heritage, was brought into the consulting-room of one of our Boston physicians for a slight lateral curvature. She never had been sick, she did not suffer from headaches or any of the functional disturbances sometimes seen in growing children. Her growth had been rapid, and she was pale, thin, and lacked the vigor of health. An inquiry brought out the fact that at her school she spent five hours a day, besides five hours' study out of schoolhours, stimulated to extra courses by ambition and the prospect of promotion.

A growth of three inches in a year, combined with ten hours' daily nervous strain, are components which will, as certainly as the formula of  $2+2=4$ , produce an impairment of health; a diminution of force which, coming in the growing years, is so much taken from the eventual sum total of vital energy. The studies which were the most of a burden to this young girl were Greek and algebra, and although the parents, if forced to choose, would agree that their daughter should forego the pride of possessing a knowledge of Greek, if that must be coupled with a certain amount of physical misery, yet nothing short of a dire necessity could justify the girl in falling behind her class or the standard imposed by emulation. And there are parental aspirations of Wellesley or Vassar or the Harvard Annex.

Such experiences lead us to believe that the root of the trouble is not so much in the school system as in the community itself, which, after all, creates the school system. With a certain amount of elasticity of requirements and an improved supervision of scholars, much of the evil of advanced courses and increasing stimulation could be avoided, provided the home influence were in the right direction. The ill effects are seen chiefly among the girls; for it is tacitly admitted that, books or no books, "boys will be boys," and the boy is largely an animal; but the American mother of the day not only wishes to stamp out what there may be of the animal in her daughter, to give her conventional manners, but, in view of the lottery of American life, to teach her to support herself and also to shine socially as a possible mistress of the White House; and all this preparation is to be done during the pre-matrimonial years. Out-of-door sports are discouraged, and musical or intellectual preëminence considered desirable. Furthermore, among the girls themselves in a certain number, the desire for distinction, the innate femininity, repressed by circumstances from finding vent in coquetry, prompts to attracting attention and admiration for proficiency as amateur musicians, for rank at school, for winning prizes in female colleges, for success in professions. Such a system of education may produce, in some instances, good results and give us future George Eliots,

Maria Mitchells, Mary Somervilles, Putnam-Jacobis, etc., yet the records of the nervous wards and the lists of the nervous prostrationists show that the success of a few individuals has been bought for the public at the price of many shattered lives of unsuccessful imitators. Certainly every physician will admit that ignoring the corporeal and stimulating the spiritual in young growing girls is the worst of management, and even if likely to produce creatures to be admired by the lovers of the pre-Raphaelite models for Burne-Jones and Rosetti, is sure to result in very poor material for the lying-in room or the nursery.

What in our community is especially needed in regard to women is the better *physical* education of girls. A mother should be as much ashamed to bring up a flat-chested, round-shouldered daughter, to be a candidate for the Adams or other Nervine Institutions, as if she brought her up unable to read or write. The introduction of any out-door game suitable for girls, and enjoyed by them, as baseball is by boys, would be an incalculable blessing, before which the joys of Greek and the aspirations for professional careers would be dust and ashes to the coming generation of mothers and the prospective generation of children.

A certain, and by no means small, proportion of our young women seems to be going through the same craze about mental forcing and professional careers which afflicted our young men of previous generations and which with them was responsible for much ill health. Fortunately a revival of athletics and sports, the war, and the development of more varied industrial pursuits created a revolution in this. It is already a long time since the dyspeptic, narrow-chested, pale-faced, weak-eyed male became an object of interest by becoming a book-worm. A knowledge of Greek no longer condones a want of vigor and vivacity in the male, and we do not believe it is any more likely to in the female. Those who run any risk of health by pursuing advanced studies had best not trifle with the experiment.

The prophets of hygienic righteousness, as physicians have been termed, should throw the weight of their influence in favor of everything that improves the *physical* development of women. When they find the rate of growth is excessive, or accompanied by an imperfect development in weight, when the chest capacity is small, and the blood poor in hæmoglobin, they should prescribe more out-of-doors and a postponement of literary ambitions: more sunshine and fewer books. A good practical guide as to the physical condition in the rough is the relative increase of growth compared with the increase in weight. And Bowditch's tables in the eighth and tenth volumes of the Massachusetts Board of Health Reports are valuable as a standard of comparison.

## THERAPEUTICS JUDGED BY STATISTICS.

In a popular novel the hero, who was valet to a physician, was said to be able always to discover the secrets of his master's *clientèle* by consulting the prescription-book of the latter! If we knew the kinds and quantities of remedial agents used in a particular country during a series of years, we should have a tolerable general idea of the medical history of that country, for it is needless to say that the drugs of an age represent both the pathological tendencies and the therapeutical notions of that age. This, however, is not all, for statistical data of the kind indicated would bring vividly to view the popularity and decadence of remedies, as illustrated in innumerable instances; also the fact that medical fashions have continually changed, sometimes in accordance with the ill-based vagaries and hypotheses of the leaders, sometimes in correspondence with real advances in knowledge. Such tabulated statements as have been given by Lasègue and Regnault, in their elaborate monograph<sup>1</sup> (and we are not aware of any similar statistical inquiry ever having been made elsewhere), indicate therapeutic progress. The general drift of medical sentiment is manifested with clearness and certainty in the prescriptions of its leading representatives, and the great body of the profession slowly but surely come into line.

An example of this is seen in the almost universal adoption of the bromide medication, within ten years of the announcement of the special neurotic properties of this salt. In fact, it would be easy, as Lasègue remarks, to show that there has been an increased demand for the bromides in the exact chronological order of the appearance of recent popular treatises on these preparations and on epilepsy. In 1855 the total quantity of bromide of potassium furnished to the trade of Paris by the Pharmacie Centrale, which centralizes the preparation, purchase, and distribution of all medicines, without exception, employed in the hospitals of that city, was 3,200 kilogrammes. This figure was largely in excess of that of any previous year, and especially of 1850, for between the latter date and 1855 had appeared the special treatises of Rames and Huet on the physiological and therapeutic effects of bromide of potassium, and the value of Locock's discovery, who first experimented with bromide in epilepsy, in 1851, had become widely known through the medical journals. From 1855 to 1861 numberless experiments with the bromide in hospitals and in private practice, confirmatory of its utility in epilepsy, had been made, and by referring to Lasègue's table we find that the consumption of this salt had risen to the astonishing figure of 22,300 kilogrammes. As we follow the table down to 1875 we find proof of a constantly increasing demand, till the latter year gives the enormous consumption

<sup>1</sup> Archives Générales de la Médecine, 1877. Études Médicales, 1884. Tome I. p. 492.

of 730,910 kilogrammes. These figures bespeak, better than the most eloquent praises, the general success of a remedy which only by the satisfaction which its use has given could have so retained its hold on the profession and so grown in favor.

With regard to the decadence of general blood-letting, it is difficult to obtain exact figures. As is well known, this antiphlogistic practice was almost universal from the time of Hippocrates down to Bouillaud, who carried it to such excess, bleeding without stint, *coup sur coup*, in all inflammatory diseases. It is equally true that there are multitudes of physicians in active practice at the present day who have never seen a patient bled. Philippart, of Tournay, in his late thesis on "Blood-letting in Acute Diseases," gives the curious fact that the physicians of the hospitals attached to the Bureau Centrale, out of eight thousand consultations in 1867, ordered bleeding in only two cases, while in 1852, in a similar number of consultations, venesection was prescribed 1,259 times.

But the almost utter lapse of faith in these sanguineous spoliations is clearly exemplified in the table of Lasègue and Regnault showing the quantity of leeches employed in the hospitals of Paris from 1820 to 1875 and the sums expended therefor:—

Years.	Mean Annual Consumption.	Mean Annual Cost.
From 1820 to 1824	183,000	10,000 francs.
From 1824 to 1830	508,000	40,000 francs.
From 1830 to 1842	828,000	90,000 francs.
From 1842 to 1850	430,000	79,000 francs.
From 1850 to 1855	225,000	45,000 francs.
From 1855 to 1863	138,080	14,000 francs.
From 1863 to 1870	55,000	6,000 francs.
From 1870 to 1875	52,000	1,900 francs.

In the earlier years indicated in the above table the leech was employed more for an antiphlogistic and spoliative than for a derivative or revulsive effect,—the latter being, we hardly need say, almost the sole purpose for which leeches are ever prescribed at the present day,—nor was it an uncommon thing to order the application of twenty or thirty of these annelids over the inflamed lungs or peritoneum; hence, with the general abandonment of blood-letting, the demand for leeches has become very much restricted.

Coincidentally with the decline of the antiphlogistic treatment there has been an increased consumption of quinine and alcohol, and other agents of the tonic medication. The supplies of quinine and the cinchona barks furnished to the city hospitals have more than doubled within thirty years, as merrier figures show, and the quantities and cost of the various alcoholic preparations since 1855 have, as Lasègue observes, assumed colossal proportions. The table given by Lasègue and Regnault is too long to reproduce here, and we content ourselves by quoting the figure of 1,270 litres of alcohol for

1855 as contrasted with 37,578 for 1875; of 17,752 litres of red wine for 1855 as opposed to 163,762 for 1875; of 199 litres of rum for the former as opposed to 5,682 for the latter year. "It is," says Lasègue, "a fair indication of our therapeutical tendencies, this enormous increase in the consumption of alcohol, of brandy, and of wine in the treatment of diseases and in the hygienic care of the convalescent."

As for the iron preparations, the statistics above referred to show that usage has not much varied; sometimes one salt has the ascendancy, sometimes another. The manufacture and sale of ferruginous pills (Quevenne's iron, the protocarbonate, etc.) has increased; the iodide (syrup and pills) has more than quadrupled in demand, a fact which probably indicates growing confidence in the "resolvent" and "alterative" as well as blood-renovating properties of this martial salt. The perchloride still maintains its ancient high rank.

A notable increase in the employment of iodide of potassium was observed, but this may be due rather to the augmentation in the doses given the past twenty years than to the greater prevalence of syphilis.

Most of the mercurial preparations have remained stationary; the consumption of the bichloride has more than quadrupled since 1855; that of calomel varies per annum between thirty-five and fifty-five kilogrammes.

Chlorate of potassium has seemed to possess an exaggerated importance which its therapeutical properties certainly do not justify; the annual supply to the hospitals having attained a maximum figure of 502 kilogrammes, as contrasted with the figure of thirty-eight kilogrammes in 1855.

The consumption of opium and other anodynes has not much varied, while that of chloral has steadily increased since 1860, the year of its introduction. Ether maintains its superiority over chloroform as an anesthetic in hospital use, almost in the ratio of two to one.

Pepsin, whose first appearance on the shelves of apothecaries scarcely dates back twenty-five years, has constantly risen in favor—whether because it possesses any great therapeutic virtue besides being innocuous, it is hard to say. Lasègue and Regnault give the startling figure of 38,375 kilogrammes for 1875, as contrasted with 200 kilogrammes for the year 1860. According to the French tables the mean annual delivery of subnitrate of bismuth to the hospitals for twenty years had not changed from 350 kilogrammes; that of tannin, catechu, and other astringents remaining also the same. The Paris population also consumes about the same quantities of purgatives of all kinds year after year, with a decidedly increased demand for mineral waters. As for tannige medicines the annual average figure before 1870 was 25,061; since 1870 it has been

40,336, a very marked increase: showing that the number of patients treated for tænia has nearly doubled. Of the various anthelmintics the most in demand is pomegranate bark; the next in point of importance seems to be *felix mas*.

Under the influence of more enlightened views as to public sanitation and infectious disease, there has been an enormous increase in the annual consumption of antiseptics and disinfectants, and especially of phenic acid; the figure of one hundred kilogrammes for 1862 contrasting strangely with that of 221,925 for the year 1875.

### MEDICAL NOTES.

#### BOSTON.

—There has been only one fresh case of smallpox reported in Boston. Vaccination is proceeding and the little "seare" is subsiding.

—The city government has finally, after much vacillation and some too quite absurd opposition, appropriated \$40,000 for the erection of a new building in connection with the City Hospital, for the isolation of contagious diseases. That amount of money, although only half the sum asked for, could not possibly do as much good to the citizens at large — no, not even in the hands of the "paving department."

#### PHILADELPHIA.

—The trustees of Jefferson Medical College, at a meeting held April 27th, elected Dr. J. W. Holland to the chair of Medical Chemistry.

#### NEW YORK.

—The widow of ex-Governor E. D. Morgan, who died recently, bequeathed the sum of \$135,000 in charities, of which the Woman's Hospital is to receive \$20,000, and the Home for Consumptives \$5,000.

—The Grand Jury has found indictments for manslaughter in the second degree against Charles Buddensick, the builder, and August Franck, the subcontractor, for their part in the Sixty-second Street disaster, by which Louis Walters, one of the workmen engaged in the construction of the row of new houses which fell April 13th, was killed. The coroner's jury in the case brought in a verdict that the responsibility for the death of Walters rests primarily upon Buddensick, and to a certain extent also upon Franck, for the reason that they caused to be used materials which they knew to be totally unfit to enter into the construction of any building whatever, in the erection of the houses referred to, the manner of which, in defiance of law, experience, and commonsense, called for the severest punishment the law could inflict. The jury also lay the responsibility of Walters's death in a great measure on the incompetent examiners, and state that they find culpable negligence and looseness of discipline and supervisory control that could have retained in

responsible positions servants capable of permitting the erection of buildings that shame all mechanical instincts. In conclusion, the jury urge the importance of securing, by prompt legislative action, the exercise of a rigid and intelligent control over all future construction of buildings, and advise a department of buildings under one responsible head, an appointee of the mayor, as the best means of securing for the citizens of New York good and sufficient building laws. In the meanwhile, the State Senate has passed a bill designed to prevent such disasters in the future, which was introduced some time since, and ought to have become a law long ago. This bill was sent to Albany with the approval of the Real Estate and the Mechanics' and Traders' Exchanges, the Builders' Association, and the City Building Department, and is very minute in its provisions relating to the thickness of walls, the solid character of foundations, and the use of good brick, sand, and mortar.

—The annual meeting of the Charity Organization Society was held April 14th, with the president, Dr. S. Oakley Vanderpoel, in the chair. The secretary's report showed that the names of 201 societies and churches are recorded in the society's books as having sent in the names of families or individuals who are objects of charity, and that 481,000 names of such families and persons are on file. The active work of the organization is accomplished by district committees and visiting officers, who become thoroughly acquainted with the condition and wants of the poor in the various portions of the city. The society has nine districts, embracing the region on the east side of town from Houston to Seventy-ninth Street, and on the west side from Houston to Twenty-third Street, under its charge, and employs 101 visitors. In the past year 9,341 families, representing 32,000 persons, have applied for help, and 208 were put in hospitals. Relief was secured 1,468 times from churches, hospitals, and individuals, and regular employment was obtained for 568 persons. The society has 55,000 families registered. Out of 1,152 begging cases, only 60 were found to be really needy. Addresses were made on this occasion by the Hon. Abram S. Hewitt, the Rev. Arthur Brooks, and the Rev. Edward Everett Hale, of Boston.

#### BALTIMORE.

—Mr. J. Rendel Harris, associate professor of New Testament Greek and Paleography, at the Johns Hopkins University, seems to have found his field of instruction too restricted and to have fallen foul of the laboratory work of the biological department. As a consequence, Professor Harris's connection with the University has been severed. He announced that he "would rather resign all advantages of a connection with the University than compromise in the least degree his freedom of

speech," which is apparently to be interpreted that he does not care to teach New Testament Greek unless he can preach antivivisection. Mrs. Harris is said to be of the strictest sect of English antivivisectionists.

*Appropos* of the little tempest which disappeared almost as soon as it threatened to succeed this event, President Gilman makes the following statement in regard to the pursuit of biology at the University:

"The study of biology has received from the trustees the most careful consideration ever since the University was organized. In this institution painful experiments have never been performed for entertainment or to illustrate facts already ascertained. In such researches as are indispensable for the advancement of knowledge extreme care is taken, by the use of anæsthetics, to render the subjects unconscious; or, when in rare instances this is not compatible with the successful accomplishment of the investigation, to reduce the pain inflicted to a minimum. Painful experiments are only permitted at the hands of thoroughly trained investigators and for the advancement of knowledge. Here and elsewhere, during the last ten years, such discoveries as to the nature, the causes, the prevention, and the cure of disease have been made through experiments on animals as have satisfied the authorities that the hope with which they founded a biological school in the University has been justified. I see no reason to think that they will change their deliberately and thoughtfully adopted course of conduct in regard to this matter.

"I am sorry that religious questions should be by any one brought into this discussion, for, important as they are, they are not relevant. But, as attention has publicly been called to them, it may be well to reiterate words which have repeatedly been printed in our official documents, and are more significant than any utterance which might be evoked at the moment," etc. etc.

### Correspondence.

#### MEETING OF THE AMERICAN MEDICAL ASSOCIATION.

NEW ORLEANS, April 30, 1885.

*Mr. Editor,*—Here we are in the city of New Orleans on a bright, beautiful day, the thermometer at eighty-five degrees, and everything in full foliage and blossom. There is a pleasant air stirring, and the American Medical Association has just completed its third day of general session in harmony and general good feeling. The attendance at the meeting is large, but of course not comparable to the usual attendance in our more northern cities. The number registered has been over six hundred. The meeting of the American Surgical Association at Washington led several of its members to go directly from that place to this city, especially as on one of the routes, by the Shenandoah Valley, there were drawing-room cars provided without charge. This route is full of beautiful scenery, but here, as elsewhere, the accommodations for meals are very inferior, and the traveler does well who takes his well-filled lunch-basket with him. The

addition of a buffet-car is very agreeable, only it does not stay long enough with the train. After the experience of the heat of the week preceding the meeting, which was so general in the Atlantic cities, serious apprehensions were felt as to the temperature here, but the reality proved an agreeable surprise. New Orleans has had a week of heavy rains, and therefore was well washed out, muddy to be sure, but comparatively clean, and the magnolias, honeysuckles, roses, and other plants of delightful odor were all so far advanced as to mask the smells of the street-gutters quite satisfactorily. The nights are cool and pleasant and some slight wrap is useful.

The system of registration adopted here is an admirable feature of the meeting. The general meeting being in Tulane Hall, the Sections and registration were held in Tulane University, an adjoining building with a connecting-bridge between the two. There were four separate tables, each provided with two officials, these tables corresponding with four divisions of the alphabet; here the fee was received and the registration made; the delegate was then told to call at the special post-office in about an hour and all his credentials would be ready for him. In this way all crowding, pushing, and confusion were avoided. The post-office had its windows on a large roomy porch, so that the moment the fee was paid, and the credential turned in, there was no more anxiety, and the delegate was free to fill his pockets with advertising circulars, taste malt extracts, or attend to his proper business without delay. The place of meeting for the general sessions is large and capacious, perfectly plain and simple, and well adapted to the purpose.

The application for registration had the now usual form of subscription to the Code of Ethics, and, in addition, a blank for recording the temporary residence of the member while in the city.

Massachusetts is represented by a few delegates; Drs. A. D. Sinclair, J. R. Chadwick, G. M. Garland, H. O. Marey, with J. L. Williams, J. C. Irish, of Lowell, and Dr. A. H. Wilson, being present. There are very few New York men here, and Philadelphia has not sent many outside of the officers. Washington has only three representatives unless the Army, Navy, and Marine-Hospital men may be counted with them; Drs. Billings, Peck, and Hamilton representing these services. Dr. Gunn, of Chicago, is a prominent figure, and the familiar faces of many of the constant attendants are seen as usual, but the great bulk of the attendance is from the South and Southwest. The general feeling is very cordial. The only disturbing element to the general harmony was the severe strictures made by some members upon the action taken in forming the programme for the International Medical Congress which meets in Washington in 1877. Dr. Billings, on the first day in general session, made a statement of what had been done in this direction, and the subject was taken up for consideration on the second day, when Dr. Shoemaker, of Philadelphia, made some positive remarks, criticizing the action taken as exceeding the authority given by the Association to its delegates to Copenhagen, as ignoring certain members, and as appointing New Code men to representation. Dr. Billings, in reply to this, spoke, as he said, simply to give the manner in which the committee had acted, and why they had so acted, without thinking it necessary to make a defence or give an excuse. He did not think that was necessary, but emphatically denied the imputation of any collusion or bargaining. He considered the fact of being named as connected with the programme of arrangements as of much less importance than the prominence which would be given to the men, committee or no committee, who would bring new and valuable matter before the Congress itself. The members of committees in the Copenhagen Congress were already forgotten in most

instances, but the men who read valuable papers at that Congress still stood out in strong contrast. The idea was to get the work in hand as soon as possible, with the intention of enlarging the committees in every direction as soon as practicable. This discussion led to resolutions from Dr. Daniels, of Texas, to ignore the work done, and appoint a new committee to arrange for the Congress. Dr. Keller, of Arkansas, however, presented a resolution, which was adopted, to appoint representatives from each State and Territory, and the Army, Navy, and Marine-Hospital service, to be added to the original seven, with power to review, alter, and amend the presented report as they may see fit. Thus ended, for the present, an awkward subject to handle.

The Nominating Committee presented a report, which was adopted in full, making Dr. Brodie, of Detroit, the President for 1886, and St. Louis the next place of meeting. In regard to the latter there was some question as to whether Washington was not the place fixed upon for meeting each alternate year by resolution, but the resolution of last year was construed to mean in case no invitation came from other sections of the country. Dr. N. S. Davis has again been elected as editor of the *Journal*, and agrees to continue his services as such. In his remarks upon this subject Dr. Davis recognized the criticisms which have been made regarding the *Journal*, and the justice of some of them provided the Association had the means of making it what it should be, but to husband the resources of the Association he considered as of the first importance,

and he had been subjected to much embarrassment in this respect, while now the increase in membership and available funds had been very great.

The entertainments have been very cordial and interesting. Dr. and Mrs. Richardson and Mr. and Mrs. Cartwright Eustis have thrown their houses open to the delegates by giving evening receptions, and the New Orleans Jockey Club has given a reception with music on its beautiful grounds, which are some distance out from the centre of the city and represent admirably what can be done with the luxuriant garden growths of this section. This reception being very general the grounds were filled with agreeable people. Thursday (to-night) the profession gives a ball and promenade concert, which closes the list.

I have said nothing of the Exposition, but it forms an important feature of the meeting; it is very accessible, and, while it has not the features of architecture and art which characterized our Centennial in Philadelphia, as an educational exhibit it is wonderfully good, and is especially interesting in the exhibit of the Southern States. The medical features form no unimportant part, and our Government display of hospital models, hospital tents, appliances, ambulances, etc., is very complete. Mexico has also some very excellent surgical instruments and interesting pathological specimens.

The meetings of the Sections, I presume, you will have in full and detailed accounts. They were well attended, and the papers appointed to be read before them were very well selected.

## REPORTED MORTALITY FOR THE WEEK ENDING APRIL 25, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	759	288	17.03	23.27	5.33	2.99	3.51
Philadelphia . . . . .	427,965	428	154	17.04	12.72	6.96	2.40	1.68
Brooklyn . . . . .	644,526	294	125	17.00	23.42	4.08	3.40	2.72
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	240	74	12.60	23.85	3.60	1.30	2.25
Baltimore . . . . .	408,520	152	38	11.22	6.04	2.64	.46	.66
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	119	51	8.55	14.54	.86	1.70	—
New Orleans . . . . .	234,000	165	21	11.40	7.60	.35	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	109	38	9.17	20.24	.62	—	—
Pittsburgh . . . . .	186,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,465	53	16	5.67	17.01	—	5.67	—
New Haven . . . . .	62,882	36	11	8.31	19.39	—	8.31	—
Nashville . . . . .	54,166	20	6	15.00	15.00	10.00	—	—
Charleston . . . . .	62,880	23	7	10.71	—	—	3.57	—
Lowell . . . . .	71,447	31	10	6.46	6.46	6.16	—	—
Worcester . . . . .	69,442	14	6	—	42.84	—	—	—
Fall River . . . . .	62,674	20	7	10.00	10.00	—	—	—
Cambridge . . . . .	60,995	26	7	15.40	22.00	11.65	—	3.85
Lawrence . . . . .	45,516	16	3	6.25	6.25	—	—	—
Lynn . . . . .	44,895	21	3	—	28.56	—	—	—
Springfield . . . . .	38,060	19	5	21.01	10.52	—	—	5.26
Somerville . . . . .	31,350	7	4	14.28	28.56	—	14.28	—
Holyoke . . . . .	30,515	5	1	40.00	40.00	—	—	—
New Bedford . . . . .	30,144	13	4	30.76	22.07	7.69	—	—
Salem . . . . .	29,503	15	1	20.00	13.33	—	—	—
Chelsea . . . . .	24,347	9	3	22.22	11.11	11.11	11.11	—
Taunton . . . . .	22,693	14	1	21.42	—	14.28	—	—
Gloucester . . . . .	21,400	7	1	—	42.84	—	—	—
Haverhill . . . . .	20,905	7	1	—	—	—	—	—
Newton . . . . .	19,421	7	0	—	33.33	—	—	—
Brookton . . . . .	18,323	9	1	—	—	—	—	—
Malden . . . . .	15,273	4	3	—	25.00	—	—	—
Newburyport . . . . .	13,947	3	1	—	—	—	—	—
Fitchburg . . . . .	13,433	2	0	—	50.00	—	—	—
Waltham . . . . .	13,568	5	1	—	—	—	—	—
Northampton . . . . .	13,165	—	—	—	—	—	—	—
105 Massachusetts towns . . . . .	—	71	12	2.70	25.65	1.35	—	—

Deaths reported 2,967: under five years of age 934; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 371, lung diseases 489, consumption 934, diphtheria and croup 109, scarlet fever 63, measles 49, diarrheal diseases 46, typhoid fever 27, malarial fevers 26, erysipelas 17, cerebro-spinal meningitis 14, whooping-cough 12, puerperal fever eight. From diarrheal diseases, New York 14, Brooklyn seven, Boston five, Philadelphia and New Orleans four each, Cincinnati and New Bedford each three, Baltimore two, District of Columbia, Nashville, and Salem one each. From typhoid fever, Philadelphia seven, New York and Boston four each, Brooklyn three, Cincinnati and Holyoke two each, New Orleans, District of Columbia, Charleston, Lawrence, and Salem one each. From malarial fevers, New York 11, Baltimore four, Brooklyn and New Orleans three each, District of Columbia and Charleston two each, Philadelphia one. From erysipelas, Philadelphia five, New York four, Brooklyn three, Baltimore two, Boston, Cincinnati, and District of Columbia one each. From cerebro-spinal meningitis, Philadelphia four, Springfield three, New York and Fall River two each, Baltimore and Cincinnati one each.

Cases reported in Boston: smallpox two, measles 96, scarlet fever 27, diphtheria 23, and typhoid fever seven.

In 126 cities and towns of Massachusetts, with an estimated population of 1,462,792 (estimated population of the State 1,455,104), the total death-rate for the week was 19.73, against 20.15 and 21.77 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending April 11th the death-rate was 25.9. Deaths reported 4,271; infants under one year of age 967; acute diseases of the respiratory organs (London) 512, measles 164, whooping-cough 127, diarrhoea 49, scarlet fever 34, fever 35, diphtheria 29, smallpox (London 36, Sunderland two, Manchester and Leeds one each) 40. The death-rates ranged from 20.0 in Brighton to 41.9 in Newcastle-on-Tyne; Birmingham 25.7; Blackburn 25.5; Bradford 25.1; Leeds 26.5; Leicester 21.5; Liverpool 24.7; London 23.8; Manchester 26.0; Nottingham 26.7; Sheffield 23.6. In Edinburgh 18.5; Glasgow 29.1; Dublin 32.2.

For the week ending April 11th in the Swiss towns there were 44 deaths from consumption, lung diseases 39, diarrheal diseases 12, diphtheria and croup eight, erysipelas three, puerperal fever four, measles two, whooping-cough two, smallpox, scarlet fever, and typhoid fever each one.

The death-rates were: at Geneva 14.2; Zurich 7.8; Basle 14.4; Berne 32.8.

The meteorological record for the week ending April 25th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Light Corps:—

Week ending Saturday, Apr. 25, 1885.	Barom- eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Sunday, 19	30.493	46.6	57.6	38.1	58	57	65	60.0	W	E	S W	8	12	11	C	C	C	
Monday, 20	30.365	57.4	75.0	44.1	53	32	37	40.7	W	E	E	12	5	13	C	C	C	
Tuesday, 21	30.179	63.2	81.5	54.9	41	46	50	45.7	W	N E	E	12	5	6	F	F	C	
Wednesday, 22	30.219	54.5	67.2	47.3	58	73	84	71.7	N	N E	E	15	2	6	H	C	C	
Thurs., 23	30.362	60.2	75.8	46.4	58	64	68	61.4	N	N E	E	15	2	6	H	C	C	
Friday, 24	29.551	66.1	82.4	53.2	62	33	58	53.0	N	N E	E	16	15	16	C	C	H	
Saturday, 25	30.670	55.3	66.9	48.1	71	55	58	61.3	N	N E	E	16	14	11	C	C	C	
Mean, the Week.	30.206	57.9	82.4	38.1				56.5									2.0	2

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

<sup>2</sup> Inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM APRIL 25, 1885, TO MAY 1, 1885.

BYRNE, CHARLES C., major and surgeon. Assigned to duty as attending surgeon at the Soldier's Home, D. C., to take effect May 15, 1885.

DE WITT, CALVIN, captain and assistant surgeon. Upon being relieved by Surgeon Byrne, ordered to report to the Surgeon-General of the Army. S. O. 94, A. G. O., April 25, 1885.

TORNEY, GEORGE H., captain and assistant surgeon, United States Army. Assigned to duty at Fort Monroe, Va. S. O. 87, Department of the East, April 25, 1885.

CRAMPTON, L. W., captain and assistant surgeon. Assigned to duty as post surgeon, Fort Bridger, Wyoming Territory.

BORDEN, WILLIAM C., first lieutenant and assistant surgeon. Ordered for duty at Fort Douglas, Utah Territory. S. O. 33, Department of the Platte, April 22, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDED APRIL 25, 1885.

SAWTELLE, H. W., surgeon. When relieved, to proceed to Detroit, Mich., and assume charge of the service. April 23, 1885.

URQUHART, F. M., passed assistant surgeon. To assume charge of Cape Charles Quarantine Station. April 23, 1885.

WILLIAMS, L. L., assistant surgeon. When relieved, to proceed to Norfolk, Va., for temporary duty. April 23, 1885.

#### SOCIETY NOTICES.

THE NORFOLK DISTRICT MEDICAL SOCIETY will hold its annual meeting at Rockland Hall, 2343 Washington Street, Roxbury, on Tuesday, May 12, 1885, at 2 o'clock p.m. The Board of Censors will meet at 1 o'clock. Communications: "Cholera," by Harold C. Ernst, M.D., Jamaica Plain.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The Section for *Clinical Medicine, Pathology, and Hygiene* will meet at 19 Boylston Place, on Wednesday, May 13, at 7.45 o'clock. Papers: Dr. Vincent Y. Bowditch, "Description of Dr. Herbert F. Williams's Pneumatic Differentiator for the Treatment of Pulmonary Diseases." Dr. George B. Shattuck, "Results of the Use of Antipyrin at the Boston City Hospital."

ALBERT N. BLODGETT, M.D., Secretary.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH, BROOKLYN. SCIENTIFIC MEETING.—The second special meeting of the Fifth District Branch will be held at the Morgan House, Poughkeepsie, at 2.30 p.m., on Tuesday, May 19, 1885. The following papers will be read: "Three Cases of Ligation of the External Carotid; in two both vessels were tied simultaneously," by J. D. Bryant, M.D. "Diphtheria and its Treatment by Calomel," by S. J. Murray, M.D. "Hypertrophy of the Prostate Gland," by J. G. Porteus, M.D. "Treatment of Cerebral Hemorrhage and Embolism by the Internal Use of Carbamate of Ammonia," by R. C. van Wyck, M.D. "Report of a Case of Rheumatic Metastasis to the Brain ending fatally," by C. S. Wood, M.D.

A. C. HUTCHISON, M.D., President.

E. H. SQUINN, M.D., Secretary.

#### APPOINTMENT.

SUPERINTENDENT OF THE BOSTON CITY HOSPITAL.—Dr. G. H. M. Rowe has been re-elected Superintendent of the Boston City Hospital.

## Original Articles.

A CASE OF PSEUDO-MEMBRANOUS  
ENTERITIS.<sup>1</sup>

BY O. W. DOE, M.D.

A FEW months since, I showed to this Society a collection of false membrane passed per rectum, but as the patient had at that time just come under my care, I was unable to give any detailed history of the case. It proved to be another similar to those so interestingly reported by Dr. Goss, and published in the records of this Society, vol. viii. page 211, of the appendix, and supplemented by three cases reported by Dr. Boardman.

In the discussion which followed, Dr. Boardman was inclined to the belief that the cause of this disease was to be referred primarily to some disorder of the nervous system, and the intestinal disturbance was a secondary affection. Da Costa, in an article on this subject published in 1871, supports this view and remarks that all of the seven cases reported by him occurred in very nervous and hysterical patients. Habershon, physician to Guy's Hospital, thinks the nervous manifestation a symptom, rather than a cause, of the disease.

As the theories regarding the nature and cause of this very rare affection are so indefinite, I report the following case rather fully, hoping it may suggest to some of the members present a plausible explanation of this disease.

Mrs. G., aged forty-four, consulted me professionally April 19, 1884, and gave the following history: Her mother died of consumption; her father of diabetes, and one uncle of cancer. From her earliest remembrance she suffered from facial neuralgia, and at times from pain and distention at the epigastrium.

At fifteen she had scarlet fever; at eighteen fell from a carriage and fractured the patella, and as a result of the confinement necessitated by this accident, constipation and hemorrhoids followed. During this time she had pneumonia and indefinite cardiac trouble. At twenty, had typhoid fever, and for months afterward distress after eating. At twenty-four, again had typhoid, and went nineteen days without a movement of the bowels; at twenty-six had again a slow typhoid; was married the same year and became pregnant in two months. For a year after her confinement she suffered from pain at the rectum, and since then has had no expulsive power when at stool unless the dejections are loose; if constipated is always obliged to take an enema. At thirty-one, she had another attack of typhoid which lasted five weeks and terminated with numerous black dejections resembling tar. At thirty-three had varioloid, followed by slow fever which lasted several weeks, and during this time had frequent purulent dejections, and there was almost constant abdominal distention. Since that time she has never been entirely free from distress and pain at the epigastrium. At thirty-seven, seven years ago, after overworking at dressmaking, she began to lose strength and to suffer with in-

creased distress at the stomach; three months later was suddenly seized with intense pain referred to a point an inch above umbilicus and an inch outside of the median line; this was followed by marked tenderness and distress after taking food. During this illness, which confined her to bed for several months, and which the physicians called nervous prostration, the chief symptoms were gastric disturbance attended with obstinate constipation and the passage from the bowels of pieces of membrane resembling skin, three to four inches in length. About that time she first began to notice a "bunch in the stomach," which was the seat of severe pain whenever cathartics were used, and consequently she depended wholly upon enemata. Whenever she used large injections of warm water, there seemed to be an increased amount of the membranous pieces pass away. Any kind of food caused distress and accumulation of gas in the stomach, but no vomiting; she was greatly depressed and uncontrollably nervous. At forty she had a recurrence of the membranous dejections with an attack of severe gastric disturbance and hysterical manifestations. After five weeks she noticed a pulsation in the region of the stomach which the physicians thought was a tumor, the pulsations being so very strong as to visibly move the bedclothes. This came on after wearing for a week a pessary for retroversion. Her eyesight became so dim that she could not recognize a person across the room; there was obstinate constipation with distention of the abdomen. One year later she had another severe attack attended with diarrhoea, coming on after having taken a large dose of magnesia, but continued only a few days.

The present attack began in January of 1884, with chills and fever, preceded by weeks of nervous depression and pain in the head and along the spine. The same gastric disturbance, as previously mentioned, came on with constipation. There were chilly sensations followed by fever daily and attended with considerable thirst; sleep was disturbed; appetite remained tolerably good.

Soon after the beginning of this present attack she noticed a reappearance of the strings of membrane in her dejections, which have continued since, and ten days ago one piece was passed which measured twenty-seven inches in length, yellowish-white in appearance, tough, and having ragged edges; some of the pieces were an inch in width. There was generally marked tenderness over the whole abdomen after passing these strings and shreds of membrane. The gastric symptoms have continued up to the present time, there being more or less nausea, pain in the stomach, and a "heaving" in that region which is increased by cough or the least exertion. Food always causes distress and an excessive formation of gas. The bowels, a week before I first saw her, had been moved naturally about three times daily, there having been previously habitual constipation requiring the frequent use of injections. The discharges had been of a very sickening odor, containing hard scybala masses and but very little mucus. The appetite had failed and she had lost strength rapidly. She had noticed that whenever she had these attacks

<sup>1</sup> Read before the Boston Society for Medical Improvement, April 27, 1885.

she always took the dorsal position in bed with the knees drawn up.

The condition in which I found her at my first visit, April 19th, was one of general exhaustion. She was anemic; her countenance was sallow, her flesh flabby, appetite very poor, tongue furred, and there was inability to sit up for any length of time. The abdomen was soft, not distended, and not particularly sensitive on pressure excepting over the descending colon and just above and to the right of the umbilicus. At this point there was a hard mass detected, the size of an English walnut, without pulsation and without thrill. It seemed to be slightly movable on very full inspiration. Pulse and temperature were normal; examination of urine showed nothing abnormal. Tonics were advised. Quinine and iron and an injection of a quart of warm water was ordered to be taken daily, the bowels being at this time quite constipated.

April 29th. Injections brought away fully a pint of very hard scybulous masses, a large amount of mucus mixed with black tarlike substance of very bad odor.

April 30th. Felt very feverish after the dejections of yesterday; abdomen sensitive on pressure throughout; complains of palpitation; left arm is very weak; is very hysterical; has had three dejections containing a large amount of mucus. Carlsbad salts ordered to be taken three times a week, and large injections to be given on alternate days. Murdock's food advised to be taken in wine every two hours.

The salts produced free dejections and for the first time without mucus. On May 11th there was noticed a little blood in the dejections, and she felt very much weaker. Eyesight would become dim upon raising her head from the pillow; continuous pain at the stomach; increased distress after taking any nourishment; abdominal distention from gas; rush of blood to the head; ringing in the ears and gasping respiration. The salts were omitted. Milk and Seltzer water in equal part, were ordered to be taken in small quantities, and Hunyadi water as required. On the 18th she showed some improvement in strength and the bowels had moved every day, the discharges consisting of small scybale without membrane.

21st. Was able to sit up and walk about a little.

22d. Eight tablespoonfuls of Hunyadi produced seven dejections, containing considerable mucus of intensely foul odor, very black, and showing small black particles like coaldust adhering to the vessel.

25th. Dejections still black; stomach irritable; recurrence of pain in back and limbs.

28th. Has sat up a portion of each day, but walking about the room causes a burning and tired feeling in the abdomen and produces considerable meteorism.

June 1st. Walked a short distance out of doors. No change in the character of dejections, but containing less mucus. Hunyadi water produces two or three movements daily.

5th. Feels very much exhausted; return of distress after eating; pain over whole abdomen, which is tympanitic on percussion.

13th. Since the 7th has had one discharge daily,

black in color, resembling tar, containing a little mucus and coaldust particles, and of the fonlest odor. The discharges produce a scalding sensation at the anus and foam when water is added to them. The patient feels stronger and able to sit up half the day. Examination of the abdomen fails to detect the hard mass above the umbilicus, previously referred to.

19th. Gaining strength rapidly; four dejections to-day after taking Hunyadi, one of them consisting entirely of mucus.

24th. Decided improvement in every way; very little pain; bowels moved yesterday and to-day without assistance, and the discharges have a more natural appearance; the foul odor and black color have disappeared; food causes but little distress.

28th. The discharge to-day has been the most natural for the past three months. No Hunyadi required.

July 5th. Takes solid food without distress. Dejections natural in appearance, is able to be out of doors, and assists at her work about the house.

Since last July, until two weeks ago, the patient has remained comparatively well, but has now become quite exhausted from attendance on a sick daughter, and the former gastric symptoms have returned, though mild, and there is a reappearance of the small membranous shreds in the discharges. On examination of the abdomen two days ago I again detected the hard mass, though very small, just above and outside the umbilicus.

Leube, in his article on "Diseases of the stomach and intestines," in Ziemschen, refers to this form of enteritis as one very rarely seen, and usually only in hysterical patients. The symptoms, as described by him, were all prominent in the case I have reported, and the pulsation and "beating," so often complained of by my patient, Da Costa mentions as one of the most frequent and annoying symptoms. In my case this seemed to be referred to the localized hard mass above the umbilicus.

The history of the whole case bears out the probability that the abdominal symptoms were a secondary result of some primary nervous derangement. Dating far back, Henri Herchard reports a case similar to mine preceded by constipation, dependent upon some obscure nervous affection.

Habershon describes all the symptoms I have mentioned and ascribes them to a chronic catarrh of the colon, and designates the disease as one of chronic muco-colitis. He advances no theory regarding the cause of the disease. In a post-mortem examination in one case there was found to be a gray zone surrounding the follicular glands, thickening of the mucous membrane, and weakness of the muscular coats of the intestines. And, in another case, there was found imbedded in the folds of the mucous membrane of the colon and firmly retained there, scybale of considerable size. It has occurred to me that perhaps that fact might explain the doubtful tumor noticed at the epigastrium, in the region of the transverse colon, and lying over and upon the abdominal aorta where the pulsation was so distinctly felt, and might not this retained scybulous mass act as the exciting cause of the enteritis? Its disappearance, after numerous dejections produced by Hunyadi, coincident with a

mitigation of the abdominal symptoms and diminution in the amount of membrane, and a reappearance of the tumor and return of the membrane during the past week, seems to make this theory plausible.

## TWO CASES OF DANGEROUS HÆMORRHAGE FROM RUPTURE OF THE VAGINA DURING FIRST COITUS.

BY PAUL F. MUNDÉ, M.D., OF NEW YORK.

DR. CHADWICK's case of "Rupture of the Vagina during Coitus," reported in the issue of this journal for April 30th, recalls to my mind two cases observed by me and reported to the New York Obstetrical Society at the time, in both of which very severe hæmorrhage occurred from a rent in the left vaginal wall, in the first case the fissure being an extension of the physiological laceration of the hymen. The comparative rarity of this accident (vaginal rupture and bleeding from deep fissures of the hymen is not so uncommon), especially in young healthy women with properly shaped and normally elastic vaginae, leads me to add a brief report of my cases to those already published.

CASE I. In October, 1881, I was called early in the morning to a hotel in this city to see a lady who had been married on the previous day. I found her in a state of collapse, pale, with occasional momentary loss of consciousness, all due to a violent hæmorrhage immediately following the first coition. The husband, a physician himself, had vainly tried to arrest the hæmorrhage by compression and persulphate of iron. Inspection showed blood trickling from the vaginal orifice and a slight rent of the hymen at the left anterior border, which, however, did not bleed; digital examination revealed a vagina distended with coagula, thus indicating that the blood flowed inward, as though from an internal wound. Placing the patient on the left side, I introduced Sims's speculum, cleared the vagina thoroughly of all coagula, and then at once saw the blood spurting from a deep fissure about an inch long, which extended inward from the nick in the hymen to the left and parallel with the urethra. Tight tamponing of the vagina with disks of alum-cotton, carried down to the very vulva, arrested the bleeding at once and permanently, and no further trouble was experienced. Here really the rent was intravaginal, its starting-point merely being the hymen.

CASE II. April 16, 1883, I was called, in the evening, to see a lady twenty-two years of age, married the day before. The messenger said she was bleeding, and I suspected a similar injury to that in the previous case. I found a waxy-looking, evidently very feeble patient, who stated that coitus had been performed but once, toward morning, had been rather painful, that she then went to sleep, and was awakened some hours later by feeling wet about the genitals, and found herself lying in a pool of blood. A physician was sent for who gave ergot, but made no examination. The patient continued to ooze, and another physician was sent for, who ordered ice to be applied over the abdomen, but also made no examination. The hæmorrhage continuing, he

sent for me. I examined her by gaslight, and could detect no bleeding spot on the hymen. The examining finger found the vagina full of coagula. Through Sims's speculum the vagina was thoroughly cleansed, and a deep rent fully two and a half inches in length and half an inch in depth was at once seen in the left vaginal wall, extending from about an inch above the hymen nearly to the cul-de-sac. The edges of the rent were ragged, and its base bruised and torn. A firm tamponade with alum-cotton disks effectually controlled the bleeding, and when the patient called at my office, a week later, the wound was in a fair way toward closure.

In neither of these cases did there seem to be a disproportion of the relative organs, nor could I learn that any unusual violence had been used. The vaginae were apparently perfectly healthy, both ladies being young and of good constitution.

In the second case of Zeiss, quoted by Dr. Chadwick, the recent confinement of the woman and the adhesion of the cervix to the lacerated side of the vagina would readily account for the friability of the tissues, as would also the senile atrophy of the vagina in Dr. Chadwick's own case. I recollect reading a similar case in a Canada medical journal a few years ago, where a sailor had been away from home for nine years, and on first coition with his wife on his return ruptured her vaginal vault to such an extent that she had to be taken to the hospital (in Montreal, I believe), and came near dying. She had not as yet, if I remember correctly, reached the menopause.

It is strange that two such accidents should have been produced by sailors, whose reputation for abstinence, when away from home, is not of the best.

The treatment must obviously consist in the tamponade, repeated as long as danger of recurrence exists, or, if the rent is external, where a vaginal tampon cannot well touch it, the deep suture.

## POISONING FROM SARSAPARILLA (?) SODA.

BY CHARLES W. GAILLOUPE, M.D., OF LYNN, MASS.

THE following cases have the merit of novelty and indicate how the most ardent temperance man may become a victim to strong drink in the guise of "blood-purifying" sarsaparilla.

Two men of exceptionally vigorous health called upon a druggist at 9 p.m. for a glass of sarsaparilla sodawater, with which they were provided, accompanied by an assurance of its great medicinal value. In a few minutes Mr. P. began to complain of nausea, and for four hours after he vomited almost incessantly, the vomitus emitting such a pungent odor of sassafras as to pervade the whole house. When visited at ten o'clock he was in a state of semi-collapse with rapid and feeble pulse and cold, clammy skin. He complained of intense paroxysmal pain in the stomach, and vomited, at short intervals, a little dark liquid with a pungent sassafras odor. Although responding readily to questions, he complained that he felt as though asleep. By the aid of warmth and stimulants he rallied in a short time, and, although much prostrated by the attack, he returned to his office in a few days.

Mr. V. made no complaint for half an hour, when he was seized with severe cramps and an intense burning sensation in the bowels. He had no nausea, in spite of copious draughts of warm ginger-water taken as an emetic. He was very dull and drowsy and staggered like one intoxicated. Violent purging set in soon, and for three hours he rolled about the floor in agony; the discharges, which passed from him involuntarily every five or ten minutes, were watery and emitted an intense odor of checkerberry. In four hours he became easy, and, although still weak, was able to return to business in two days.

The symptoms in both cases were indicative of local gastro-intestinal irritation and general depression, the poison making itself felt in the stomach immediately in the one case, and in the intestine, after half an hour's interval, in the other. A visit to the druggist's elicited an explanation of the accident. It appears that the "sarsaparilla" syrup was made by the following formula:—

Oil of Sassafras	}	. . . . .	aa 5 i
Oil of Checkerberry			
Simple Syrup . . . . .			

The volatile oils were mixed with an equal quantity of alcohol and then diffused in the syrup by shaking. The receptacle in the fountain was rectangular with a small base, and held two quarts, the faucet for drawing it entering at the extreme bottom of the can. Owing to defective mixing the oils gradually rose to the surface, and the last few glasses drawn contained nearly all the oils in the can. The clerk recollected refilling the can just after supplying our patients, so that they had the quantity of oil that had for two days been accumulating on the surface of the syrup. Mr. P. had the last glass, and this may account for the greater severity of his symptoms. These cases were not very serious, but their publication may happily serve as a warning to the economical druggist and the thirsty public.

## REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTCH, M.D.

### TYPHOID FEVER IN INFANCY AND CHILDHOOD.

Dr. JULES SIMON publishes an elaborate article on this subject, in his "Conférences Thérapeutiques et Cliniques sur les Maladies des Enfants," tome ii., in which he makes the following distinctions between the typhoid of children and adults.

The pathology differs in some respects, the occurrence of ulcerations being comparatively rare in the young subject, a fact which he explains by the cellular infiltration not being massed together as in adults, but disseminated.

The younger the patient the rarer it is to have ulceration. Intestinal perforation and hemorrhages are both rare in children, and sudden death scarcely ever occurs. The liver is frequently found enlarged; the spleen is often not hypertrophied, and when there is an increase in its size this increase is notably difficult to detect during life.

The pathological lesions are apt to be abortive in type. Bronchopneumonia is quite a common com-

plication, and pulmonary and cerebral congestions are more prominent than in the adult.

Sometimes, after showing decided typhoid symptoms for seven or eight days, complete cessation of all signs of disease takes place and complete recovery. Where the differential diagnosis is uncertain early in the disease, it definitely declares itself in about eight days. During the first week the symptoms may be decidedly cerebro-spinal, and constipation and vomiting are so commonly met with during this period as to make the diagnosis often very difficult.

Typhoid fever in childhood is most common between the eighth and fourteenth year; it is rare under five years and quite exceptional under two, but may occur at any age. The author, in speaking of the treatment, states that the cold bath should be avoided as dangerous in comparison with its use in adults.

### TYPHOID FEVER IN AN INFANT NINE DAYS OLD.<sup>1</sup>

Ignatieff reports the case of an infant who on the sixth day of life began to be affected with frequent and offensive evacuations, the temperature also undergoing moderate elevation. Subsequently there were cyanosis and bloody evacuations, and on the third day of his illness the infant died. The autopsy showed the weight to be 3.400 grammes; skin slightly jaundiced; umbilicus normal; the brain and its membranes congested; the lower lobes of the lungs hypostatic, the upper ones anæmic; the right side of the heart was dilated; the liver was enlarged, congested, and brittle; the spleen was enormously enlarged, congested, and firm, with its malpighian bodies swollen; the contents of the intestine were thin, and in the large intestine rather bloody; the mucous membrane of the intestinal canal was swollen and ecchymotic; the large intestine presented swelling and ulceration of the follicles; in the lowest portion of the ileum there were swelling and ulceration of Peyer's patches; the solitary follicles were also swollen and covered with necrotic tissue but not ulcerated; the mesenteric glands were swollen and hyperemic; the kidneys were swollen and hyperemic; the umbilical vessels were obliterated.

The author concludes that the intestinal trouble could be regarded as nothing else but typhoid in character. This is the seventh recorded case of typhoid in the newborn infant.

Unfortunately nothing could be ascertained regarding the etiology of the disease, but the probabilities pointed strongly toward uterine infection.

### ALBUMINURIA OF THE NEWBORN.<sup>2</sup>

Ribbert, as a result of his investigations on the embryos of animals of different sizes and species, has come to the conclusion that a decided transudation of albumen passes through the glomeruli in the kidney of the embryo from the undeveloped condition of the glomeruli, and states that albumen is frequently found in the urine of the fœtus. The albumen which is at times found in the first urine which is passed after birth Ribbert considers to result from a continuation of the fœtal condition.

<sup>1</sup> Jahrb. für Kinderheilk., B. XXI. H. 4. Archives of Pediatrics, December 15, 1884.

<sup>2</sup> Fortschritte der Medicin, February 15, 1885.

The more important albuminuria of the early days of infancy cannot be exclusively explained in this way, but probably is caused by the excessive metabolism which occurs in infancy.

#### ACUTE AMAUROSIS IN SCARLATINAL NEPHRITIS.<sup>3</sup>

A paper concerning amaurosis in a case of scarlet fever was read by Dr. Bechen, and discussed by others, in the Society for Internal Medicine, at Berlin, January 7, 1884. Inflammation of the shoulder-joint began in the second week of the disease, albuminuria and febrile phenomena in the fourth week, and violent headache with complete blindness upon the thirty-seventh day. Two hours after this accident an attack of vomiting ensued, and was followed by unconsciousness and general clonic spasms. After twelve hours unconsciousness passed away, and with it ability to distinguish light from darkness returned. After eight days the sight was normal again. The author thinks in almost all cases of scarlatinal nephritis uræmia occurs when œdema disappears. His supposition is that acute œdema first invades the brain, and that the transfused serum has its toxic effect secondarily. In the course of the discussion Litten remarked that in almost all cases of coincident scarlatinal uræmia and amaurosis there is no perceptible change in the retina, no congestion of the papilla; are evident, there is no increase of intracranial pressure, and no intense œdema of the brain. The consideration of the reaction of the pupils was thought to be an important point in making a prognosis. Haltdammer gave as his opinion that from the reaction of the pupils it might be decided that the seat of the amaurosis was beyond the reflex centre.

Baginsky thought that there were cases in which amblyopia was found as a complication, and not amaurosis. He had found in the urine in cases of acute nephritis substances which belong to the group of guanin and xanthin, and the toxic effects are probably attributable to such substances. Leyden remarked that œdema of the brain is certainly associated with symptoms of uræmia, and that the intoxication might be due to the holding back of certain necessary chemical elements. Lustig called attention to the fact that intoxication and amaurosis might follow the use of various substances, as quinine, nicotine, morphia, chloral, alcohol, and salicyl.

#### TRANSITORY HEMIPLEGIA, APPARENTLY DUE TO LUMBRICI.<sup>4</sup>

Girard reports the case of a girl four years of age, of nervous temperament and delicate constitution. Her mother was of hysterical temperament, and her father had syphilis five years before his marriage. There were no evidences of hereditary syphilis, no rachitis, no scrofula, and no cardiac difficulty. During dentition there had been several attacks of eclampsia and some abdominal trouble (not specified). The child was suddenly attacked with clonic convulsions, which were limited to the face and to the upper and lower extremities of the right side; they lasted about an hour, were accompanied with momentary loss of consciousness, and

were followed by complete motor paralysis of the right side. Intelligence remained, though it was somewhat blunted, and deglutition was unimpaired. The reflexes were equal on both sides; there was no disturbance of sensibility, and the pupils were equal, immobile, and dilated. Calomel was given empirically in consideration of the syphilitic antecedents of the father. The day following the paralysis the child was able to walk, and was bright and smiling, having expelled, during the night, about thirty lumbrici. The hemiplegia had completely disappeared and did not return.

#### TUBERCULAR MENINGITIS IN INFANCY.<sup>5</sup>

Medin, in a report of the General Children's Hospital, in Stockholm, from the year 1842 to 1881, states that the whole number of deaths was 5,410; of these 431 died of tuberculosis, but of these there were only 44 cases of decided tubercular meningitis (0.8 per cent. of all the deaths, 10.2 per cent. of the tuberculous cases).

Tuberculosis of the meninges without inflammation was also found in 23 cases, so that the whole number of cases of tuberculosis of the meninges was 67 (1.24 per cent. of all the deaths, 15.5 per cent. of tuberculous cases).

It was possible, also, that in some of the other cases there might have been tubercle of the meninges, but the symptoms during life not pointing toward the nervous system, the head was not opened. Decided tubercular meningitis was, therefore, of very rare occurrence among infants, simple meningitis without tubercle being six times as frequent. The greatest frequency of general tuberculosis was during the months of January and February, while tubercle of the meninges and tubercular meningitis occurred most frequently in May and July.

The symptoms of general tuberculosis were found to precede the outbreak of tubercular meningitis by two or three months. The deaths from tubercle of the meninges and tubercular meningitis were most frequent in the fourth, fifth, and sixth months, rarely in the first three months of life. General tuberculosis was rare in the first two months of life but very frequent in the third month. Of the 14 cases of tubercular meningitis 25 occurred in girls and 19 in boys; tubercle of the meninges without meningitis was found 12 times in boys and 11 in girls, and the disposition to general tuberculosis was found equal in both sexes. Out of the 67 cases where tubercle was found in the meninges there were only two where tubercle was not found in other organs. One of these cases occurred in a strong, well-nourished child, in whom no pathological changes were found beyond the tubercular meningitis; in the second case, also, with the exception of tubercular meningitis, no signs of disease could be discovered.

In one case tubercles were only found in the liver, in another only in the mesenteric glands, and in a third only in the bronchial glands.

In most of the cases of tubercle of the meninges without meningitis, there were no symptoms during life which pointed toward cerebral disease. In tubercular meningitis, on the contrary, cerebral

<sup>3</sup> Jahrb. für Kinderheilk., xvi. 4 Heft. Archives of Pediatrics, January, 1885.

<sup>4</sup> Revue Mensuelle des Maladies de l'Enfance. Archives of Pediatrics, February, 1885.

<sup>5</sup> Nord. Med. Ark. xv. 1881, No. 20. Jahrb. für Kinderheilk., xvi. B. 3 Heft.

symptoms were present, excepting in the cases where the tubercles involved a small territory, or where there was incomplete development of the disease.

The prodromal symptoms were, as a rule, absent, and the meningitis seemed to develop suddenly, even where perfectly healthy children were attacked. Somnolence was not so common in the tubercular cases as in the epidemic, but sopor and coma at the end of the disease were equally frequent. Hyperesthesia was rare; sharp cries occurred in a few cases. Clonic spasms were frequent, tonic less so.

Strabismus was very common; irregular respiration occurred in four cases. Paralysis appeared in a number of cases; vomiting, as a prodromal symptom, occurred in three cases, after the development of meningitis in four cases; constipation was rare; diarrhoea more frequent. Sinking of the abdomen was not observed in any of the cases. Bulging of the fontanelle was frequently observed. The prognosis was as bad for the infant as for the child. The pathological conditions presented no differences from the older child. The length of the disease was from two to four days, in some cases from ten to twelve days, in only one case as long as a month, and in one case death took place in thirty hours.

#### THE TEMPERATURE IN TUBERCULAR MENINGITIS IN CHILDHOOD.<sup>6</sup>

Blasi has recorded the temperature in thirty-eight cases of tubercular meningitis in the Hospital Bambin Gesù, in Rome. Fever occurred in all the cases whether with or without complications, but the highest temperatures were where there were complications of pulmonary tuberculosis or pneumonia. Subnormal temperatures were only found in collapse toward the end of the disease; there was usually an evening exacerbation. The local progression of the disease seemed to have no effect on the height of the fever. These cases verified former observations which had shown that simple meningitis was characterized by a higher temperature than tubercular meningitis. Convulsive attacks appeared to have no appreciable effect on the temperature curve, the greatest increase being caused by complications, especially of the lung and abdomen, while, with general miliary tuberculosis, both high and low temperatures occurred. Tubercle of the cerebellum was always accompanied by a rather low grade of fever. Finally, the author speaks of the great worth of the temperature curve for differential diagnosis and for the exclusion of complications.

#### CHYLOUS EXUDATION IN ABDOMEN.<sup>7</sup>

Letulle reports the case of a boy eight years old suffering from mitral disease, where puncture of the abdomen presented an enormous quantity of emulsified fat, a few white corpuscles and a large number of red corpuscles. An analysis of his own cases and others leads him to the following conclusions: (1) All the published cases of chylous ascites, where an autopsy has been made, were caused by chronic tuberculous, carcinomatous, or simple fibrinous peritonitis. (2) The existence of inflammatory changes is a constant factor in the beginning of a

chylous exudation of the peritonæum. (3) The fatty metamorphosis of the inflammatory products is sufficiently probable to account for the formation of the large quantities of emulsified fat which is found suspended in the peritoneal fluid.

#### TWO EPIDEMICS OF VARICELLA.<sup>8</sup>

Ollivier reports his observations on two epidemics of varicella, occurring in Paris, in both of which in the beginning the disease was suspected to be variola. The first occurred in the spring, and its starting-point could not with any certainty be determined. Most of the children belonged to poor families whose dwellings consisted of one badly ventilated room. The infection spread from one child to another, and where one member of the family was attacked all took the disease excepting the adults, who escaped with only one exception, where a mother forty years of age took the disease from her nursing infant. Vaccination appeared to have no influence on the disease; out of thirty-four cases thirty-one presented well-marked vaccination cicatrices; the remaining three were under one year and did not have the disease more severely than the others.

The efflorescence usually began on the forehead and then spread to the face and limbs, leaving no trace and seldom presenting more than thirty to fifty vesicles. The incubation was from twelve to fifteen days, and recovery took place in every case.

The second epidemic presented the same characteristics, simulating variola, benign in its course, unaffected by vaccination, not attacking adults.

#### VARICELLA FOLLOWED BY NEPHRITIS.

Professor Henoch, from the autumn of 1883 to the spring of 1884, has observed and reported<sup>9</sup> four cases, where an intense albuminuria developed in the course of an attack of varicella from eight to fourteen days after the appearance of the efflorescence. One case ended fatally and the autopsy showed the existence of nephritis and hypertrophy of the left ventricle.

Dr. D. Semtschenko publishes<sup>10</sup> a case of varicella followed by acute parenchymatous nephritis, which is very similar to the youngest of Henoch's cases. A well-nourished girl three and a half years old, who in the previous year had had an attack of variola, developed a varicella after a prodromal stage of slight feverishness lasting for three days. Just before the appearance of the efflorescence, high fever with delirium was observed. The exanthem spread over the whole body but was not unusually profuse. After three days the vesicles were almost dried up, but the fever returned and oedema of the face and feet appeared.

The urine contained albumen and casts. The fever disappeared in two days, and the albumen became lessened in amount and entirely disappeared in nine days.

Raseh<sup>11</sup> also reports the case of a boy two years old, who after a few days of slight prodromal symptoms developed an efflorescence of varicella on

<sup>6</sup> Boll. della R. Acad. Med. di Roma, VIII. 9 Jahrb. f. Kinderheilk., 13, 3, 11.  
<sup>7</sup> Centralblatt für Klin. Med. November 2, 1881. Rev. de Méd. September, 1883.

<sup>8</sup> Rev. de Méd. 1881, 1, IV.

<sup>9</sup> Berlin. Klin. Wochenschrift, 2, 1884. Jahrb. f. Kinderheilk., xxi 4.

<sup>10</sup> Wratich, 1884, No. 12. Jahrb. für Kinderheilk., xxi, 3.

<sup>11</sup> Tidsskr. f. prakt. Med. IV, 1884, 4.

September 3, 1865; on the 11th, swelling of the face was observed, drowsiness, weakness, thirst, and loss of appetite; on the 17th there was also slight oedema of the legs. The urine contained albumen, blood corpuscles, and casts; the oedema disappeared on the twenty-first of September, and the urine became normal by the twenty-fourth of September. A sister of the patient at the same time had an attack of varicella running the usual course.

#### INCREASED MORTALITY FROM MEASLES IN NEW YORK.<sup>12</sup>

Measles is usually considered a disease of such slight import, and the necessity of careful isolation so often ignored, that the report concerning the recent increase of the disease in New York City, presented to the Board of Health, on March 3d, by Chief Inspector James B. Taylor, seems worthy of record. The report for four months is as follows:

	Nov.	Dec.	Jan.	Feb.	Total.
Cases . . .	385	484	743	540	2,152
Deaths . . .	60	75	157	111	403

The report is made from the returns of physicians, but cases are not always returned unless the patients die. In one public institution containing 200 infants, there have been 157 cases and 65 deaths in four months. Dr. Taylor says that such a rate of mortality is almost unaccountable, and that if the same rate prevailed elsewhere it would prove measles to be the most virulent of all contagious diseases. It has taken the lead over all others during the past two months, even exceeding diphtheria, as there have been from the latter 534 cases and 234 deaths during the same period that 1,283 cases and 263 deaths occurred from measles.

#### INCREASED MORTALITY FROM MEASLES IN PARIS.<sup>13</sup>

Ollivier, in a report to the prefect of police, shows that the epidemics of measles in Paris are increasing in extension and danger, and that there has been a decided increase in the mortality of the disease during the last twenty years. His figures are as follows:—

Year of epidemic . . .	1865.	1869.	1873.	1879.	1883.
Deaths . . . . .	343	510	561	917	1,068

Most of the deaths were caused by a complicated bronchopneumonia, and the death-rate would have been much greater if those cases could have been included who, at a later date, developed chronic pneumonia and tuberculosis of the lung. The author also emphasizes the necessity and importance of the early isolation of all cases.

#### ACUTE LARYNGITIS ACCOMPANYING MEASLES.<sup>14</sup>

Tiffany reports the following case:—

A boy, having measles, during the stage of irruption suffered from well-marked laryngeal stenosis. No membrane could be seen. When nearly dead tracheotomy was performed, which immediately relieved the symptoms. He died, however, some hours after from capillary bronchitis.

#### PERNICIOUS ANEMIA IN A CHILD FIVE YEARS OLD.<sup>15</sup>

Dr. Adolphe Kjellberg opens a paper, in which he gives the history of this case, by stating that pernicious anemia is of greater extent than was believed at the time when Biemar called attention to it by his description of the disease; that it is chiefly seen at mature age; that it runs up to the period of old age; but that, so far as childhood is concerned, only one case has been thus far reported, that a child eleven years old, by Quincke. (E. H. Bradford reported a case, in a girl eleven years old, in the *Boston Medical and Surgical Journal*, October 22, 1874, and H. C. Haven the case of a girl aged ten years, in the *Archives of Pediatrics*, December 15, 1884.) After having mentioned the principal symptoms of Quincke's case, he gives the history of his own case, which was a boy five years of age, who entered the hospital in Stockholm, April 9, 1883. The case was especially remarkable for its rapid course and very characteristic symptoms, such as discoloration of the skin, which became of a yellowish waxy color, pallor of the lips, great prostration, asthma on the least exertion, palpitations, intense anemic *bruit*, retinal hemorrhages, watery-looking blood, and the reduction of the number of red disks to 0.571 million per cubic millimeter. The post-mortem appearances were also very characteristic: extensive fatty degeneration of the muscular structure of the heart, excessive pallor of the cerebral substance, hemorrhages of the cerebellum, pericardium, pleura, lungs, and peritoneum, and fatty degeneration of the epithelium of the renal tubules. From the knowledge gained from Quincke's case and his own, Kjellberg concludes that pernicious anemia presents the same symptomatology in childhood as in adult life. This case throws but little light on the etiology of pernicious anemia, and gives no ground for the hypothesis that this disease is the result of a life of privation and of insufficient nutrition, for this child was in comparatively good circumstances. Kjellberg is rather inclined to indorse the opinion of Warfringe that pernicious anemia should be considered as an infectious disease. His patient was put on arsenic, with nourishing food, but with no noticeable result.

#### PEMPHIGUS NEONATORUM.<sup>16</sup>

C. Blomberg reports the case of a girl six days old, who had an efflorescence of pemphigus, beginning on the lower legs and quickly spreading to the thighs, abdomen, and front of thorax; later the face, arms, and head were attacked, only a few bullæ appearing on the back. The lesions developed quickly on a previously normal skin and disappeared after two or three days, leaving a moist, reddened corium, crusts only appearing on the face. One of the bullæ on the head was as large as a hazel-nut; on the right foot one bulla covered all the toes and the sole; the sole of the left foot was covered by three bullæ. Entire recovery took place. Three servant girls in the family, who took care of the child and washed its clothes, were affected in from three to six days with the same efflorescence on their fingers and on the backs of

<sup>12</sup> Medical News, March 7, 1885.

<sup>13</sup> *Archiv. gener. de Med.*, Septembre, 1884. *Rev. mens. des maladies de l'enfance*, Octobre, 1884.

<sup>14</sup> Maryland Medical Journal, August 16, 1884. *Archiv. of Pediatrics*, December 15, 1884.

<sup>15</sup> Nordiskt Medicinskt Arkiv. Bd. xvi. Hft. 13. Amer. Jour. Med. Sciences, January, 1885.

<sup>16</sup> Tid-skr. f. prakt. Med. iv. 1884, 4.

their hands. Another child and the mother had a few bullæ develop on them. Blomberg inoculated himself on the forearm with fluid from the bullæ, and on the following day a similar efflorescence appeared, which dried up in three days.

#### SYPHILIS HEREDITARIA TARDA.<sup>17</sup>

Barthélemy upholds the existence of a late appearance of hereditary syphilis, especially on the ground of the frequent observations made by him of syphilitic disease of the liver found in older children as well as in younger. He enumerates thirty-two cases of children between two and thirteen years of age, the greater number being from five to nine years, affected by different forms of syphilitic liver, which he divides as follows:—

(1) Congestive form. Symptoms: increased liver dulness, hepatic tenderness, sometimes slight icterus, recovery under anti-syphilitic treatment.

(2) Diffuse interstitial hepatitis. Symptoms: great hepatic tenderness, emaciation of high grade, severe dyspeptic symptoms, and ascites; icterus usually absent.

(3) Gummous form, usually a combined disease of the liver and spleen, and often also the lung, the disease of the liver being only seldom detected by physical examination; usually neither icterus nor ascites present; unfavorable prognosis, life usually threatened through the combined disease of the lungs and kidneys.

(4) Amyloid. The most severe form of syphilitic disease of liver.

Barthélemy concludes that hereditary syphilis, not only in early childhood, but also after the beginning of the second period of childhood, presents the most frequent causes of hepatic disease.

### Reports of Societies.

#### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

APRIL 13, 1885. The President, Dr. F. W. DRAPER, in the chair.

Dr. H. C. HAYEN read a paper entitled

#### A STUDY OF INFANT FEEDING,

of which publication is reserved.

Dr. F. S. BILLINGS, V.S., demonstrated, by invitation, several

#### CULTIVATIONS OF THE CHOLERA BACILLUS AND OF OTHER ALLIED MICRO-ORGANISMS,

showing a number of test-tubes containing cultivations of different ages, both of the cholera and of other bacilli likely to be confounded with it. Especially the marked difference in the development of the bacilli of Asiatic cholera and of cholera morbus was shown, although Dr. Billings stated that he doubted if it were possible to make a diagnosis by the microscope alone, unaided by artificial cultivations. The behavior of bacteria in different cultivating media is of much diagnostic value, as many of them grow in a peculiar manner in a medium of

known specific reaction. He stated the advantages of solid over fluid media, and explained their preparation, together with the great care needed in the work and the many little slips that might make it worthless. In his opinion Koch's bacillus has always been found, when sought in undoubted cases of cholera, by competent observers with competent instruments. It has never been found anywhere else. Although the remaining proof, cultivation of the disease by means of the bacilli, has not yet been made, still in the present early state of our knowledge of the subject, and the known difficulties in the way of experiment, we have no reason for declining to accept the bacillus as the cause of cholera. Dr. Billings thinks that, by its aid, a certain diagnosis can be made in twenty-four hours, and he is of the opinion that it would be well at the present time if boards of health were to train experts in the examination.

April 27th, the President, Dr. F. W. DRAPER, in the chair.

#### FIBROID TUMOR OF THE OVARY, WEIGHING TWENTY-TWO POUNDS; LIPOMA OF THE THIGH, WEIGHING TWELVE POUNDS; SARCOMA OF THE LEG.

Dr. JOHN HOMANS showed the specimens, and said that the fibroid tumor of the ovary is interesting from its rarity. He had never before seen one, and Mr. J. Knowsley Thornton, of London, had his first one last autumn. Dr. Homans's patient was thirty years old, and married, but without children. She had noticed the swelling for about a year. When Dr. Homans examined her recently there was in the left iliac and lumbar regions a very hard, dense tumor, and the rest of the abdomen seemed to be occupied by a cystic growth. The abdominal cavity was so full that it was hard to say whether the tumor was uterine or not; but on moving it the uterus moved, though not as if it were incorporated with it. As Dr. Goodell and Dr. Walker, of Philadelphia, had examined her at an earlier stage of the case, the speaker had written to Dr. Goodell for his notes. Dr. Goodell replied that his notes were somewhat scanty, but that there was a dense, hard tumor in the left of the abdomen; that the uterus was at that time three and a half inches deep, and that he thought that the tumor and the uterus were movable independently of each other. He was, therefore, in doubt as to whether it was a uterine or an ovarian tumor. Dr. Homans, bearing in mind the unfavorable percentage of his attempts to remove uterine fibroids by laparotomy, told the patient that while the chances in such operations were rather less than equal for recovery, yet that the patient's health and strength being good, a most important factor, that he was inclined to operate. The tumor was removed six days ago. On opening the abdominal cavity the omentum was found to cover the tumor and to be adherent to the pelves. This is always an embarrassing complication. He opened through it and gradually enlarged the wound upward, tying the bleeding points. A cyst was now in view and this was tapped, evacuating about six pounds of clear, dark fluid, resembling that from a fibro-cystic tumor of the uterus. The tumor being still too large to come through the abdominal opening, Dr. Homans

<sup>17</sup> Archives Générales de Médecine, Mai et Juin, 1884.

passed his hand behind the cyst-wall and found another cyst, which he also tapped, getting five pounds more of the same fluid. He now pulled out the cysts and with them the solid tumor, which proved to be connected with the right broad ligament and Fallopian tube, and was an ovarian tumor. He treated the pedicle in the usual way, tied the omentum where it was bleeding, and returned it to the cavity. While this was going on, the abdominal walls were held together by an assistant, who kept the bowels covered up. Little points like this diminish the shock and have an effect on the result. The tumor, together with the fluid, weighed twenty-two pounds, and the patient is making a good recovery, the pulse and temperature being to-day normal.

Dr. HOMANS also showed a fatty tumor of twenty-five years' standing and twelve pounds' weight, removed from a patient of seventy-one, six or seven weeks ago. There was an ulcer over the tumor, which was on the left thigh and extended from the groin to the patella. The tumor came out easily, and the patient did well for a few days, but had septicæmia afterward, and died in five weeks, the age having probably as much to do with the death as anything.

Dr. HOMANS also showed a sarcoma from the leg of a professional baseball player, who had been struck by a ball on the head of the fibula five years ago, since which the tumor had gradually grown. Dr. HOMANS began to amputate above the condyles of the femur, but finding a cord of sarcoma running up the thigh he cut two inches higher, again finding sarcoma. The glands in the groin were slightly enlarged. He then amputated in the middle of the thigh. The patient recovered. At the same time he had a case of round-celled sarcoma in the testicle of a policeman who had been kicked in that organ, both these cases being apparently developed by the blow.

Dr. FRANCIS MINOT asked as to the condition of the ovarian patient.

Dr. HOMANS said that she was beginning to emaciate. She could not stoop because of the size of the tumor, which weighed, including the fluid, thirty-three pounds. He believed that menstruation had been regular.

Dr. W. J. OTIS said that he had a patient with cancer of the rectum, which was supposed by the surgeon to be caused by a kick received in a fight. Dr. Otis did not mean to say that that was really the exciting cause, but no other could be found.

Dr. O. W. DOE read a paper on

#### PSEUDO-MEMBRANOUS ENTERITIS.

Dr. F. W. GOSS said that quite a number of cases had been reported by Dr. Boardman and others since he read a paper on this affection before the Society nearly four years ago. Patients who suffer from the malady are almost always debilitated. Whether their nervous prostration is a cause or a consequence of the disease has been a matter of diversity of opinion. The pain and discomfort which accompany paroxysms of the trouble may account for the nervous prostration of the patients. The length of the pieces of the membrane-like discharge in the case reported by Dr. Doe—twenty-seven inches—is

unusual, though not unique. Occasionally one is fortunate enough to escape with but a single attack, but the rule is for recurrences at intervals of months or years. The first of the cases reported by him four years ago has since had a repetition of the malady about once a year; the second case has not had any severe paroxysms, though from time to time there have been small quantities of the peculiar discharge. Some have held that the trouble is due to habitual constipation, but recurrences take place where the bowels have been kept by mild laxatives in a tolerably regular condition. As stated in his own paper he thought the term enteritis, as applied to the disease, to be of doubtful propriety, as marked inflammatory symptoms are not usually observed in the attacks. In fact, we know very little of the pathology of the disease, as it is rarely fatal, and no very satisfactory post-mortem observations have been recorded.

Dr. J. B. AYER suggested the use of occasional doses of castor oil; for the reason that he thinks it has a peculiarly good effect when given to patients with dysentery in which there is a local disease of the intestine, as there seems to be here.

Dr. C. M. GREEN spoke of a case he had seen, in his service at the City Hospital, in which apparently there had originally existed a

#### DOUBLE VAGINA.

Beginning just within the introitus vaginae there extended along the posterior vaginal wall in the median line a partial septum about three sixteenths of an inch in thickness: the height of the septum at the introitus was about three fourths of an inch, diminishing gradually to perhaps one fourth of an inch at the posterior lip of the cervix, to the centre of which the septum was firmly attached. In the median line of the anterior vaginal wall, beginning just within the introitus, was a fine linear cicatrix about two inches in length indicating the probable place of attachment of a part, at least, of the now free border of the septum. The uterus was normal.

The patient did not begin to menstruate until she was eighteen years old: she was never regular and always suffered more or less menstrual pain until after the birth of her first child, a year and a half ago, since which time the dysmenorrhœa has very much diminished. She carried her child to full term, and her labor lasted three days: she described the pains of the expulsive stage as sharp and tearing in character. The child was delivered without instrumental assistance, but was stillborn.

#### CHICAGO MEDICAL SOCIETY.

LISTON H. MONTGOMERY, M.D., SECRETARY.

STATED meeting, April 20, 1885. The Vice-President, C. W. PERRY, M.D., in the chair.

Dr. H. GRADLE read a paper entitled

NERVOUS SYMPTOMS DUE TO OVERLOOKED ANOMALIES OF THE EYE AND EAR,

in which he referred to a classification of diseases according to their etiology which he proposed at the last meeting of the Illinois State Medical Society, in 1881.

The paper now read contained reference to several cases which had come under the author's own observation. The special interest of these cases lies in the fact that the local eye and ear symptoms were so insignificant that the primary trouble was either wholly overlooked, or was not supposed to have any connection with the more annoying nervous symptoms in other parts of the body.

The only region of the eye the irritation of which the author has known to cause disturbance in distant parts of the body is the ciliary muscle. The condition of undue strain to which this muscle is subjected in hypermetropia and astigmatism is perhaps a prominent aetiological factor in these cases. The most frequent symptom caused by eye-strain is headache, which is always frontal or temporal, though in nervous subjects it may extend over the whole head, and even to the back of the neck. In some cases the pain is constant, in others it occurs only after undue exertion of the eyes. In very many cases moderate pain exists all the time, but it is increased by work. It is usually described as a dull, aching pain. This form of headache has often been permanently removed by the use of spectacles. In some cases of astigmatism it is necessary to keep the ciliary muscle paralyzed by the application of atropia for a few days in order to have the glasses fitted. The reader could not corroborate the view that hemicrania is sometimes due to refractive anomalies, or rather to the eye-strain produced by them. He has never seen migraine cured by glasses alone, though it is not to be doubted that the correction of the strain will facilitate the cure or mitigate the migraine at any rate. Dizziness, with or without headache, is a common result of eye-strain; there is rarely, however, any danger of falling or reeling, and it is more commonly a dazed feeling, or a difficulty of concentrating both thought and sight upon the same object.

Gastric disturbance sometimes occurs as a consequence of refractive difficulties; patients sometimes complain that an eye-strain of which they are conscious will produce a feeling of uneasiness in the region of the stomach. The reader cited the case of a man, thirty-three years of age, for whom he had prescribed moderately strong concave cylinders in spectacle frames, on account of intense eye-strain, headache, and dizziness. When the patient was seen, three years later, he was well, so far as his eyes were concerned. A few months ago, however, he had a new pair of glasses made, and since that time he has felt somewhat dazed at times, and frequently slightly nauseated; he had lost his appetite, and rather loathed his food. The new glasses were in eye-glass frames, and the direction of the axes was not proper or constant. On the patient returning to the spectacle frames all symptoms of gastric disturbance disappeared.

Aural lesions may also cause disturbance in distant parts of the body. Dr. Grady has notes of fifteen cases in which treatment of ear trouble caused symptoms in other parts of the body to disappear. One case was that of a young man in whom an eczema of the meatus caused troublesome cough for some time; an application of a strong solution of nitrate of silver to the well-demolished and scraped surface caused the cough to disappear entire-

ly. Another case was that of a child in which the removal of a plug of exfoliated epithelium from the external auditory meatus stopped regular attacks of spasmodic cough. The most frequent reflex lesion caused by this disease of the ear (epithelial exfoliation) is headache, generally diffuse, and often very persistent. This affection of the epithelium is always accompanied by some interference with the permeability of the Eustachian tube. Two cases of neuralgia of the fifth nerve, on the affected side, leading to the detection of the ear trouble, were cited.

While vertigo quite often accompanies any disease of the middle ear which increases the intralabyrinthine pressure, the writer has never observed dizziness unless the patient was aware of the ear trouble, except in very young children. He mentioned the case of clonic spasm of the eyelid produced by the presence of a bead in the ear, in a very young child, and also a case of spasmodic torticollis resulting from irritation of the external meatus in a child four years of age.

There was no discussion on this paper.

Dr. F. E. WAXHAM read a paper on

#### THE TREATMENT OF CROUP AND INTUBATION OF THE LARYNX.

After giving an exhaustive summary of the many remedies for the treatment of this affection, the reader said that to Dr. J. O'Dwyer, of New York, belongs the credit of originating this bold and ingenious device for treating croup. Concerning this method he drew the following conclusions: (1) With a little dexterity and practice it can be easily and quickly performed and without danger; (2) the patient is not mutilated or disfigured; (3) there is no wound to cause shock, or to become the source of septic infection; (4) the tube can be worn much more easily than the ordinary tracheotomy cannula, and coughing and expectoration are just as easy; (5) it does not require the close care of a tracheotomy; (6) the air that reaches the lungs is warmed by its contact with the upper air-passages, and is not so likely to cause bronchitis or pneumonia; (7) parents will consent to tubing much more readily than to tracheotomy.

Dr. F. O. STOCKTON stated that three years ago, in Vienna, he began making experiments with the idea of devising something to replace or take the place of tracheotomy in the treatment of croup. His first idea was to fasten in a male silver catheter passed through the mouth, but he soon found that would not do, as it prevented the taking of food and was liable to inflict injury by the free end coming in contact with external objects. Then he cut off a piece of silver tubing and turned a flange on it, the flange to rest on the vocal cords; but that would not do, as it was soon coughed out, the tube being only an inch long. Next he made a triangular tube the shape of the glottis when at forced inspiration. This was retained better, but it was finally coughed up also. After that he made a tube of the same shape, with the addition of two spring flanges to spring out below the vocal cords; this was retained, but caused a good deal of inflammation, and could only be removed with difficulty,

as the mucous membrane would swell in around the flange.

All of his experiments were made without any knowledge of the experiments of Dr. O'Dwyer. Honor to whom honor is due, and Dr. O'Dwyer, he thought, has apparently successfully solved the problem of tubing the larynx.

Dr. D. A. K. STEELE corroborated the statement of Dr. Waxham, so far as immediate relief was afforded to a child he had seen in consultation with him, and that the child took fluids from a spoon slowly and swallowed semi-solid boluses of food.

Dr. EDMUND ANDREWS had not tried tubing the larynx. He believed it was an important operation, and hopes it may prove to be the one *par excellence*, at least until something better is invented. The speaker inquired of Dr. Stockton if any suspicion or probability exists that the lower flange might slip down into the trachea, or is it liable to be drawn into it, or if the weight of the tube is sufficient to overcome the resistant nature of the vocal cords.

Dr. STOCKTON replied, No, there is no danger of the tube being drawn into the trachea, owing to the resistant nature of the vocal cords; and, again, the length of the tube is such that it nearly reaches the bifurcation. The tube used is not liable to fill up with membrane. As they are gold-plated and cannot corrode, their inner surface is perfectly smooth, and will not afford lodgment to foreign bodies that would plug the tube and cause it to be drawn into the trachea by inspiration.

Dr. WAXHAM closed the debate by stating that the effort to remove the tube will cause contraction of the glottis. The longer the tube remains the less danger there will be of expelling it.

#### PATHOLOGICAL SOCIETY OF PHILADELPHIA.

THURSDAY EVENING, April 9, 1885. The President, Dr. SHAKESPEARE, in the chair.

##### CASE OF ABSCESS IN THE SUPRA-RENAL CAPSULES.

By Dr. EDWARD T. BRUEN.

The accompanying specimens were removed from the body of Mary S., aged fifty-seven, who died in the Philadelphia Hospital. Two weeks before death she was admitted to the medical ward, and within a few days a circumscribed swelling in the left femoral region developed into an extensive abscess. Death occurred apparently from septicæmia. No satisfactory previous history could be obtained.

Post-mortem examination disclosed: Left kidney one third larger than normal. Capsule quite adherent. Upon removal the section showed a granulated surface, pale and mottled. The pelvis of the kidney much dilated, that is, general evidences of parenchymatous nephritis.

Supra-renal body very much enlarged, and closely united with the kidney by strong inflammatory adhesions. It was of the size and shape of a hen's egg. On section showed cystic degeneration, or softening of the medullary portion, the contents of the cyst being a thick, purulent, creamy liquid filled with cheesy particles.

The cortical portion shows fibroid thickening, forming a dense connective-tissue wall one fourth to half an inch in diameter.

The right kidney was of normal size, but showed similar changes to the left.

Right supra-renal body normal.

Other abdominal organs normal. No peritonitis. Abdominal and other lymph glands throughout the body normal.

Thoracic organs normal.

On examination of left femoral region a large tumor was found. Upon section pus exuded freely, and a large abscess was discovered between the extensors and adductors and lying beneath the sartorius. The abscess extended into the hip-joint; the acetabulum and periosteum of the head of femur were eroded.

The comparative rarity of disease of the supra-renal body lends an interest to any lesions affecting it. Dr. Shakespeare has made some sections of the capsule of this tumor without finding any tubercular structure. There was no bronzing of the skin, nor any other symptoms than those naturally to be expected in association with a large abscess, such as was found in this case. These facts, together with the unilateral character of the lesion, incline me to consider this specimen as one of abscess in the supra-renal body.

Dr. O'HARA asked whether this might not be a surviving abscess left after the absorption of other pus centres, as he thought sometimes occurred.

Dr. NANCREDE combated this novel view, contending that while fugitive visceral congestions sometimes occurred in pyæmia, which readily disappeared, as well as certain collections of white blood cells in the thecae of tendons and the bursa contiguous to joints, yet he did not believe that septic emboli producing infarcts could be absorbed, as maintained by Dr. O'Hara. Besides, if this explanation were correct, the clinical history should indicate something of the sort, which it did not, being one of *septicæmia*, not pyæmia.

Dr. BRUEN said that there were one or two points of interest upon which he had not touched in the notes already read. The patient had led a dissipated life, having been brought into the hospital from one of the "slums" of the city. He had supposed that the woman had received some injury, such as a blow, which had given rise to the abscess in the groin, and she had died with symptoms of septicæmia. He had therefore regarded the abscess in the renal capsule as secondary. The localization of the pathological process in but one capsule, the absence of bronzing of the skin, vomiting, or vaso-motor disorder, separated the case from Addison's disease. Indeed, it may be said the *ensemble* of the latter disease was wanting. Cases of Addison's disease have been described as being associated with abscess, but the disease was always bilateral and in association with a special train of symptoms and with the absence of other pathological processes in the system. The most valuable compilation of cases of diseases of the supra-renal capsules up to the year 1866 could be found in the seventeenth volume of "The Transactions of the London Pathological Society," 196 cases having been collected by Dr. Greenhow.

SPECIMEN OF ANEURISM OF THE AORTA, WITH RUPTURE INTO THE TRACHEA IN TWO PLACES, AND PERFORATION OF THE OESOPHAGUS.

Presented by Dr. OSLER.

W. J., aged fifty-four years, colored, a teamster by occupation, and accustomed to do heavy work. Has been healthy and strong; no history of syphilis. In August, 1882, he began to suffer with pains in the chest and left shoulder, but he did not have any serious inconvenience until September, 1883, when he was attacked with cough and thoracic trouble, possibly pulmonary, which kept him in the house and in bed for several months. It was not until May of last year that he was able to work. Since July he has had at times attacks of shortness of breath with wheezing, and often at night has had to sit up in bed. Within the past three weeks the pains in the shoulder and down the left arm have become very severe, and the cough and shortness of breath have increased. Note on admission was as follows: Well-built man, face thin, general *musculature* good. Inspiration rough and noisy, expiration loud and harsh, and often accompanied by a brazen, laryngeal cough. Respiration, eighteen per minute; can rest in the recumbent position. On inspection the left side of the neck is much flattened, especially above the clavicle, and the sternomastoid muscle on that side is evidently atrophied. Apex-beat visible in normal position; no abnormal pulsation; slight visible pulsation in vessels of neck. Palpation in the ordinary way negative, but on firm pressure with one palm on the upper bone of sternum and the other on the back, a distinct impulse can be felt and the second sound is accentuated; deep pressure reveals pulsation above sternum and behind left sternoclavicular joint. Percussion reveals a slight area of dullness over left half of the manubrium sterni and beneath left sternoclavicular joint. Heart dullness not increased. Auscultation; heart sounds clear. At sternoclavicular joint, when the breath was held, there is a soft double murmur, the diastolic the louder, and the second sound seems markedly accentuated. These murmurs can be heard over the left carotid and in supra-sternal notch. The tugging at the trachea was marked on elevating the larynx; pupils equal. The left radial pulse is smaller than the right and is slightly retarded. Lungs negative; loud tracheal and bronchial stridor; no pressure signs on either bronchus. Patient expectorates much thin muco-serous fluid, which is blood-tinged, and at times there are more consistent sputa containing much blood. He was ordered to take twenty grains of potassium iodide three daily and to rest quietly in bed; no restriction as to diet. Laryngoscopic examination showed that the left cord was immobile. Within three weeks he was greatly benefited as regards the pains, cough, and wheezing, and the blood had disappeared from the sputum. Throughout February he remained very well, having occasional attacks of spasmodic coughing at night, which were relieved by spirits ather compound. His general health improved and he was allowed to get about the ward. Sputum occasionally tinged with blood. On March 19th he was shown to the class, and the following

changes noted: Slight increase in substernal dullness on firm percussion; more marked accentuation of second sound over this region; persistence of the double murmur, which was now also to be heard just to the right of the sternum and at the aortic cartilage, and at this point it was the loudest. No increase in the pulsation, but in certain lights a slight impulse at the upper part of the sternum was visible. At the beginning of the month he began to be more wheezy, the stridor was very marked, and the dyspnoea became urgent, so that he had to sit up in bed. Sometimes these attacks would come on suddenly. On the 3d and 4th the dyspnoea was severe and he got much weaker. On the 5th and 6th he spat up some bright blood, but not in any great amount, and gradually sank, dying at 9.30 P.M. The specimen removed by Dr. Hamaker shows an aneurism of the aortic arch which occupied a position between the first bone of the sternum and the spine, very firm, solid, and about the size of an orange. The entire arch is dilated, but the sac of the aneurism involves especially the upper posterior part and is lined with dense, yellow, fibrous laminae. The orifices of the innominate and left carotid are free, that of the left subclavian is considerably narrowed by atheromatous ridges. The great veins are not compressed. The left recurrent laryngeal passes round the sac, is much stretched and looks thinned; the right is normal. The trachea is much compressed about the middle of its course, and the aneurism causes a marked bulging on the left side, where two perforations can be seen. The upper one, about six centimeters from the bifurcation, is only two or three millimeters in diameter, and the tissues about it are thickened, dark, and the mucosa somewhat fibroid. The lower orifice is smaller and looks more recent. Neither of these lead directly into the sac proper, but into a small pocket situated between the dense laminae of fibrin and the thinned tracheal wall. On inspecting the oesophagus, an oval perforation was found seven centimeters from the cricoid cartilage, which communicated directly with the sac, but was partially blocked with fibrinous clots. The stomach was found distended with fresh clots and there was much altered blood in the small intestine. Collapse and congestion of the bases were the only changes in the lungs. The heart was not hypertrophied; valves were normal, muscle substance flabby and in a state of fatty degeneration and brown atrophy.

The points of interest in this case were the repeated bleedings extending over several months, and the associated wasting of the muscles of left side of the neck. At first the bleeding was looked upon as an indication that erosion of the trachea had occurred, but subsequently it was thought more probable that it came from swollen mucosa at the site of the compression. No doubt the first supposition was the correct one, as the upper of the perforations had probably been the source of the bleeding, but the firm, leathery clots effectually prevented any profuse hæmorrhage. The final bleeding into the oesophagus also took place very slowly, probably during the last thirty-one hours of life, as there was dark, much altered blood in the ileum. It is impossible to say upon what the atrophy of the neck muscles depended, as no care-

ful dissection was made of the nerves in that region; possibly the sympathetic was affected, but there was no difference of the pupils.

In reply to a question, Dr. Osler said that the iodide of potassium was given chiefly with a view to relieving the pains, and it had the desired effect.

#### A FOUR-LOBED LUNG.

Dr. W. A. EDWARDS read an elaborate description of a specimen of the lungs where the right had four lobes. The paper was accompanied by a careful drawing of the specimen, which had, unfortunately, been destroyed by the evaporation of the preserving fluid.

Dr. OSLER asked whether there had been any dissection made of the bronchi and bloodvessels of the abnormal lobe.

Dr. EDWARDS replied that no very careful dissection had been made, as he wished to preserve so rare a specimen, but, as far as his examination went, he could see nothing abnormal.

Dr. H. R. WILKINSON presented a specimen removed by amputation from a patient in the University Hospital, under the care of Professor Ashurst, which showed a marked degeneration of the knee-joint, resulting from inflammation of that articulation.

The patient from whom this specimen was removed was a man aged forty years, who, three years before, had received a slight injury of the right knee, which caused him more or less trouble up to January, 1885. At this time, while at his work, he twisted the affected knee; this injury was followed by an attack of acute inflammation which went on to suppuration and destruction of the cartilages. The patient, when admitted to the hospital, had a high temperature, profuse sweats, and a rapid and feeble pulse. His condition was so urgent that it was deemed advisable to remove the part by amputation rather than to make use of the more conservative operation, excision of the knee-joint.

### REPORT OF THE PROCEEDINGS AT THE THIRTY-SIXTH ANNUAL SESSION OF THE AMERICAN MEDICAL ASSOCIATION AT NEW ORLEANS.

#### GENERAL SESSION. — FOURTH DAY.

The following nominations completed the list from the Committee:—

*For Trustees of the Journal.*—Drs. J. M. Toner, of Washington, D.C.; J. H. Hollister, of Chicago, Illinois; E. M. Moore, of Rochester, New York.

*Committee of Arrangements.*—For Chairman, Dr. LeGrand Atwood, of St. Louis, Mo. Assistant Secretary, Dr. William Glasgow, of St. Louis. Judicial Council, Dr. J. K. Bartlett, of Milwaukee, Wis. (*vice* Dr. Brodie, of Detroit, resigned).

The following resolution, referred to the Association by the Section on State Medicine, was adopted:—

*Resolved,* That the Section on State Medicine heartily recommends the appointment in each State of a State Board of Medical Examiners and Licensors.

That the Committee appointed by the Association shall construct and forward to each State Society the form of a bill, the passage of which by the Legislatures these Societies shall be requested to urge strongly.

Dr. KELLER, of Arkansas, asked that his resolution in regard to

#### CREMATION.

which has been lying on the table for some years, be considered. The resolution, which was as follows, was referred to a committee to report next year:—

*Resolved,* That in the near future, if not now, cremation will become a sanitary need in the cities.

Dr. J. A. WHITE, of Richmond, Va., read the address in

#### OPHTHALMOLOGY, OTOTOLOGY, AND LARYNGOLOGY.

in which he considered the advances in these different departments during the year.

Cocaine he considered almost useless in children and obstinate patients, when the eye is greatly inflamed, and in all lengthy operations.

Dr. J. H. PORE, of Texas, then delivered the address on

#### DISEASES OF CHILDREN.

in which he treated specially of the treatment of diphtheria by bichloride of mercury, and of the etiology of rickets and the part prolonged nursing takes in its production.

#### A SECTION OF MEDICAL JURISPRUDENCE.

Dr. I. N. QUIMBY, of Jersey City, New Jersey, reported from the committee to consider the President's suggestion in his address that a section on forensic medicine be added to the present list of sections, a recommendation that such a section be formed and styled a Section on Medical Jurisprudence, and that the Constitution be amended to admit of this addition to the existing sections.

Dr. TOXER, of Washington, D.C., Chairman of the Committee on Necrology, stated that all deaths had been promptly printed in the *Journal* of the Association since its establishment.

An attempt to separate the Section on Ophthalmology, etc., into two separate sections was defeated.

#### THE NOMINATING COMMITTEE.

The resolution of Dr. Cochrane offered last year to the effect that the Association disapproves of the selection by the Nominating Committee of members of their own committee for the various offices of the Association was warmly discussed and laid upon the table.

Dr. H. N. BYRN, of Quincy, Ill., offered a resolution to the effect that each State Medical Society shall appoint annually a member of the Nominating Committee and three alternates, the members thus appointed by the several States to constitute the annual Committee on Nominations of the Association. Laid over for one year.

Dr. M. H. HENRY was appointed a delegate to the British Medical Association.

The usual vote of thanks of the Association for the courtesies from the profession and citizens of New Orleans, mentioned especially Dr. and Mrs. T.

\* Concluded from page 453.

G. Richardson, Mr. and Mrs. Cartwright Eastis, the Jockey Club, the Washington Artillery, and the Directors of the Tulane University.

#### MEDICAL SECTION. CONCLUSION OF SECOND DAY.

One feature of this day's proceedings was a paper by Dr. N. S. Davis, of Chicago, upon

#### THE RELATION OF CLINICAL FACTS TO THE QUESTION OF THE CONTAGIOUSNESS OF PHTHISIS PULMONALIS.

In this essay, Dr. Davis treated anew the well-worn arguments against the germ theory of tuberculosis and held up the famous bacilli of that disease to ridicule. He quoted statistics to prove the exemption of hospital attendants from contagion, and laughed at inoculation experiments. Supposing that tuberculosis does follow the inoculation of bacilli, who can assert that these germs are sown pure and undefiled of other associated matter deleterious in its nature? and who can say that the poison may not be the excreta of the bacilli rather than the creature itself? When any one shall obtain an individual bacillus, and holding him by the tail isolated from all impurities shall then produce tuberculosis by implanting him in previously healthy tissue, Dr. Davis will allow the specific character of tuberculosis.

#### DISCUSSION.

Dr. LYNCH, of Maryland, endorsed the views of Dr. Davis in the discussion of this paper.

Dr. WHITTAKER, of Cincinnati, said that it was hard for him to understand how any one who had made himself familiar with the recent literature of tuberculosis could refrain from subscribing to the view that this disease is as directly due to the bacillus as is trichinosis to the trichina spiralis. He would as soon think of reciting the letters of the alphabet as naming over the experiments which had led up to the knowledge of the fact that this was a specific disease. He would allow himself only to say that Cohnheim, who was the most authoritative dissenter from this view, finally had to retract his opposition and admit the specific nature of it. The discovery of the cause of it by Robert Koch did not rest simply upon the presence of the bacillus, but upon his ability to isolate it, cultivate it, and inoculate it. There are no facts in our profession which have such a broad foundation as this, not even those that support trichinosis or scabies.

The speaker would notice only two points offered by the essayist. One to the effect that if the disease be contagious, there should be more victims. Now it is already admitted that tuberculosis destroys two sevenths of mankind. These are the fatal cases, but every clinician knows that the majority of cases of tuberculosis do not die. At least every pathologist knows that in the vast majority of autopsies upon patients dead from other diseases tuberculous nodules, cicatrices, or apical pleuritic adhesions are found in the lungs. It is perfectly safe to say that more than half of mankind are at some time or other affected with tuberculosis. It is an exception to find upon the post-mortem table a pair of lungs absolutely free of evidence of existing or pre-existing tuberculosis. It is useless to dilate upon a fact so well known as this.

The second point was the alleged exemption of attendants and other patients in the wards of hospitals common to all diseases where tuberculous patients were always present. Now this same remark has been made of other diseases, notably by Murchison of typhoid fever, which are admitted on all sides to be contagious. But aside from this fact, and of the more perfect ventilation of hospitals, and of the more prompt and perfect destruction of tuberculous products, the sputum is destroyed before it dries to be disseminated. The statement ignores absolutely the period of latency of tuberculosis. Did the essayist follow up for years the history of the attendants to know that none of them had tuberculosis? Do we not know of cases of scrofula, caries of the vertebrae, tuberculous joint affections, etc., that the development of these affections is often delayed for months or even years? Other seeds in the vegetable world may lie dormant for twelve years, the botanists tell us. We know that tubercle bacilli may be inoculated after six months' deprivation. Who shall say as yet how long these bacilli may lie latent awaiting the moment of fertilization to spring into growth?

The speaker declared that it was the greatest pride to him to know that all the main facts regarding tuberculosis, those that offer us hope in the extermination of this germ, which is preëminently the parasite of man, were made known to us long before the work of the scientists proper by the clinicians themselves. They who are familiar with the literature of tuberculosis will remember that William Budd, over a quarter of a century ago, proclaimed, in the clearest terms, the contagious nature of it, and also showed how easy it would be to stamp it out by the destruction of the products of the disease. It was because practitioners of medicine refused to believe the declarations of one of the most keen and far-sighted of their own number that they had to wait for demonstrations of the exact character of the specific and contagious element in that branch of the school of science which is itself the most exact and incontrovertible. Clinicians may ridicule the work of the experimenters with which they are not familiar, but they should hesitate to deride that of their fellows who had come to the same conclusions by bedside observations long before the modern science of mycology was known.

#### THIRD DAY.

The leading paper of this session was upon  
CHOLERA AND ITS TREATMENT,

by Dr. J. H. Hollister, of Chicago. After a brief review of the history of cholera, the writer formulated his conclusion that it is not an endemic disease of America, but is imported from foreign countries. It is not transmitted by ocean or atmospheric currents, but is brought by individuals or by materials which have been in contact with cholera patients, and it never spreads inland from infected ports except along "the lines of travel." In regard to the nature of cholera Dr. Hollister inclined strongly to the theory of a specific cause but he felt that it is not yet proved that the comma bacillus is the particular germ. The causes which form the development of the disease are

warmth, atmospheric moisture, and the presence of organic substances in process of decomposition.

Dr. Hollister then discussed the importance of proper prophylactic measures — "whether we endeavor to estimate the value of human lives or the unnumbered millions of money involved in a widespread epidemic of cholera, we are prompted by motives which have scarcely a parallel, to the utmost of our effort, to educate our rulers and the masses of the people to the exigencies of the hour." The surveillance of ships and shores should be rigorous, and local authorities should exercise a strict surveillance of all its citizens. House-to-house inspection should be made and often repeated to abate all nuisances and control ignorant transgressions of the laws of health.

In regard to the care of individual cases of cholera, the writer said he had had extended experience with the disease during the epidemics of 1848, 1854, 1856, and 1873. "The inspiration of hope and confidence are primal necessities." The beginnings of the disease must be quickly brought under control. The slightest disturbance of the bowels must be attended to, and an early diagnosis will render remedies of most avail. "A hot bath for fifteen minutes, the quick envelopment of the entire body in dry hot flannel immediately after bath, the stimulation of the cutaneous surface with dry mustard and with friction under cover, artificial heat so applied as to secure, if possible, free perspiration, — these all conspire to divert the circulation and save from intestinal congestion. From this time the patient should be compelled *absolutely* to the recumbent position." The drinks should be bland and mucilaginous. Hot water is beneficial as a drink. No solid food should be allowed under any circumstances. Acidulated drinks are pleasant and beneficial. "Of all remedies to be administered internally I hesitate not to say that opium heads the list. Stimulants may be given in the stage of greater prostration. Camphor is one of the most valuable stimulants." Dr. H. does not believe in the hyper-dromic injections of water.

The discussion was opened by a paper from Prof. AUSTIN FLINT, of New York, who heartily endorsed the germ theory of the disease. He thinks that opium has no competitor in the early stages of the disease, that is, *prior* to collapse. "It is a fair statement, perhaps, that a patient in the advanced stage of the disease has as good, if not a better, chance of recovery, if nothing potential be done in addition to maintaining absolute rest and the introduction of fluids as freely as the stomach will retain them."

Dr. N. S. DAVIS, of Chicago, said that he had studied the germ theory of cholera for a long time and had obtained as good comma bacilli from the serous discharges of ordinary diarrhoea as from choleraic discharges and he had no belief in the germ theory. He also disavowed belief in the contagiousness of cholera. In his experience a case occurs in one part of the city and the next appears at some other remote part of the city. They need have no connection with each other, or with shipping or with any common cause. He does not believe, therefore, in quarantine or other restrictive measures. It is idle to talk of stamping out the

disease by such measures. He thinks the disease arises from condition of the soil and atmosphere. Fresh free rains repress cholera. Dry, hot seasons with boggy land favor its development.

Dr. G. F. JENKINS, of Iowa, has noticed that a difference of opinion exists regarding every so-called contagious disease. He has even heard men doubt the contagiousness of scarlet fever. He felt, however, that the profession are the guardians of the people and should defend them in every way. No one ought to stand up and talk against preventive measures.

Dr. SCHAUFLER, when a boy, witnessed an epidemic of cholera in Constantinople, Turkey, where it raged with terrible violence. The thirst was insatiable and tormenting, but he noticed that those who resolutely refused to drink, though suffering the agonies of the damned, got well, while those who drank water died. He would, therefore, take exception to Professor Flint's advice to allow water to cholera patients.

Dr. J. T. WHITTAKER, of Cincinnati, said that we know that cholera is a disease that multiplies itself in the body and is transmitted to other bodies after the manner of germ diseases. Neither Koch, nor any of his followers, however, have definitely claimed that the comma bacillus is the definite cholera bacillus.

Dr. N. GAY, of Ohio, said: "If you find a man in black collapse and he can still pass a little water, put your ear to his chest. If you can still hear the regular tick-tack of his heart, work with him; there is hope. If, however, either heart-sounds are obscured you need not trouble yourself any further. He is gone."

The second paper was

#### HEMORRHAGIC MALARIAL FEVER,

by JEROME COCHRANE, M.D., of Montgomery, Alabama.

This is a peculiar form of malarial fever which is quite common in some parts of the South. It may be intermittent, remittent, or congestive. A fourth or quasi-continued form may be added, though this form is very rare. Whites alone are affected. Negroes are exempt. It usually attacks persons who suffer from malarial cachexia but may occasionally seize people hitherto well. One attack affords no guaranty against others. The characteristic feature of this disease is the intermittent recurrence of a high-colored port-wine urine. Specimens of this urine were sent to Dr. Sternberg and Professor Martin, of Johns Hopkins University, who reported that the urine contained no blood corpuscles, but was rich in hæmoglobin as shown by spectrum analysis and by the formation of hæmin crystals when the urine was treated with glacial acetic acid, chloride of sodium, and heat. Dr. Webb, of Alabama, however, states that he has observed the blood-cells in the freshly voided urine and thinks they must have become dissolved during the transit of the specimens to the observers mentioned.

In addition to the peculiar urine there occur chills of protracted duration, speedily followed by troublesome bilious vomiting and icteroid discoloration of the eyes and skin. The prostration is excessive, the temperature and pulse are not usually very high

but there may be exceptions. The bowels are usually constipated; the vomitus may vary in color, being yellow, green, black, or even blue.

The black vomit is usually altered bile, but not blood. It is free from the coffee-grounds appearance of the black vomit of yellow fever. When this black vomit occurs it is almost always at the beginning of the attack, and is always preceded by red urine. The jaundice appears early and varies in intensity during the attacks. It may grow less toward the end of protracted fatal cases, and sometimes disappears completely after death.

The bloody urine usually shows itself with the initial chill and always in an early stage of the paroxysm. It is profuse at first and then lessens. It may disappear during remissions. Toward the end of fatal cases there is frequently complete suppression of urine. This red urine is highly albuminous and contains granular casts in abundance. As the result of his analysis of 642 cases reported, Dr. Cochrane found that about twenty-five per cent. of all cases died.

Post-mortem appearances are substantially the same as are found in other malarial diseases. The liver is enlarged, congested, and of a dark bronze or slate color. The bile is abundant in the gall, bladder, and intestines. The spleen is enlarged and congested. In addition to these conditions the kidneys are also enlarged and congested.

In the discussion following Dr. Cochrane's paper it was evident that the opinion of the Southern physicians is divided as to whether this is a distinct disease by itself, or merely a modification of ordinary malarial attacks. As to treatment, nearly all the speakers were emphatic in the assertion that quinine is utterly *valueless*. Some even assert that it is injurious in this disease, and increases the hemorrhage from the kidneys. Dr. Cochrane says the broad fact remains that in the treatment of this most dangerous of malarial maladies, quinine, the great malarial remedy, has lost ground, and is still losing ground, in the confidence of the profession. An equally unanimous opinion seemed to prevail that calomel is the drug *par excellence* for this disease. It is given in small doses, and some combine it with soda. One physician recommends orange and lemon juice *ad libitum*. Dr. Cochrane says the chief reliance for the relief of the overburdened kidneys must be sought in the compensating action of the bowels, and especially of the skin.

One remarkable case is reported, where a patient was comatose: the urine reduced to three ounces in twenty-four hours. A hypodermic injection of pilocarpin caused copious sweating in five minutes, and the man gradually recovered his consciousness and got well.

although none of them (including the above-mentioned ones) fill the gap which the medical public finds from the lack of a comprehensive, reliable, thorough, readable work by an expert on the subject, each one seems to approach nearer to the standard.

Of Dr. Knight's book it may be said that the second edition is an improvement on the first, but, to speak frankly, the rate of improvement is such that we would advise the reading public to await the tenth edition, at least, before devoting any time to the work, which is superficial, inaccurate, and, though based on the observation of many and a great variety of cases, resembles the work of a skilful surgeon much as a treatise on banking by a receiving-teller would the dictum of a king of finance.

Mr. Reeves writes from the standpoint of a surgeon who has done many osteotomies, and who has seen work done in a thorough way in certain branches.

The ground covered by the writer is indicated by the title, but he purposely omits the deformities following diseases of the joints, which, with the diseases of the joints, he leaves for other writers.

We cannot think that the author is familiar, practically, with the application of appliances, if we may judge from the pictures, but he has familiarized himself with the literature of the subject and takes a catholic and comprehensive view.

The illustrations are copious and very poor, resembling the eruption which has appeared of late in our American daily newspapers. If we must have such pictures in our medical books, why not drive them to the end of the volume, like Lord Timothy Dexter's punctuation, to be used as the reader's taste prompts, instead of allowing these foci of incompletely developed matter to breed mischief under the protecting tissue of quite sensible text, safe in dispersion from the destructive zeal of the surgeon.

The chapters on lateral curvature, club-foot, rickets, deformities of the upper limb, germ valgum, and osteotomy have much that is readable and instructive.

*Cocaine and its Use in Ophthalmic and General Surgery.* By H. KNAPP, M.D. (Reprinted from the *Archives of Ophthalmology*, December, 1884.) With Supplementary Contributions by Drs. F. H. Bosworth, R. J. Hall, E. L. Keyes, H. Knapp, and William M. Polk. Pp. 87. New York and London: G. P. Putnam's Sons. 1885.

The greater part of the volume is formed by the reprint from the *Archives of Ophthalmology*. This comprises a translation of the original paper of Dr. Koller, and brief abstracts from the numerous communications on the subject which had appeared when the article in the *Archives* was written, together with remarks on the pharmacology of cocaine, its physiological and therapeutical action and special application in ophthalmology. The eagerness with which the new anæsthetic was taken up and its effects observed and recorded is well illustrated here. The remainder of the book is composed of papers on the use of cocaine in otology, in the upper air-passages, in general surgery, in genito-urinary surgery, and in gynecology and obstetrics.

## Recent Literature.

*Orthopædia.* By JAMES KNIGHT, M.D. New York: J. H. Vail & Co. 1884.

*Bodily Deformities and their Treatment.* By HENRY ALBERT REEVES. Philadelphia: P. Blakiston, Son & Co. 1885.

The number of books which have lately appeared on this subject indicate an increasing interest, and

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**THE INTERNATIONAL MEDICAL CONGRESS AND THE AMERICAN MEDICAL ASSOCIATION.**

IN his address to the American Medical Association at its meeting in Washington last year, its President, Dr. Austin Flint, suggested that the International Medical Congress be invited to meet in this country in 1887. On motion, this portion of the address was referred to a special committee of five, Dr. Billings, of Washington, to be chairman. Subsequently, in accordance with the report of this committee, a second committee of seven was appointed, consisting of Drs. Austin Flint, of New York, G. J. Engelmann, of St. Louis, Christopher Johnson, of Baltimore, I. Minis Hays, of Philadelphia, J. M. Browne, of the Navy, J. S. Billings, of the Army, and H. F. Campbell, of Georgia, President-elect of the Association, to invite, "in behalf of the medical profession in the United States," the International Medical Congress to hold its meeting in 1887 in Washington.

It was further resolved that:—

"The Committee shall elect its own officers, and that, in case the invitation is accepted, it shall proceed to act as an executive committee, with full power to fix the time and to make all necessary and suitable arrangements for the meeting of such Congress, and to solicit funds for this purpose." . . .

"That it shall have power to add to its membership and to perfect its organization, and that to meet the preliminary expenses of printing, postage, etc., the Chairman of this Committee is authorized to draw upon the Treasurer of this Association for an amount not exceeding four hundred dollars."

The invitation was accepted, and the acceptance, as is well-known, was largely due to the influence, the persuasion, and the standing of individual members of this Committee whose names it is scarcely necessary to mention. This Committee, appreciating the value of time, immediately went to work last autumn to complete the organization of committees and officers of Sections, acting as it supposed in its executive capacity. Finally, March

24th, the rules and provisional lists of officers for a preliminary organization of the Ninth International Medical Congress were issued in pamphlet form by Dr. J. S. Billings, Secretary-General, and extensively circulated here and abroad. Dr. Billings then reported what had been so successfully accomplished up to this stage of the Committee's labor to the American Medical Association at New Orleans. Instead of tendering the Committee a vote of thanks through Dr. Billings, the Association was, we will not say led, but stampeded into taking the extraordinary action, recorded in the report of its proceedings, of appointing a new Committee consisting of one member from each State to revise the work of the first Committee, on the absurd ground that the appointment of officers had not been governed by the principle of sectional and local representation. The principle in itself is a poor one applied to this subject, and, moreover, an examination of the list of names shows that all sections of the country are very fairly and worthily represented. It is surely more important that a man should be known to be familiar with the subject he is to direct than that he should come from any particular State, county, or city.

The lists of names of officers as now made out are good ones and cannot easily be improved. The "ins" could be made "outs" and the "outs" "ins"; but that change, with very few exceptions, would only be an improvement to the extent of gratifying some disappointed aspirations for personal notoriety. One thing, however, can certainly be accomplished by the appointment of this new Committee of thirty-eight, namely: a serious delay in the preparations for making the Congress a success, and an infusion of doubt into the minds of the profession in Europe and Great Britain as to the wisdom of coming so far with such uncertainties.

It is reported that this Committee proposes to meet next September, probably in Cincinnati. It may be by that time they will be convinced of the propriety of passing a vote of thanks to the original Committee and adjourning, but even then sufficient mischief to the scheme of the Congress will have been done by the action of the American Medical Association at New Orleans.

We should say that the points to be kept in view by the new Committee of Arrangements when it meets are: the wording of the invitation "in behalf of the medical profession of the United States"; the names of the men upon the Committee of Invitation, without the use of which there would in all probability have been no prospective Congress to squabble over; the subsequent action of these men undertaken in good faith as our *Executive Committee*; the fact that the International Medical Congress has an independent existence with a permanent organization more interested in medical science in the abstract than in local medical politics; that the drawbacks of coming such a distance across the

ocean at much expense, especially to men less accustomed and less able to travel than many Americans, can only be overcome by a united and hearty support of the representative men who have thus far been cordially coöperating with Dr. Billings and the members of the Committee of Invitation; and lastly that the "new code" nonsense had best be allowed to pass into ready oblivion and not be given fictitious importance by further discussion.

It is possible to treat this whole subject too seriously. An editorial in the organ of the American Medical Association, written just after the meeting in Washington, November 29, 1884, of the general committee of twenty-five for the organization of the Congress, shows the official opinion at that time as to the *powers* and *functions* of the Executive Committee. It says: "A liberal basis of representation for the election of delegates to the Congress by the various medical society organizations in this country was adopted, and the work of the Congress facilitated by the establishment of eighteen Sections. The selection of officers of these several Sections was not completed, but left in the hands of the Executive Committee." etc. etc.

#### PUERPERAL PROPHYLAXIS IN VIENNA.

IN recent numbers of the *Revue Médicale* Dr. Lauwers has described at some length the measures adopted in Vienna to prevent puerperal infection; a brief review of these papers may be of interest in connection with the letter of our Berlin correspondent, who details from personal observation the system of prophylaxis now in vogue in the lying-in wards of the latter city.

It may be said that in Germany, if not indeed throughout the civilized world, the views of Semmelweis on the etiology of puerperal fever are now almost universally accepted. Words have indeed changed since Semmelweis, in 1847, first gave his now famous dictum to the world. "Organic animal matter in a state of decomposition," which he then said was the only cause of puerperal fever, has given place to "microbes" and "bacteria"; but the principles laid down by Semmelweis have outlived the sharp criticisms and bitter opposition of his contemporaries, and form to-day the basis of all intelligent prophylaxis.

The lying-in wards of the Vienna General Hospital, in common with those of many other continental hospitals, are subject to the great disadvantage of contiguity to the medical and surgical wards and the pathological laboratories. This disadvantage increases considerably the difficulty, as well as the necessity, of strict prophylaxis, a fact which should be borne in mind in comparing the results of Vienna with those, for instance, of the Dublin Rotunda. The disadvantage is largely overcome, however, by an admirable system of ventilation

designed by Carl Braun, and by a strict rule forbidding the vaginal touch to all who within twenty-five hours have been in contact with surgical wounds, cadavers, ulcerated cancers of the uterus, sloughing uterine polypi, and fetid vaginal discharge after abortions, etc. Moreover, if the patient at the time of admission to the lying-in room has a temperature above 99.5° F., she is immediately removed to a neighboring room, and no one is allowed to examine her without express authority from the assistant on duty.

For the rest, prophylaxis consists in maintaining the most exquisite neatness of the bed by the use of a plenty of clean linen, and in observing certain rules concerning the disinfection of the hands and instruments, and of the external genitals of the lying-in woman. The hands and forearms are to be cleansed by the vigorous use of soap, nailbrush, and carbolized water; they are then to be plunged for some moments, first into a concentrated solution of permanganate of potash, then into a solution of oxalic acid to remove the stain of the former agent. The end of the examining finger is lubricated with carbolized vaselin, one to thirty. This careful disinfection must be repeated before every examination, whether of the same patient or of others. Instruments are disinfected by immersion in boiling water for half an hour before they are used; and before they are replaced in their cases they are to be thoroughly cleansed and again immersed in the hot water.

Great stress is laid on the proper disinfection of the parturient woman. Toward the end of gestation she is recommended to take a sitzbath from time to time, and when taken in labor she is thoroughly bathed and the external genitals doused with carbolized water (two per cent.) or corrosive sublimate (one to 2,000). When the head is on the perineum the woman assumes the lateral decubitus, and in the intervals of the pains the genitals are freely bathed with the disinfectant solution. After delivery the parts are thoroughly cleansed and disinfected with corrosive sublimate, and a compress wetted in the disinfectant and frequently renewed is placed against the vulva.

It will be seen that there is no essential difference in the prophylaxis of the two cities; in both the end sought after is surgical cleanliness, and this end may be attained by enforcing strict quarantine against those who have been in contact with septic material, and by proper cleanliness of the patient and all that comes in contact with her. The rigid observation of these prophylactic measures in Vienna has reduced the mortality to a minimum; patients no longer die in general of septicæmia and pyæmia, but of such extraordinary complications as eclampsia, placenta prævia, and other accidents beyond the power of antiseptic methods to prevent. Thus at last, after nearly forty years, have the labors of Semmelweis borne fruit in the place whence

he first proclaimed the significance of puerperal fever, and where he exemplified the methods by which it could be prevented.<sup>1</sup>

### THE ARTIFICIAL PONDS IN THE NEW YORK CENTRAL PARK.

THERE is a breeze, and not a very salubrious one, just now in the community over the unhealthy condition of the lakes and ponds in Central Park, which are said in reality to be little better than enormous cesspools. Their original construction was a serious blunder, and, apparently, nothing of any moment has ever been done to remedy the evils necessarily incident to their faulty sanitary provisions. Of late their condition has been particularly bad because, on account of the comparative scarcity of Croton water, the Commissioner of Public Works has refused to allow any of the latter to flow into them, and the water which they contain has been supplied from surface drainage. This sends into these basins a vast amount of impurity, and one source of this is the numerous water-closets in the park. In addition, the ponds are not drained because the sewerage in the park is of a different character from that in the surrounding part of the city. In regard to the large pond near the entrance at Fifth Avenue and Fifty-ninth Street, which, from its proximity to the street, is more apt than any of the others to affect the houses of the neighborhood with its dangerous emanations, the president of the Park Commission says that the bottom is several feet lower than the sewer with which it is connected, so that, under the circumstances, there must constantly be accumulating in it a large amount of filth drained from the roadways and closets. The stagnation and appearance of the water in this pond and the stench which frequently arises from it are simply loathsome, and it is not to be wondered at that there has been a large amount of illness among the police force employed in the park. The commissioners have just sent to the mayor a report of an investigation by them of the condition of the ponds and the sources of the contamination of the water, and it is probable that radical measures for the correction of the above, which has so long disgraced the great pleasure resort of the people, will be undertaken at once.

### THE LIMITATIONS OF QUININE IN MALARIA.

ONE of the most important points brought out at the recent meeting of the American Medical Association at New Orleans was the delimitation, so to

speak, of the boundaries of quinine. The terms, the South, malaria, and quinine, have become to us synonyms, and excite in our minds the picture of a thin, sunken-eyed, yellow-visaged, shining wretch, with a bitter taste on his tongue and a roaring in his ears. And, indeed, malaria is the problem of the South. Dr. Jones, of the Health Commission of New Orleans, declares that malaria is the scourge of the Mississippi Valley and that it slays more victims annually than any other disease, not excepting consumption and yellow-fever epidemics.

Now it appears that there is one peculiar form of hæmorrhagic malaria, as described in our report of the proceedings. This is a very deadly form of the disease and kills fifty per cent. of its victims. It is characterized by severe congestion of the kidneys and the escape of blood in the urine. The prostration and suffering are extreme and rapid, and it would seem as if the great anti-malarial quinine was needed here more urgently than under any other conditions, and yet it is just here that its limitations are drawn.

The testimony of the Southern fraternity was almost unanimous that quinine in large or small doses has no curative effect whatever upon this disease. It may control the temperature in some cases, but as this disease is not usually accompanied by high fever a mere antipyretic is not indicated. So far as the chills are concerned the quinine is powerless and it does actual harm by increasing the congestion of the kidneys and producing greater hæmorrhage.

Free use of calomel has given the best results in this disease, and all, in New Orleans, testified to their satisfaction with that drug. It seems like a paradox to think of a Southern physician treating a case of malaria without quinine, but those of us who had experience in our Marine-Hospital Service will recall not a few cases of salivation among sailors coming from Southern ports where there was no reason to doubt that the condition was induced to relieve the patient of malaria and not of syphilis.

### MEDICAL NOTES.

—Dr. Squibb, in *The Ephemeric*, remarks that the official aqua creasoti, or creasote water, a simple one per cent. solution of wood creasote in water, is, like similar solutions of carbolic acid and of cresol, a most effective local anæsthetic and topical dressing to burns and scalds. It is no better than the solutions of carbolic acid, or of coal-tar creasote, for this purpose, but it is quite as good, so that whichever is most accessible or most convenient may be used. This creasote water, as made by the above formula, — or diluted with an equal volume of water, or with more water for delicate surfaces in women and children, — and applied by means of a single thickness of thin muslin or worn-out cotton or linen, such as handkerchief stuff, and the appli-

<sup>1</sup> From the year 1811 to 1817 there died in Vienna about one woman in ten of puerperal fever. In 1817 Semmelweis became assistant in the first obstetric clinic; at the end of 1818 he had lost only one woman in eighty. In the month of March, 1848, he lost only one in 276, and not one in 261 in the month of August. In 1849 he accepted the chair of obstetrics in Pesth, and was succeeded in Vienna by Carl Braun.

cation renewed from time to time, as the return of pain requires it,—will relieve the pain of burns and scalds in five to ten minutes and will maintain the relief as long as the applications are properly renewed or until the painful stage is over. In view of the importance of this preparation for the special use of treating burns, Dr. Squibb expresses surprise at the general adhesion to the old and comparatively useless dressings such as carron oil, white lead ground in oil, flour, liniments, etc., or the newer application of bicarbonate of sodium.

—In his recent Lettsomian lectures on Indigestion, Dr. Lauder Brunton declares acid fruit to be indigestible and apt to cause intestinal irritation. He believes sour wines to be peculiarly liable to cause indigestion, and, when taken regularly, to cause gastric catarrh. The tannin in tea interferes very considerably with the digestion of fresh meat, though such is not the case with dried meat, such as ham or tongue. Tea at breakfast is not apt to produce gastric disorders, but afternoon teas are pronounced bad. Infusions of tea should be “light drawn” and drained from the leaves before serving, as by this means only a small portion of the tannin becomes dissolved in it.

—The oldest medical student on record may be safely claimed to be one who has recently taken a degree at the University of Berlin at the age of 74. He had previously been a missionary in Africa and has returned thither, where he apparently believes practice will be better than preaching.

—A correspondent of the *British Medical Journal* relates an instance of hereditary transmission of Dupuytren's contraction. The patient, twenty-three years of age, has had, from birth, the little finger of his right hand contracted; it is flexed toward the palm of the second and third phalangeal joints, and the whole finger deviates somewhat to the radial side of the hand. On the whole, it is a typical example of Dupuytren's contraction. The patient's maternal grandfather and his mother's brother both have the same finger of the same hand contracted in a similar way; and in both these cases the contraction is said to have existed since birth. The patient has one brother and four sisters living, none of whom exhibit any finger-abnormality. There is no family history of either gout or rheumatism.

—Dr. Koch tells the following story about the origin of his celebrated cultivative experiments. He had been, like many others, trying various kinds of decoctions and infusions, when walking along the street one day he noticed a potato covered with a fungous growth, and it occurred to him that disease germs might thrive equally well on the same nutriment. This was the beginning of his wonderful series of dry cultivated experiments, and thus Professor Whittaker expressed it at New Orleans: “The potato was to Koch what the apple was to Newton.”

—Dr. Stelwagon, in a recent issue of the *Medical News*, calls attention to iodide of potassium as a useful drug for internal administration in the treatment of eczema. It is especially adapted to persons in good general health, rather than to the broken-down or the dyspeptic.

—A curious but important case, says the *British Medical Journal*, in which smallpox infection was conveyed in a letter, is recorded by Mr. Karkeek, in his recent report on the sanitary condition of St. Marychurch. On March 1st, last year, a case of smallpox was reported to him in the person of a domestic servant, who had seen no one ill or recovering from smallpox, and who had not been out of the town for months. Moreover, no case of the disease had occurred in St. Marychurch or Torquay for years. On inquiry, it was found that the infected person had received letters from her sister, an inmate of the West Bromwich Smallpox Hospital, “who had unfortunately sent the germ of the disease in her letter.” The case was at once removed to the Torquay Sanitarium, and the only person in the household who became ill was the recipient and reader of the letters.

—“You are doing nicely,” said the doctor encouragingly to an old darkey patient; “I will call again to-morrow, and will leave you this prescription now to save you from pain in the interim.” Then he went out. “Da’s er ’scription dat de doctah lef,” said the patient feebly to his wife, “an’ I wan’s yo’ ter go to de drug sto’ an’ git it filled. Tell de drug sto’ man dat it’s fo’ my interim, an’ be sho’ an’ ax him ef Ise ter take it eternally, or jess rub it on de outside, an’ ef so, wha’?”

—A very remarkable case is given in the *London Medical Record* April 15th, quoted from the *Wiener Med. Blätter* of May 29, 1884. A young woman, who had previously been quite healthy, with the exception of a rheumatic attack which had left some cardiac weakness behind it, had suffered since the spring of 1882 from symptoms of gastro-intestinal catarrh, with various other anomalous symptoms, for which she was admitted several times into the hospital at Upsala. The appearance of boils on the arms led to her transfer to the surgical wards, in the summer of 1883, where one of them was opened and a needle extracted. Needles being found in boils on other parts of the body, the patient confessed that in May, 1881, she had swallowed, at intervals extending over two weeks, five and a half packets of needles, each containing twenty-five, with the intention of destroying herself. At first she felt no inconvenience, but after a few weeks pains came on in various parts of the body, with constipation and other unpleasant symptoms. So far as she knew, no needles had been passed with the feces. After repeated operations, some under chloroform, one hundred and ten needles in all were removed from the body of the patient.

## NEW YORK.

—During the first four months of the present year the deaths in New York numbered 12,527, as against 10,763 for the same period in 1884. Last year during the same four months there were 1,761 deaths from phthisis, 571 from bronchitis, and 1,339 from pneumonia, making a total of 3,674. During the same period this year there were 1,911 deaths from phthisis, 756 from bronchitis, and 2,051 from pneumonia, a total of 4,721; the increase of over one thousand being principally due to the large increase in deaths from pneumonia.

—The closing exercises of the Training-School for Nurses, of the New York Hospital, took place at that institution, April 27th. There were six graduates, and Dr. George L. Peabody made the address to them.

—The third annual meeting of the Faculty of the New York Post-Graduate Medical School was held May 5th, when Dr. D. B. St. John Roosa was reelected President, and Dr. F. R. Sturgis, Secretary. The annual report of the secretary showed that 133 graduates in medicine had attended the lectures of the school during the past year.

—In accordance with recommendations of the Trustees of the Binghamton State Asylum for the Chronic Insane, the State Board of Charities and the State Commissioners in Lunacy have decided to provide tent accommodations for the temporary shelter of two hundred patients during the coming summer; the measure being adopted in view of the crowded condition of the asylum, and on account of the benefit which it is believed will be derived by the patients from the outdoor life.

—A short time since the Board of Health sent a communication to Gen. Alexander S. Webb, President of the Sanitary Aid Society, in reply to certain strictures which had been made in regard to the work of the board, in which it is stated that during the three months ending March 31, 1885, the fifteen sanitary inspectors in its employ inspected 11,603 premises, including 7,598 tenement-houses, and that they found 13,083 causes of complaint, among which were 3,001 waste-pipes and drains, 3,631 vaults and closets, and 769 cellars and basements. Over one thousand privy vaults were ordered removed. Having mentioned that a systematic house-to-house visitation among the tenement population is now in progress, and given further details of the work of the sanitary inspectors, as well as of the police force attached to the Health Department, the report goes on to say: "The foregoing statement, which does not represent the entire work of the department, is sufficient to demonstrate how fully the duties enjoined upon this board have been performed, and that the officers and the means it has been enabled by its regular appropriations to employ, have been thoroughly and diligently used." The Sanitary Aid Society has had

presented to the Legislature a bill which provides that the New York Board of Health may appoint and commission twenty additional sanitary inspectors, who shall be sanitary engineers, and that these twenty additional sanitary inspectors, and, at least, fifteen officers and men, detailed from the police force to the service of the Health Department, shall be assigned exclusively to the work of inspection of, and improving the laws and regulations relating to, tenement and lodging houses. One of the important features of the work of the Aid Society is the fitting up of model lodging-houses, which provide comfortable and healthful accommodations to the poor at the lowest possible rates; and one of them has just been opened in the Tenth Ward.

## Correspondence.

## LETTER FROM BERLIN.

BERLIN, April 9, 1885.

MR. EDITOR,—The first fact which a stranger notices in Berlin is its greatness and splendor, but an observing mind is not less impressed with its cleanliness. Everywhere, in street and square, in court and alley, the same absence of dirt or garbage. The change from New York and Hoboken to Bremen and Berlin in this respect is wonderful. The cause is not far to seek: it is the thorough acceptance by the professional and the official mind of the modern views as to the causes of endemic diseases. It is not an æsthetic yearning after neatness which causes the present condition of Berlin: it is a deliberate attempt to stamp out typhoid, and to keep away cholera, by patient, careful, continuous work and watchfulness, attacking disease present, and preparing for threatened epidemic invasion, in the same spirit, and with the same pains, that has led to success in domestic struggles and foreign wars.

On visiting the hospitals, the same cleanliness is even more remarkable, and is especially grateful to one who saw something of Continental surgery some fifteen years ago. The whole theory of sepsis, as caused by germs, is accepted by every one who is connected with the hospitals, although I am told that there are conservatives among the older professional leaders who, although silent, are unconvinced.

The first subject which I have taken pains to investigate, as of peculiar interest to your readers, in view of recent rather animated discussions in the Suffolk District Society is the question of the use of vaginal injections after normal labors.

I find that they are *not* so used in the lying-in hospitals, either here or in Munich, or as far as is known in any other of the institutions of repute in Germany. The two great institutions here are under the charge of Professor Schroeder and Professor Gussow; those of Munich, under Professors Winkel and Auman, the latter of whom I have met here. All testify to the same fact: that formerly they used vaginal injections after normal labors, but that since the perfection of prophylactic treatment *ante partum*, and especially since the introduction of corrosive sublimate, they have found such injections unnecessary. As they were sometimes injurious, they are now only used in cases where some special indications, as fever or foul lochia, call for them.

Professor Auman assured me that he treated, without injections, five hundred consecutive cases of labor in the Munich hospital recently, with only one death, and that was from pneumonia acquired before entrance.

In the lying-in department of the Royal Charité,

which is under the direction of Professor Gussow, and under the immediate management at present of Dr. Rumpf for cases in the house and Dr. Wyder for cases attended at home, there are some three thousand deliveries yearly. These gentlemen, who have treated me with distinguished courtesy, assure me that having formerly used vaginal injections in all cases they have now abandoned them, unless in special cases for special reasons as above, and for the last six weeks or two months, since they have not used them, they have every reason to be well satisfied with the change.

Certainly, in repeated visits to the lying-in wards, I fail to find anything like the usual proportion of cases of febrile character. The same is true of Professor Schroeder's cases.

It may not be uninteresting to state just what the present system of prophylaxis is as I have seen it, although I may be repeating what your readers have already seen. After a bath, and scrubbing of the body and especially of the genitals with soap and water, the vagina is well and thoroughly doused with a solution of corrosive sublimate in water one to 5,000, and the external parts and ostium vaginae are washed with a solution of the same one to 1,000; whenever during labor there are repeated digital examinations, the vaginal douche one to 5,000 is used again. Toward the end the vulva is well anointed with corrosive sublimate in glycerin one to 1,000. The woman is delivered on her side, as in Boston, the English fashion having been lately introduced at the *Charité* by Professor Gussow. The cord is not tied for some minutes, until the pulsations cease or grow faint. The placenta, if not expelled naturally, is squeezed out by Crede's method; ergot is then given, and the vagina is well washed out with the one to 5,000 solution; if there has been any operation the uterus is also washed out with the same solution. Then the vulva is washed and soused with the one to 1,000 solution.

After that there is no more vaginal douche, and no need of it; external cleanliness and daily washing the vulva with one to 1,000 sublimate solution suffices.

The most scrupulous care, however, is taken to prevent infection by the doctors or nurses during delivery. Every where in the wards and in the lying-in room are abundant facilities for handwashing, which is not a simple form, but a real scrubbing of hands and arms up to the elbow. This is done most thoroughly before and after examinations *per vaginam*, and in deliveries the hand is always put into the one to 1,000 sublimate solution before making an examination. It is then not dried but oiled while wet and so introduced. *Finis coronat opus*.

Any one who remembers the way things were done years ago in lying-in wards must concede that the improvement of results must be credited to the change of practice. I have only written of the custom in hospitals, but in private practice the cases are managed on the same general lines.

Passing from the mother to the child, I have only to report that Crede's procedure of instilling a drop of two per cent. solution of argent. nit. into the eyes of newborn children is still in force, and in the highest esteem. The eyes are immediately washed off with cold water. Ophthalmia neonatorum has disappeared from the wards. In the gynecological departments of the hospitals, which are under the same professional superior direction as the lying-in wards, the same scrupulous care prevails. Every where soap and water and sublimate, and sublimate and water and soap, and *ad ceteros*.

The great courtesy of Dr. Bungarow, staff-surgeon in charge, has enabled me to watch the procedure thoroughly. Each woman who comes into the examining-room from the wards brings her special vaginal-tube, and before and after the treatment is well doused with one to 5,000 sublimate solution, with moreover much and ceremonious washing of hands and

instruments between each case. In operations, all the principles of antiseptic surgery are most thoroughly carried out. Martin, Schroeder, and Gussow all use the carbolic spray in laparotomy, but not directed on the wound.

The room is first thoroughly disinfected by carbolic spray or burning sulphur for twelve hours and the spray is played in the air, making a fine mist heavily charged with the acid. Martin requires all present to take a bath just before the operation, to wear clothes not worn in hospital rooms and clean underclothing throughout. Schroeder has similar rules not quite so stringent, but of course no one can come who has the remotest connection with pathological work or septic diseases. There is a *septic* assistant at Schroeder's hospital, who takes care of cases which come in that condition, and makes cultivations of bacteria, etc.

With these precautions the results of gynecological operations are wonderful, and it is astonishing to see what an amount of scraping and cutting and sewing the uterine will bear without febrile reaction or perimetritic inflammation.

Of course much that is done, especially in Martin's hospital, strikes a stranger as reckless, not to say unwarrantable. But after watching the results of the operations and studying the temperature charts, one must concede that they practically all turn out well; a whole series of operations capital and otherwise with only one fatal case (in a very complicated myotomy), and in the rest hardly ever an elevation of temperature of more than one or two degrees, must convince the most incredulous of the value of the method of thorough antiseptic treatment as practised by Martin.

I will mention a case that seemed to me to be a pretty severe crucial test.

A woman appeared with an obscure tumor in the right hypogastrium, with frequent bleeding, and no interruption of menstruation. The sound showed the uterus to be normal size, or nearly so; it was scraped out, but the bleeding did not stop. At a second examination under chloroform to clear up the doubts raised by the fact that the membrane scraped out showed the characters of pregnancy, it was found that it was a case of double uterus with a dead fetus. Without delay, the long curette goes into the other side, then hooked forceps, but the fetus is soft and only parts come away; then the uterine artery of that side is tied, using a curved needle, the cervix is slit up on that side, the fetus is extracted in pieces, the placenta scraped off and extracted; then about a drachm of pure liquor ferri chloridi is injected, and then the cavity is well washed out with one to 5,000 sublimate solution, the cervix is sewed up, the ligature removed from the artery, the vagina again washed out, and the woman put to bed. Of course she had been well bathed and washed before the operation, which, like all Martin's operations began with a thorough irrigation of the vagina, by the one to 5,000 solution and was continued under a continuous flow of the same solution from an irrigator.

The patient lies on the back, the perineum is drawn down with a spoon speculum, and the uterus is drawn out and held by forceps; the same assistant who holds these forceps holds with them in his hand the nozzle of the irrigator, which always keeps the wound, or the uterus and vagina, bathed in the one to 5,000 solution, which for long operations is warmed and diluted one half.

The woman operated on, as above, seemed to have rather a poor chance of recovery, but sure enough in a few days I saw her in full convalescence and she never had any fever or serious symptom.

I have mentioned this case at some length because it is rare, and rather characteristic of Martin's way of proceeding, and shows at the same time that his confidence in himself and his method is not in vain.

The method, however, seems to require the discipline

and resources of a very well-regulated hospital, as well as the hand of a master. An operation such as I have described, or even one of less importance, is done with the assistance of Dr. Duvelin and three trained assistants, and two expert nurses, and the whole preparation and care of patient, rooms, and instruments require an amount of careful and intelligent supervision very difficult to obtain even here. In fact, Martin divides his statistics of cases into two groups, those up to within the last few years, and those of the later date, the dividing-point being the time when under the unwearied and vigilant care of

his present matron, Frau Horn, he was able to make his antiseptic treatment thorough and perfect at all points. The advent of corrosive sublimate, as a germicide, has been indeed a blessing as far as expense goes; for the same money 100,000 times as much disinfectant solution can be prepared as with carbolic acid, and of course this does much to popularize the methods of thorough antiseptics, which are destined to have so vast and far-reaching influence, not only on surgery and obstetrics, but in so many and varied fields of public sanitation and human welfare.

Truly yours, E. W. Cushing, M.D.

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 2, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Long Diseases.	Diarrheal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	638	245	18.72	21.34	2.72	5.76	3.04
Philadelphia . . . . .	927,995	411	146	13.12	9.72	1.46	5.35	1.70
Brooklyn . . . . .	644,526	253	63	28.56	23.40	14.82	7.02	1.56
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	199	63	9.55	24.14	4.51	4.50	1.01
Baltimore . . . . .	408,520	126	41	9.48	12.64	—	1.58	.79
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	115	52	20.16	2.52	10.08	4.20	.84
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	91	31	10.98	13.08	1.09	3.27	3.27
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	46	8	6.51	15.19	—	2.17	—
New Haven . . . . .	112,882	25	10	12.00	16.00	—	4.00	8.00
Nashville . . . . .	54,400	21	7	4.76	28.56	—	—	—
Charleston . . . . .	52,286	22	5	9.11	4.55	—	—	—
Lowell . . . . .	71,447	19	6	15.78	10.52	5.26	10.52	—
Worcester . . . . .	69,442	22	6	13.66	13.66	—	4.55	—
Fall River . . . . .	62,674	16	9	12.50	6.25	—	—	—
Cambridge . . . . .	60,285	23	5	4.35	26.10	—	4.35	—
Lawrence . . . . .	45,516	19	7	15.78	5.26	—	5.26	5.26
Lynn . . . . .	44,895	14	6	7.14	7.14	7.14	—	—
Springfield . . . . .	38,090	17	4	16.66	16.66	—	—	5.88
Somerville . . . . .	31,350	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	—	—	—	—	—	—	—
New Bedford . . . . .	30,144	12	4	16.66	50.00	—	—	—
Salem . . . . .	29,503	4	0	—	—	—	—	—
Chelsea . . . . .	21,247	16	4	6.25	25.00	—	—	—
Taunton . . . . .	22,604	6	0	—	—	—	—	—
Gloucester . . . . .	21,400	8	2	37.50	—	—	25.00	—
Haverhill . . . . .	20,905	5	3	40.00	—	—	10.00	10.00
Newton . . . . .	19,421	—	—	—	—	—	—	—
Brookton . . . . .	18,323	6	1	33.33	—	—	16.66	—
Malden . . . . .	15,273	6	1	16.66	—	—	16.66	—
Newburyport . . . . .	13,947	7	3	—	14.28	—	—	—
Fitchburg . . . . .	13,433	2	0	—	—	—	—	—
Waltham . . . . .	13,568	9	0	—	20.00	—	—	—
Northampton . . . . .	13,165	—	—	—	—	—	—	—
94 Massachusetts towns . . . . .	—	59	20	—	39.10	—	—	—

Deaths reported 2,247: under five years of age 597; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 318, consumption 118, lung diseases 387, diphtheria and croup 107, diarrheal diseases 77, scarlet fever 12, measles 31, malarial fevers 24, whooping-cough 20, erysipelas 17, typhoid fever 17, cerebro-spinal meningitis 10, puerperal fever three. From measles, New York 17, Brooklyn six, Philadelphia and Boston one each, New Bedford, Chelsea, and Gloucester one each. From malarial fevers, New York eight, Brooklyn and New Orleans five each, Baltimore two, District of Columbia one. From whooping-cough, New York seven, Philadelphia five, Brooklyn four, New Orleans, Providence, and Nashville one each. From erysipelas, New York five, Philadelphia four, Boston and Baltimore two each, Providence, Lawrence, and Fitchburg one each. From typhoid fever, New York and Philadelphia five each, Baltimore three, Boston, Charleston, Springfield, and New Bedford one each. From cerebro-spinal meningitis, New York, Worcester, and Fall River two each, Philadelphia, Baltimore, District of Columbia, and Brockton one each. From puerperal fever, New York, District of Columbia, and Charleston one each.

Cases reported in Boston: measles 80, scarlet fever 30, diphtheria 25, and typhoid fever eight.

In 110 cities and towns of Massachusetts, with an estimated population of 1,226,883 (estimated population of the State 1,955,101), the total death-rate for the week was 19.00, against 19.73 and 20.15 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending April 18th the death-rate was 25.2. Deaths reported 3,966: infants under one year of age 809; acute diseases of the respiratory organs (London) 449, measles 190, whooping-cough 109, fever 12, scarlet fever 38, diphtheria 30, diarrheal 29, smallpox (London 41, Liverpool and Manchester two each, Sunderland one) 46. The death-rates ranged from 16.3 in Derby to 35.7 in Plymouth; Birkenhead 17.9; Birmingham 21.2; Blackburn 22.7; Bradford 21.3; Hull 16.2; Leeds 23.8; Leicester 22.2; Liverpool 25.2; London 21.8; Manchester 35.2; Nottingham 17.8; Sheffield 25.1; Sunderland 32.9. In Edinburgh 18.6; Glasgow 27.2; Dublin 33.7.

In the Swiss towns for the week ending April 18th there were 41 deaths from consumption, lung diseases 41, diarrheal diseases 10, smallpox eight, whooping-cough four, diphtheria and croup three, scarlet fever two, measles one.

The death-rates were: at Geneva 19.2; Zurich 17.5; Basle 37.0.

The meteorological record for the week ending May 2d, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, May 2, 1885.		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, 26	30.055	41.2	49.0	38.4	63	95	100	86.0	E	E	N E	22	24	10	F	R	R	—	—	
Monday, 27	29.898	52.4	65.7	36.4	92	28	43	54.3	W	W	N W	14	19	12	C	C	C	—	—	
Tuesday, 28	29.702	45.4	54.1	42.1	63	65	95	74.5	W	E	E	8	18	14	F	O	O	—	—	
Wednesday, 29	29.528	43.2	47.9	40.3	100	100	88	96.0	N	N	N	21	32	15	R	O	O	—	—	
Thurs., 30	29.657	56.6	70.8	42.5	68	27	61	52.0	N W	W	N W	10	19	4	C	C	F	—	—	
Friday, 1	29.791	41.1	54.6	37.8	47	78	96	73.7	N W	N E	N	11	9	16	O	C	R	—	—	
Saturday, 2	29.609	42.5	51.1	37.3	100	66	57	74.3	N	N	N	32	14	11	R	O	C	—	—	
Mean, the Week.	29.740	46.1	56.2	39.2				72.9											46.0	2.48

O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

# OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 2, 1885, TO MAY 8, 1885.

BILL, JOS. H., major and surgeon. Ordered for duty as member of Army Medical Examining Board, New York City, N. Y.

SPENCER, WILLIAM G., captain and assistant surgeon. From Department of the East to Department of Dakota.

BRECHEMIN, LOUIS, captain and assistant surgeon. From Department of the East to Department of the Plate.

DAVIS, WILLIAM B., captain and assistant surgeon. From Department of Dakota to Department of the East. S. O. 100, A. G. O., May 2, 1885.

STERNBERG, GEORGE M., major and surgeon. Detailed to attend, as a delegate on the part of the Government of the United States, the Sanitary Conference to be held at Rome, Italy, on May 15, 1885. S. O. 103, A. G. O., May 6, 1885.

COWDREY, STEPHENS G., captain and assistant surgeon. Assigned to duty as post surgeon, Fort Bliss, Texas. S. O. 65, Department of Missouri, May 2, 1885.

ARTHUR, WILLIAM H., first lieutenant and assistant surgeon. Assigned to duty at Fort Niagara, N. Y. S. O. 89, Department of the East, April 28, 1885.

WYETH, M. C., first lieutenant and assistant surgeon. Ordered for temporary duty at Fort Wadsworth, New York Harbor. S. O. 95, Department of the East, May 6, 1885.

## SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. *Obstetric and Gynecological Section.*—The last meeting of this Section for the season will be held at 19 Boylston Place, on Wednesday, May 20, 1885, at 7.45 P. M. Dr. R. A. Kimball will read a paper on "Anesthetics in Normal Childbirth." Dr. J. P. Reynolds will make some remarks on the "Legitimate Prevention of Pregnancy." Gentlemen are invited to bring specimens to exhibit before the Section. Cigars and beer will be served after the meeting.

JAMES R. CHADWICK, M.D., *Chairman.*  
ROBERT B. DIXON, M.D., *Secretary.*

## DEATHS.

DIED.—In Boston, May 6, 1885, Joshua Brackett Treadwell, M.D., M.M.S.S., aged forty-four years.

## BOOKS AND PAMPHLETS RECEIVED.

Transactions of the Obstetrical Society of London, Vol. XXVI, for the Year 1884. With a List of Officers, Fellows, etc. London: Longmans, Green & Co., 1885.

Clinical Studies on Diseases of the Eye, including those of the Conjunctiva, Cornea, Sclerotic, Iris, and Ciliary Body. By Dr. Ferdinand Ritter von Arlt, Professor of Ophthalmology in Vienna. Translated by Lyman Ware, M.D. Philadelphia: P. Blakiston, Son & Co., 1885.

Many Drugs. Few Remedies. By George T. Welch, M.D. (Reprint from Medical Record, 1885.)

What to do in Cases of Poisoning. By William Murrell, M.D., F.R.C.P. Fourth edition. London: H. K. Lewis, 1884.

How to Drain a House. Practical Information for Householders. By George A. Waring, Jr., M. Inst. C. E. New York: Henry Holt & Co., 1885.

Ovariotomy. By James B. Hunter, M.D. (Reprint from New York Medical Journal, June 7, 1884.)

Fifty Cases of Abdominal Section, with Remarks on Laparotomy. By James B. Hunter, M.D. (Reprint from New York Medical Journal, April 4, 1885.)

Prescribing Alcohols. By John Blackmer, M.D. New York, 1885.

Disinfection and Disinfectants. Preliminary Report made by the Committee on Disinfectants of the American Public Health Association.

The Invalid's Test-tray. By Susan Anna Brown, author of Forty Puddings, etc. Boston: J. R. Osgood & Co., 1885.

A Treatise on Abdominal Palpation as Applied to Obstetrics and Versive by External Manipulations. By A. Pinard, Associate Professor, Faculty of Medicine of Paris, etc. Translated by L. E. Neale, M.D. New York: J. H. Vail & Co., 1885.

Medical Jurisprudence in Divorce. By Carl H. von Klein, A.M., M.D., Dayton, Ohio. (Reprint from the Journal of the American Medical Association, February 14, 1885.)

Modern Therapeutics of the Diseases of Children, with Observations on the Hygiene of Infancy. By Joseph F. Edwards, M.D. Philadelphia: D. G. Brinton, 1885.

Planting Trees in School Grounds and the celebration of Arbor Day. Department of the Interior. Bureau of Education. Washington, 1885.

Circulars of Information of the Bureau of Education. No. 1. 1885. City School Systems in the United States. By John D. Philbrick, L.L.D. Washington, 1885.

A Plea for Epistiotomy. By W. P. Manton, M.D. (Harvard.) (Reprint from American Journal of Obstetrics, No. 3, 1885.)

Quarterly Station-List of Officers of the Medical Department and Hospital Stewards of U. S. Army, April 1, 1885.

The Treatment of Mastitis by Bandaging and Rest. By Philander A. Harris, M.D., Paterson, N. J. (With Cuts.) (Reprint from American Journal of Obstetrics.) New York: William Wood & Co., 1885.

Injuries of the Spine and Spinal Cord without apparent Mechanical Lesion, and Nervous Shock, in their Surgical and Medical Aspects. By Herbert W. Page, M.A., M.C. (Cambridge.) Second Edition. Philadelphia: P. Blakiston, Son & Co., 1885.

Dr. Seguin's Metric Prescription Book. New York and London: G. P. Putnam's Sons, 1885.

Neuralgia and the Diseases that resemble it. By Francis E. Anstie, M.D., London. New York and London: G. P. Putnam's Sons. The Knickerbocker Press, 1885.

Fourteenth Annual Report of the Managers of the Buffalo State Asylum for the Insane for the Year 1884. Transmitted to the Legislature January 15, 1885. Albany, 1885.

Thirtieth Annual Announcement of Starling Medical College, together with Catalogue for 1885-86. Columbus, Ohio, 1885.

Handbook of Diseases of the Skin. Edited by H. v. Zeissler, M.D., Professor of Clinical Medicine in Munich. Illustrated. New York: William Wood & Co., 1885.

Normal Standard of Physiology. By Nathan Allen, M.D.

Twelfth Annual Report of the Board of Health of the City of New Haven, 1884.

Vorträge Herausgegeben vom Deutschen geodätisch-wissenschaftlichen Verein von New York. No. 10. Volksmedizin. Dr. A. Jacobi.

## Original Articles.

SOME NON-VALVULAR DISEASES OF THE HEART.<sup>1</sup>

BY ROBERT T. EDES, M.D.

THE valvular diseases of the heart are naturally those to which the student turns with most interest during his period of instruction, and to which the practitioner is most likely to direct his efforts in diagnosis; the reason in each case being equally obvious, that is, the nicety at which diagnosis has arrived and the accuracy with which effects can be traced to distinct mechanical causes. The satisfaction is not unreasonable with which one points out within a finger's breadth the exact location of the little fibroid mass which is filling the limbs and the great cavities with water, congesting the internal organs, and disturbing, from lack of vital fluid, the nutrition of the whole body, especially if this knowledge can be made to serve, even if not for cure, at least for relief. Let us hope that the physician may always show himself a wise man, as well as a skilful diagnostician, when nature has mercifully concealed some of her imperfect handiwork, and not betray her secret prematurely to cause mental anguish long years before her defects have of themselves come to light.

My object is to call attention to some other affections of the heart which excite less interest, for the reason that they are less well understood and less easily diagnosed. I can add little or nothing to our present knowledge, but sometimes the mere stirring up of a subject may draw out new facts and tend to a clearer understanding, even if it be only to recognize the limits of our knowledge.

The function of the heart is not to make rhythmic sounds for the study of the physiologist or abnormal ones for the delight of the clinician, but to carry the blood all over the body; and if it does this perfectly we may neglect, within certain limits, the amount of noise which it makes in doing it.

The heart is often spoken of as a pump. As such we study its valves and orifices. Let us, however, call it a pump with a man to work it, and then we must consider not only the valves but the muscles and nerves of the laborer who keeps it in action.

The nervous system of the heart has been much studied from an anatomical, and even more from a physiological, point of view, and these studies are undoubtedly to be of greater value than heretofore, when something more of clinical observation and of pathological anatomy have been added. At present the amount of pathological knowledge based on actual dissection of this system is small. It is so, for the very obvious reasons of the great amount of labor and skill which must be expended in the investigation of cases of which only a small fraction would make any return in positive facts.

I shall not make any attempt to show the present state of our knowledge on these points of anatomy, except in a very elementary way, and for this purpose exhibit this copy of a plate from Dr. Byrom Braunwell's new book and a dissection showing the situation of the cardiac ganglia, and also the extent

to which the great vessels and plexuses are enwrapped in the pericardium.

A recent writer, Michel Peter,<sup>2</sup> a pupil of Trousseau and editor of his works, has endeavored to bring into more prominence the part which the cardiac plexuses may play in some diseases in their neighborhood and under their control, especially pericarditis and aortitis, and to show that the symptoms are not all due to mechanical interference with the heart's action, but in a great measure to irritation of its complicated innervation. The relations of the pericardium to the base of the aorta and pulmonary artery, upon which are situated the chief cardiac plexuses, are so intimate that inflammation of that membrane may affect not only the distribution of the nerves, as happens of course almost anywhere in the body, but their secondary or local centres; and Peter lays great stress upon the pain communicated by direct contiguity to these ganglia, and to the phrenic nerves in many cases of pericarditis, as an important element, not only in the distress, but also in the severity and danger of the disease.

I quote at some length his own words:—

“But the pericardium is in relation not only with the great vessels; it is found in the closest proximity with the cardiac plexus which, as is well known, is situated upon the aorta and pulmonary artery; the ganglion of Wrisberg of this plexus being found in the angle of junction of the two vessels.

“Thus, I repeat it designedly, the visceral pericardium is directly in relation with the cardiac plexus, a very delicate connective tissue attaching the nerves of the plexus to the pericardium as well as to the external coat of the aorta and pulmonary artery, and it follows from these relations of the pericardium, hitherto entirely mistaken by the anatomists as well as the pathologists, that there may be serious consequences when, the pericarditis having become generalized from the parietal layer to its aortico-pulmonary visceral layer, the process of inflammation has invaded the neurilemma of the nerves and the nerves themselves. In fact, from the transmission of the inflammation to the six branches of the sympathetic and six branches of the pneumogastric which may be concerned, there results a series of phenomena which may, and do, give to acute, and even to chronic, pericarditis a special and complex symptomatic physiognomy and sometimes a frightful severity. The careful study of these relations and the physiologico-pathological consequences to be drawn from them, as one might say, *a priori*, are able to clear up to a singular degree the somewhat obscure symptoms of pericarditis as it is described by otherwise careful writers (p.61).

“My own studies, not less than a careful and respectful analysis of the works of writers whose researches I appreciate without always accepting their conclusions, permit me to affirm that the malignant syncopal forms of pericarditis may be referred, not to muscular, but to nervous, lesion, and the study which we have made of the anatomical relations indicate in advance upon which these nerves the inflammation acts.

“In a word, according to its seat, pericarditis may

<sup>1</sup> Traité clinique et pratique des maladies du cœur. Par Michel Peter. Paris, 1885.

<sup>2</sup> Read before the Suffolk District Medical Society, April 25, 1885.

provoke a neuritis either of the phrenic or of the cardiac nerves.

"I have in fact twice found a lesion of the phrenic nerves, as well as some of the branches of the cardiac plexus, in cases of pericarditis originally acute and having passed into the chronic state. The neurilemma was thickened and vascularized, very adherent to the pericardium and to the false membranes which covered it. The nervous tubes were here and there strangulated and deprived of myelin at the point of strangulation" (p. 78).

In speaking of Dr. Sibson's article on pericarditis in Reynolds's System of Medicine, he says: "The learned English physician attributes, with me, to the irritation and the inflammation of the nerves of the cardiac plexus, as well as to those of the heart itself, a part of the pains of pericarditis and a series of reflex acts, particularly of the vasomotors, whence possibly the paleness of the face by vascular contraction. Sibson goes further: he refers to an inverse phenomenon, although also of the reflex kind, that is, vascular dilatation, the redness of the face alternating with paleness; and I am of his opinion. What he says of the face he says also of the heart and the pulse: and the community of ideas between us can be here seen.

"The many and important nerves situated at the surface of the heart and great vessels may be more or less involved in the inflammation affecting those parts in pericarditis. When we consider that electrical or other excitation of the vagus retards the contractions of the heart, and if it is strong enough, arrests the organ in diastole, and in the dog lessens arterial pressure; while division of the vagi produces acceleration of the contractions of the heart, and in the dog increased arterial pressure; that the lower cervical ganglion of the sympathetic exercises an accelerating influence, not always in action, on the contractions of the heart; and that in the frog, the ganglion cells contained in the heart are the springs of its automatic movement and that the surface of the heart is rich in nerves connected with the vagi, the sympathetic, and the intrinsic ganglia of the heart, and that those nerves are therefore locally affected by the inflammation in pericarditis,—we must, I consider, conclude that this affection exercises in such cases an important influence, either to stimulate or to injure those nerves, and so to accelerate or retard the contractions of the heart, to excite, or, more frequently, depress, the powers of the organ, or to increase or diminish arterial pressure."<sup>3</sup>

The following case seems to me to show something of the importance of these considerations quite as strongly as those which the author brings forward himself, since it deals not with an extensive pericarditis or one which, having done much mischief by direct action on the heart, finally invades a more distant region whence its nervous influence may be felt, but with a very limited affection which simulated a valvular lesion and undoubtedly did actually give rise to some relative valvular insufficiency, while itself capable of interfering to only a very moderate degree, if at all, with the movements of the heart.

W. M., aged forty-five, was a shoemaker; an occa-

sional drinker; he was well until two weeks before his entry into the Boston City Hospital, when, on a damp warm day, he worked all the afternoon with the air from an open window blowing directly upon him. The next day he noticed a slight cold and that his urine was red and less in quantity than normal. When he ate anything he "bloomed right up." He next noticed shortness of breath and pain, sometimes in the right side. A week before his entrance his feet and legs began to swell. On exertion he got sick at his stomach.

He entered the hospital on March 13, when he had a little cough, with no expectoration. The note made on March 14th states that he was a stout man with a dusky complexion, his abdomen and legs somewhat swollen. The heart's dulness extended from above the second intercostal space, outward one and a half inch beyond the nipple on the left side, and along the right border of the sternum. At the apex there was a systolic murmur. The heart's action was rapid, irregular, and not strong, the pulse at the wrist feeble and difficult to count, only an occasional beat being distinctly felt. An attempt to take a sphygmographic tracing at this time was unsuccessful. A diagnosis of mitral valvular disease was made. Pil. cath. comp. no. iv. Tr. digitalis m.x. once in four hours.

March 15th. Free defecation; complexion better, pulse a little stronger, urine of normal color, 1016 acid. Albumen a trace, a few leucocytes and hyaline casts and amorphous urates.

March 16th. Pil. cath. comp. On this day a tracing was taken of which I show a copy.<sup>4</sup>

March 17th. Urine more copious. Free defecation.

March 19th. With stethoscope the heart's rhythm is irregular; four sounds can be heard at the heart, of which the first and third are stronger over nearly the whole heart. At the apex the fourth is inaudible, and part of the time only two sounds are heard.

March 20th. Tracing of carotid very irregular. Omit digitalis.

March 24th. Bloating considerably, some difficulty in breathing. Resume digitalis.

March 30th. Heart beats rapidly at times and at others slowly; radial pulse slow throughout.

April 6th. Vomiting and diarrhoea. Omit digitalis.

April 8th. Died.

I think that few persons in the presence of obvious signs of heart disease, with a small, irregular pulse, enlarged area of cardiac dulness, and a systolic murmur at the apex, would have hesitated to diagnose, as I did, mitral valvular disease; and in fact this affection actually existed in the form of relative insufficiency, probably a secondary development; but it was not all.

Here is what is recorded to have been found:—

Chronic passive congestion of the abdominal organs; emphysema and oedema of the lungs; the right side of the heart was distended very greatly with dark, loose, jelly-like clots, the left side a little hypertrophied. There was no fatty change, the density apparently normal, color and consistence

<sup>4</sup>The tracings of the 16th, 17th, and 19th show increasing strength and regularity of the pulse. That of the 20th shows a loss of tension.

good. No change in the valves; the tricuspid orifice admits three and one-fourth fingers; the mitral, three.

Between the aorta and upper part of the auricle the general surface of the pericardium was thick, dull, and generally ecchymosed.

I regret very much now that the records are not more minute, and especially that no microscopic examination was made of the ganglia and cords which lay in immediate proximity to the affected part of the pericardium, but I had not at that time (five years ago) seen the suggestive work of M. Peter, and although some dim suggestions of this relationship in locality, and possibly of causation, passed through my mind as accounting more fully than could otherwise be done for the excess of severity in the symptoms, yet they were not sufficient to carry me any further. It seems to me, however, highly probable that we had here to deal with a pericarditis, limited in extent, but of considerable intensity, located at exactly the point where its influence could be most effectually exerted to give rise to neuritis of the great cardiac ganglia and the consequent irregularity and feebleness of the heart, of which the patient died.

I had no intention of trying to collect from the work of M. Peter, or from general literature, an array of cases of affections of the cardiac ganglia with anatomical data, but a very short inquiry convinced me that I might do so without involving myself in any laborious research. M. Peter has much more to say than I have quoted. Under the heads of "Rheumatism of the Heart" and "Angina Pectoris" he gives various cases of his own and quoted from Andral, where the excessive pain or other symptoms were supposed to be due to affection of the ganglia referred to. In fact, one can hardly write or think much of angina pectoris without speculating upon the relations of the cardiac nerves, and it is in a case of the latter kind that M. Peter gives the results of a microscopical examination of the cardiac nerves which were involved in a thickened mass of connective tissue. This was, however, the only one in which actual pathological changes were made out. He cites from M. Bazy a case of aneurism of the aorta with symptoms of angina pectoris, where changes in the cardiac nerves were found, and another from Lancereaux, where the cardiac ganglia were found to be surrounded by a thickened mass of connective tissue with rounded infiltration. I have been successful in finding two other cases, more or less of this kind, both in Parisian hospitals. In the first, a man of fifty-three had violent paroxysms of pain in the breast, down the arm, and in the face. No valvular lesions of the heart were discovered, but the arteries were atheromatous. He died suddenly.

The valves were healthy and there was no obstruction of the coronary arteries. There was a fibrous indurated mass in front of the aorta, in the midst of which the cardiac nerves could not be distinguished. The right pneumogastric was adherent to a large peritracheal lymph gland. Nothing was distinguished in the nerves by the microscope.<sup>5</sup>

In the second a woman, aged sixty-nine, complained of palpitation, dyspnoea, and pains at the

point of the sternum and in the precordial region. These symptoms were liable to be increased in certain circumstances, such as emotional disturbance. The pulse was very frequent while the temperature was normal. There was no abnormal sound at the heart. She died from increasing dyspnoea and gradual weakening of the heart.

Postmortem was found a slight fatty degeneration, dilatation, and atheroma of the aorta. The nervous branches of the cardiac plexus seem to have been stretched by the aortic dilatation, and were found in the midst of a quantity of connective tissue containing a certain number of ganglia (lymph glands?) of various sizes. The left pneumogastric in front of the horizontal portion of the arch of the aorta, where it gives off the recurrent laryngeal, was partly imbedded in a little black mass which seemed a degenerated gland.<sup>6</sup>

The oldest German observation I abridge from Romberg, who quotes from Heine in *Müller's Archiv* in 1811. It was that of a man who said that his heart used to stand still. During these attacks his consciousness was unimpaired, but he had a violent pain extending up the sides of the chest to the back of the neck. No abnormalities in the action of the heart could be discovered in the intervals.

After death it was found that several of the nerves of the cardiac plexus, as well as the phrenic, were dragged upon and compressed by many of the dark-blue cretaceous lymphatic glands in the neighborhood of the bronchi. There were other lesions of the solar plexus and of the nervous centres.

These cases may, I think, be fairly taken to represent the present condition of our knowledge of the pathological anatomy of the cardiac nerves. Bramwell, who may be taken as a representative of the most advanced systematic writers, refers simply to the cases of Peter, and he certainly cannot be justly accused of overlooking the importance of the nervous factor in the symptomatology of cardiac disease.

Possibly further search among cases of aneurism and of angina pectoris might increase our material, but if so it has not yet found its way into the systematic works. In the seven columns of "Heart, nerves of the," in the catalogue of the Surgeon-General's library, I found only a solitary reference to pathology, and that was a recent Paris case without autopsy.

I intended, when I was first asked to present a paper to this meeting, to bring together with much briefer comment this case of my own which I have spoken of, and a number of others which seemed to be in various ways interesting, of fatty degeneration. I find, however, that I have, almost in spite of myself, taken so much time that I shall now do better by presenting some of the chief points given by Peter in the diagnosis of cardiac neuritis than by attempting another subject of so much importance.

After speaking of the examination of the character and localization of the *spontaneous* pain, present in many cases of cardiac disease, as deserving of more care than is sometimes bestowed upon it as a means of diagnosis, beside that which it obviously demands for therapeutic purposes, he describes the

search throughout the thoracic walls for spots of tenderness as the most important means of diagnosis.

According to him, pain on moderate pressure with the pulp of the finger in the third, fourth, fifth, and sixth left intercostal spaces, passing outward as one passes downward, that is, over the left ventricle, indicates myocarditis, the maximum of intensity, and sometimes the only manifestation, being in the fifth and sixth spaces. Pain on pressure in the third left intercostal space near the sternum, corresponding to the auriculo-ventricular fissure, means disordered condition of the ganglion of Remak. This, he says, is often found in smokers.

In the second left intercostal space, close to, or upon, the sternum, tenderness indicates neuritis by propagation from aortic lesion.

For the investigation, then, of the cardiac plexus one presses in the third, second, and first intercostal spaces, and then on the sternum close to the second intercostal space, when, if there is neuritis or even neuralgia, it will be manifested by pain.

The second left intercostal space is evidently to be regarded as a sort of centre of painful affections of the cardiac nerves. From this point the pain on pressure may be traced upward in the neck along the line of the pneumogastrics, and finally evoked by pressure upon the second, third, and fourth spinal apophyses, which indicates, according to M. Peter, irritation of the roots of the pneumogastric.

The phrenics may be explored by pressure at their diaphragmatic expansions, along the neck at the attachment of the scalenus anticus to the sternum (*sic*).

For my part, while I cannot help feeling some doubts as to the possibility of a diagnosis so accurate as is claimed by M. Peter, I think that reasons enough have been brought forward to show that the condition of the nervous plexuses of the heart may be capable of profitable investigation during life, and is deserving of more attention than it usually receives from practitioners.

On the anatomical side I might have mentioned, as instances in which the examination of various ganglia seems to be tending toward useful results, the thickening and partial atrophy of the coeliac plexuses, found in some cases of Bright's, and in some of Addison's, disease, and also of the sympathetic ganglia in some cases of exophthalmic goitre. This latter subject, indeed, is closely allied to the one we have been pursuing. Certainly, I think we have in the cardiac plexuses a comparatively untrodden field for the pathological anatomist.

### CHRONIC PROSTATITIS.

BY GEORGE H. TILDEN, M.D., AND F. S. WATSON, M.D.

PROSTATORRHOEA, follicular prostatitis, or chronic prostatitis, as it has been variously called, is but slightly considered by even special authors writing upon genito-urinary surgery. Its importance and far-reaching effects, however, call for a more detailed notice than is usually given to it.

#### ÆIOLOGY.

The disease occurs, more frequently than from any other cause, as a residual inflammation, the

result of an acute urethritis. A gonorrhœa which pursues a normal course, anatomically speaking, ends at the membranous urethra, and does not trespass further toward the bladder. It frequently happens, however, that this limit is passed, and then the mucous membrane of the prostatic urethra or the prostate itself is involved in the inflammatory process.

Next to gonorrhœa, masturbation and then venereal excesses furnish the largest quota of cases.

The condition here probably arises from long-continued and oft-repeated hyperæmias induced by such habits. Beside these more common causes, chronic prostatitis sometimes arises as a result of stricture; also from the rough, unskillful introduction of instruments or the presence of a catheter which has been allowed to remain in the bladder, or the administration of irritating drugs, such as cantharides and turpentine. And it is possible that the condition may be excited by the passage of urine containing concretions and sand.

The malady should not be confounded with the hypertrophied prostate, which is a true hypertrophy, taking place only after the fiftieth year, whereas the disease under consideration belongs to youth or middle life, and is essentially inflammatory in its nature.

The affection may be primarily acute and become chronic, or it may be chronic from the beginning, which, as has already been indicated, is determined by its cause.

Anatomically the term prostatitis should be limited to an inflammation which involves the structure of the organ. Clinically it is often impossible to decide whether this is the case, or whether it has its seat upon the mucous membrane of the prostatic urethra only. It probably always originates there, and then may pass on into the follicular structure of the organ afterward.

It is very apt to remain localized about the caput gallinaginis, the ductus prostaticus, and the ejaculatory ducts.

The organ may be enlarged or normal in size or atrophied, the latter when the disease is of long standing; when normal in size it is probable that the mucous membrane alone is affected. The latter is dusky-red or slate-colored, and its capillaries are injected, the surface denuded of epithelium, or occupied by ulcerations. The texture of the organ is less dense and firm than normal. The follicles often contain a dirty or reddish fluid. Occasionally suppuration occurs within the substance of the gland, either because the mouth of a follicular pouch, which is the seat of the inflammatory process, becomes glued together and its contents retained, from which a species of retention cyst arises, or the mucous membrane being broken down urine may find its way into the gland substance and set up suppuration. An abscess so forming ordinarily points in the urethra, but may open into the rectum or into the areolar tissue about the bladder, and lead to serious consequences; the establishment of a fistula into the rectum, exceedingly difficult to heal, being one of them. The collections of pus epithelium and mucus which occupy the follicles of the gland are often washed out and appear in the urine, form-

ing a portion of what are termed mucous shreds, or by the Germans "clap threads" (tripper faden). They may be distinguished from those originating in other parts of the urethra, in that they are shorter, thicker, and more clumpy.

#### SYMPTOMS.

The symptoms of chronic prostatitis may originate in an acute or chronic form. In the first variety the onset is announced to the patient by a sense of weight and throbbing in the perineum, uneasy sensations in the rectum, a greatly increased desire to micturate, and possibly by an attack of retention of urine. If the acute is to give place to a chronic malady, a less conspicuous, but no less characteristic, set of symptoms follows. These, no matter how originating, may be divided into local and general. They are very various, and are not often all present in any one patient. The local symptoms connected with the genito-urinary tract, of which the patient is conscious, are slightly increased frequency of micturition, a sensation of weight, or dull pains in the perineum and about the anus, which are occasional or persistent.

Sometimes slight pain at the end of micturition. There may be undue sensitiveness in the prostatic urethra on the passage of a sound, but as a rule, in long-standing cases at least, the urethras of such patients are anæsthetic.

The sensations are apt to be increased on active exercise.

In cases of short duration, arising from gonorrhœa, there is apt to be frequent sexual desire, and erections; in those of long standing there is a diminution, imperfect erections, and partial or complete impotence from this source. Frequent seminal emissions occur at night, and occasionally one meets with a case of true spermatorrhœa which has its origin in this local inflammation.

The skin of the penis is apt to be more or less anæsthetic.

Frequency of micturition, attended by pain and blood in small quantities at the end of the act, are sometimes so conspicuous as to closely simulate the symptoms of stone in the bladder.

A mucous discharge from the urethra may or may not be noticed by the patient; when it is present the inflammation is probably not wholly confined to the prostate, but exists also anteriorly to it in the urethra; when it is not seen as a separate discharge, it is passed backward into the bladder to mix with the urine.

The explanation given for this phenomenon by Uitzmann is that the compressor urethræ is a more powerful muscle than the sphincter vesicæ, and acts as a second and the more important sphincter of the two. When an inflammation has its seat solely behind the compressor urethræ or second sphincter, that is, in the prostatic urethra, the discharge arising from it makes its way in the direction of least resistance; namely, backward through the weaker sphincter vesicæ into the bladder, and not forward through the stronger compressor urethræ, to appear as a urethral discharge. It is not right, therefore, to infer that a patient cannot have chronic prostatitis without the appearance of an urethral discharge.

Another very annoying symptom to the patient is the loss of propelling power to the stream of urine, and the dribbling of a few drops of water after the apparent completion of the act.

The discharge of mucus, when it does occur, takes place more frequently at stool, especially when the patient is of constipated habit, than at other times. Such patients often suffer from the belief that they are affected with spermatorrhœa. Microscopic examination will, however, generally fail to detect spermatozoa. Mucus, epithelial cells, pus, and perhaps a little blood, will be seen to constitute the discharge. Patients sometimes feel a sharp pain in the neck of the bladder or in the anus during coitus, or on defecation.

An important symptom is inability to urinate for some minutes after feeling the desire and making the attempt to do so.

The general conditions are connected with the nervous symptoms, and are purely subjective. They originate in irritation of the peripheral nerves, with which the prostate is richly supplied. These symptoms as well as the local ones, may almost all arise from pathological changes elsewhere than in the prostate, as well as from it alone; and in their estimation the prostate should not be made their only source. But that they can and do so originate, there is no doubt, in proof of which is the fact that they entirely disappear under treatment directed to the prostate. Among the general symptoms are neuralgic pains, whose favorite situations are the sacro-iliac synchondrosis, the sciatic and the anterior crural regions, and the tip of the coccyx. In one case there existed several distinct areas, in which pressure caused pain; these were beneath each nipple, between the scapulae, and above the crests of the ilia.

These pains vary as to constancy and duration, and may be entirely absent. The patients are often hysterical; there is decided reflex irritability. They are easily alarmed, start at slight noises, or unexpected sights, the nervous system is unstable, they are emotional, and volition is diminished. Changes in disposition are marked, the patients become morose, despondent, anxious, and worried, or apathetic and unable to work or fix the attention. The appearance of the individual varies greatly. As a rule they wear a careworn, anxious, or listless look. But two of the worst cases were in strong, healthy-looking men.

The urine is apt to contain more or less mucus, crystalline deposits of amorphous phosphates and oxalate of lime, more or less prostatic epithelium, sometimes blood and pus, and the "clap threads" already described. Polyuria exists often, and Uitzmann declares that very frequently traces of albumen are seen, which disappear if the disease be cured. Spermatozoa are often found.

If the prostate is enlarged or atrophied the change in volume can be felt by rectal examination, though atrophy, unless marked, is difficult to recognize. If suppurative has taken place, the examining finger will sometimes detect losses of substance or cicatricial contractions. With enlargement of the gland a residual urine may be present. This fact is demonstrated by the passage of a catheter immediately after urination. The mucous shreds

and pus are generally seen in the first part of the stream, or, at any rate, are most conspicuous in that portion of it, but, as has already been shown, the discharge may pass into the bladder and thus render the whole urine turbid.

#### TREATMENT.

The treatment is directed to both the local and general conditions, and attention should be paid to both. As local measures, counter-irritation to the perineum, with cantharidal collodion or tincture of iodine, being careful not to let the fluid run on to the scrotum or anus, is beneficial. There is no need to blister the surface severely; one side of the raphe can be painted over at a time, and after a few days the other, and this should be kept up for several days, during which the patient need not be confined, but allowed to pursue his usual occupations. In connection with this, prostatic injections of nitrate of silver, applied by means of an Ultzmann's syringe catheter, fenestrated on the sides, and connected with a small syringe containing a drachm of the solution, is perhaps the most useful remedy. Most authors recommend a solution of from ten to twenty grains to the ounce. This produces vesical tenesmus, often slight hemorrhage, and great temporary discomfort, which, though they pass off in the course of a few hours, are, during their presence, very unpleasant. We do not think they are followed by any better results than when a solution of from two grains to five grains to one ounce is used. Anything over five grains is likely to produce the symptoms above mentioned; anything below, avoids them. One can begin with a two-grain solution and increase to five grains. The application should be made once or twice a week, for a period of from four to eight weeks, when all benefit which is likely to accrue from them at any one time will have taken place. The advantage of this form of administering the drug is that it is applied to the prostatic urethra and not elsewhere. To insure this, the index finger of the left hand may be inserted into the rectum, and the prostatic urethra localized by it; the tip of the catheter should then be passed upon it as a guide to the neck of the bladder, and the fluid injected.

As an adjunct to this treatment, the passage of large sounds once a week, cutting the meatus, if necessary, to allow of their introduction, or the application of a hollow, double-current catheter, through which a current of cold water can be made to flow, retained in position for from five to six minutes, is valuable.

Resorcin, and various antiseptic and astringent solutions, may be applied to the prostatic urethra, or drugs may be locally administered in the form of soluble bougies, amongst which those of iodoform, deposited by a *porte coëlique*, have been the most useful in our hands, but the most decided effects will be produced by the nitrate of silver solution.

The local treatment above described is especially valuable in cases of long standing, in which the emotional condition is well marked, where neuralgias, defective erections, frequent seminal emissions, and a prostate atrophied, or at any rate not enlarged or tender, are the prominent symptoms. When the gland is enlarged and tender, and approaches a con-

dition of subacute inflammation, instrumental interference may only increase the trouble and be followed by chills and urethral fever.

Cases in which there is loss of sexual power are benefited by electricity, one pole being applied over the spine and the other to the perineum, or, when obstinate, one electrode may be inserted into the rectum or prostatic urethra.

Among the more important elements in the general treatment is the restoration of the patient's *morale*, the power to accomplish which depends of course largely upon the personal qualities of the physician. If he can succeed in reestablishing the volition to the point of inducing the patient to carry out the treatment resolutely much will have been accomplished.

Daily out-door exercise should be insisted upon; walking is, perhaps, the best form in which it can be taken. Horseback riding is condemned by most authors as tending to produce congestion of the parts, and bicycling is open to the same objection. Cold baths, best taken in the morning, are beneficial, especially in the long-standing cases. Where the condition is more subacute, hot sitzbaths and irrigation of the rectum with hot water will be found to give much comfort. When the course of local treatment is ended a change to mountain air and an out-door life should be urged. A constipated habit is apt to exist, which tends to increase the congestion of the parts, and this is well counteracted by the administration of strychnia in small doses for a considerable period, which at the same time supplies a tonic.

Two or three drugs are useful as adjuvants in the treatment. Gouley recommends the two following:—

Quinia sulph.	℥ii.
Acid arsenic.	gr. i.
Strychnia sulph.	gr. i.
Acid phos. dil.	℥i.
Syr. ferri sulphos.	℥iv.
℥i. ter in die.	
Tr. ferri chlor.	} . . . . . āā gttss. v.
Tr. cantharid.	
Vini ergot.	

Both of these we have found useful.

Abstinence from fermented or malt liquors is important: claret may, perhaps, be taken. Drinking or eating before going to bed should be avoided.

It is desirable to sleep in a cool room and on a hard mattress.

Moderate sexual indulgence is of advantage, and matrimony is advised by some physicians with a view to securing this. This opens an ethical question which each must decide for himself. Besides the chance of the patient's being actually impotent the disposition of a sexual hypochondriac is pretty sure to bring unhappiness to his partner, and so unless we are sure that the patient is cured or on the fair road to cure, we advise strongly against matrimony in such cases. If an enlargement of the organ exists, iodide of potash, twenty grains, combined with acetate of potash, twenty grains, is recommended by Ultzmann.

Surgeons are very apt to regard this class of cases as *blees noies*, and often partake of the sense of discouragement which the patient himself feels

about the case. It must be frankly confessed that there are a certain number of cases which, with the most conscientious treatment, one fails to cure; where the melancholia is so deep-seated that even if in one's own judgment the local conditions are greatly bettered the patient remains convinced that his state is as bad as ever. For such we know of nothing that is likely to benefit them, but believe that they form a minority. A few cases follow to illustrate the various points which have been spoken of:

**CASE I. Chronic Prostatitis; Neuralgias and Despondency the Prominent Symptoms; No Improvement on Treatment.**—H. G., aged twenty-seven. Gonorrhoea three years ago, which ran a usual course. No further urethral trouble until nine months ago, when, without exciting cause, so far as the patient will state, a thin urethral discharge reappeared. This was intermittent, but was noticeable independent of erections or of defecation. About six months after he had first observed it he began to suffer from neuralgic pains in the perineum, tip of coccyx, and anterior crural regions; felt decided lassitude and muscular weakness, and became very despondent. The change in disposition was noticeable to himself and to his associates.

The patient is a small, slight, pale man, wearing an apathetic look. Expressed entire hopelessness as to his present condition, and had but slight hopes of his recovery.

The urine contains a slight trace of albumen, a little mucus and pus, prostatic epithelium, a few mucous shreds, and is otherwise normal. The normal size of the urethra is 31 (French); the meatus admits a sound of this size, which passes readily into the bladder. A little pus was seen on the sound upon its removal. The prostatic urethra is exceedingly sensitive.

Rectal examination shows the prostate to be slightly enlarged.

An examination of the other organs of the body shows nothing abnormal in connection with them.

The treatment, for one month, consisted in the daily administration of tr. nucis vomice, counter-irritation to the perineum with tinct. iodini from time to time, and for two weeks irrigation of the rectum with hot water for ten minutes at a time, daily. Temporary improvement followed, and then a relapse to the original condition.

The cold sound, the passage of large steel sounds, and the insertion of prostatic soluble bougies of zinc and iodoform, were then given a thorough trial with a similar result. The mucous shreds and pus, however, greatly diminished during this treatment, and the trace of albumen disappeared.

A month passed in the mountains after this greatly improved his condition, but the benefit was only short-lived, and all his old symptoms reappeared after a few weeks of city life. Shortly after this the patient was lost sight of.

**CASE II. Chronic Prostatitis, the result of Stricture and Neglected Gonorrhoea. Prominent Symptoms: Frequent and Painful Micturition, Melancholia, Neuralgias; Cure.**—F. M., aged forty. Gleet and symptoms of stricture for nine years. Internal urethrotomy performed a year ago; he neglected the after-treatment and a slight gleet persisted. A 33 (French) sound passed readily into the bladder,

showing that there was no tendency to recontraction of the strictured portion of the urethra.

But the patient had gleet, muscular weakness, neuralgias about perineum, great despondency, suicidal thoughts, and entire hopelessness in regard to his condition.

The urine contained mucous shreds from the prostate, prostatic epithelium, pus, and mucus.

The patient had increased frequency of, and pain on, micturition. The prostate was seen to be enlarged on rectal examination. The other organs of the body were normal. Strychnia and dilute phosphoric acid were administered internally.

Prostatic injections of one drachm of a solution of nitrate of silver, three grains to one ounce, were given twice weekly, and the perineum was mildly blistered. In eight weeks the patient professed himself as entirely well, and all the symptoms had disappeared except an occasional mucous shred in the urine.

**CASE III. Chronic Prostatitis complicated by Cystitis, a Fistula from the Prostate into the Rectum; Residual Urine; Prominent Symptoms: Frequent and Painful Micturition, Malaise; Instrumental Interference harmful.**—M., aged thirty-one. Gonorrhoea seven years ago; gleet ever since; four years ago a second gonorrhoea, followed by acute suppurative prostatitis; abscess opening into the rectum; establishment of a fistula. The prostate has remained enlarged ever since; residual urine has been also present.

Rectal examination shows a very large hard, but not tender, prostate. There is a slight urethral discharge. The urine is one of chronic cystitis.

The urethra was explored on two separate days, and admitted a No. 28 (French) sound; the second examination was followed by urethral fever lasting a week, and no further treatment was undertaken.

**CASE IV. Chronic Prostatitis, originating in Masturbation; Prominent Symptom: Frequent and Painful Micturition. Improvement.**—S., aged twenty-eight. No history or evidence of gonorrhoea. The patient has masturbated for a long time. He seeks relief on account of very frequent and painful micturition, a symptom which, beginning some months since, has gradually increased in severity, until now the calls to urinate are as often as every fifteen minutes, and very painful. He has imperfect erections and no sexual desire.

The urine contains mucous shreds; is otherwise normal. The penis is small, the urethra very sensitive, especially in the prostatic portion. The vasa deferentia are somewhat enlarged and hardened, but the prostate is normal in size and not sensitive.

The treatment, which was followed for more than a year, consisted in the administration of tonics, such as iron, quinine, strychnia, and cod-liver oil. The use of the cold sound and the passage of large steel sounds at regular intervals at first; later, local application to prostatic urethra of soluble bougies of iodoform, acetate of lead, and sulphate of zinc, with belladonna. The meatus was incised.

Each new form of treatment was followed by improvement, succeeded by relapse until toward the last months of the time, when the frequent and painful micturition gradually disappeared, and the patient's general condition improved.

# QUALITY OF SOME OF THE PHARMACOPŒAL DRUGS IN COMMON USE.<sup>1</sup>

BY B. F. DAVENPORT, M.D.

UPON the proper quality of the drugs of which we as physicians make use in the treatment of our cases depends very largely the results of our medications. If they are not of exactly the quality that they should be, all of our skill exercised in their selection may be of no avail. Deficiency or excess of action may each prove equally disastrous. Directly from the former in cases of sudden emergency, it is self-evident that it may happen, as with ergot in a case of post-partum hæmorrhage. Indirectly it may also as truly be the cause. A patient having become accustomed to take a very largely increased dose of an inferior preparation in order to get the desired results, may subsequently upon a refilling of the recipe get the preparation of the full and proper strength. Now, upon taking the accustomed quantity as a dose an unexpected amount of action is experienced; it may be even with fatal results. Many of us who have had charge of dispensary districts have seen probable fatal results in cases of infants from the variability in the strength of a much too well known and popularly used "soothing syrup." It was to secure uniformity in the composition of medicinal preparations which was largely the original cause of the formation of the various pharmacopœias, and it is to ensure this uniformity that the Pharmacopœia is enforced by law in most civilized countries. That some such support is needed in this country, and even in this most enlightened State of Massachusetts, has been amply shown by the results of the examination made by the State Board of Health, Lunacy, and Charity into the quality of the drugs sold in this State during the year 1882-83, which they have lately published.

According to that report, out of 680 samples of drugs examined, which were mostly the more important articles of the Pharmacopœia, considered as medicines, 284, or a little over forty-one per cent. of them, were found not to be fairly of the quality required by the statute. Some of the most flagrant cases were among the most important drugs, as, for instance, in laudanum, where some samples were only one sixth as strong in morphine as others. The average strength in 100 samples was only eighty per cent. of what it ought to have been. There were eighty-two per cent. of the samples which fell below the required minimum strength. Yet no tincture of the whole Pharmacopœia is probably more generally carefully prepared than this one. As the ingredients are costly it is deemed desirable to get as much out of it as possible, so as to leave little to be thrown away with the drugs. One thrifty tradesman of our city, of whom I am told, thought even these drugs too valuable to be thus wasted, as the opium itself had cost him so much; he therefore dried them, and used them to make Dover's powders from. As for the camphorated tincture of opium there appears to be even a much greater range of variability than in the simple tincture or laudanum. Very fortunate is it,

considering the ascertained variability in the preparations of opium, that our morphine salts have been so uniformly found to be of full pharmacopœial quality. The powdered opium itself was also usually good.

In cinchona barks the crude drug is not nearly of so uniformly reliable a character as is the opium, for not more than half the samples examined were found to be up to the standard of quality required of them. The galenical preparations from the bark, as in the case of the bark itself, are of quite an uncertain alkaloidal strength, while the simple salts of the alkaloids were in almost all cases of good quality, just as was the case with the morphine salts. In those cases which were not up to the standard it was the more expensive salt, such as quinine, which had an excessive impurity of some one of the other and cheaper cinchona alkaloids. In these salts absolute chemical purity from the other three principal alkaloids is not demanded, but a limit of not over one per cent. of the other alkaloids is allowed.

A very shrewd form of adulteration of quinine has lately been discovered in New York City in quite a number of instances. It is the addition of milk sugar to the salt. Its presence would not be detected by the more usual tests which would be used upon a sample of quinine, such, for instance, as with concentrated sulphuric acid for the color caused by most other organic substances, or by the Kerner test, which depends upon the varying solubilities of the four alkaloids in water and ammonia. As the quinine is the least soluble in water, but the most in the ammonia, this detects the presence of more than one per cent. of quinidine or cinchonidine, or of more than mere traces of cinchonine. The presence of the sugar is most easily demonstrated by boiling up the quinine sample with three times its weight of the ninety-one per cent. alcohol of the Pharmacopœia. In this the quinine itself is easily soluble, while the sugar would remain nearly wholly undissolved. This residue, when fully washed out with further alcohol, would be found to be sweet, and to respond to all the tests for milk sugar.

In the compound salts of quinine, such as those with iron, there has been found the great variation of those containing from only a quarter part of the full amount to those containing even a little more than the full amount of quinine. Only fifteen per cent. of the samples, however, contained the at present required twelve per cent. of quinine, while formerly it was sixteen per cent. Furthermore, there has been the almost universal substitution of the unauthorized green seal salt containing ammonia, the so-called soluble salt, and which usually claims but ten per cent. of quinine, for the brown pharmacopœial salt, which does not contain ammonia, but is, as it is intended to be, a scale which goes very slowly into solution, although it is in time fully soluble. This is a preparation intended for use in pills, etc., where its slow solubility is desirable. Those whose wish is for a more quickly soluble preparation should make use of the liquor ferri and quinine citratæ which has been prepared to meet their special needs.

Another drug, jalap, which has been in extensive use by our physicians, has been found, upon exam-

<sup>1</sup> Read before the Boston Society for Medical Observation, March 2, 1885.

ination, to be commonly very inferior to the requirements of the Pharmacopœia. By this it is required to have not less than twelve per cent. of resin, of which not more than ten per cent. should be soluble in ether. Not more than one sample in six has been found to come up to these requirements, and most of the wholesale druggists of this city have told me that they were unable to furnish at present that which did. This, in their minds, seemed to show that the standard of the Pharmacopœia was too high, while to me it only showed the prevalence of the inferior article. Selected samples will yield twenty-two per cent. of the resin, while the good commercial samples should yield from twelve to eighteen per cent. That the majority of any drug offered in the market does not equal the standard required of it may prove either of two facts: first, that the standard may have been set too high, or, secondly, that the majority of the article offered is adulterated, or of a quality inferior to what it should be, and that consequently there is a very great need of an enforced standard. Just this was the case in our city a few years ago, when ninety per cent. of the samples of milk analyzed were found to be inferior to the legal standard, and therefore the producers then generally thought that the standard was a little too high. But now, since they have been shown that milk, when taken straight as their own cows gave it, was very generally above the standard, they have been convinced that the standard is all right, but that it is the adulteration which is the prevalent error which ought to be complained of.

The bromide and iodide of potassium are two much used chemicals which in the great majority of cases are not of the quality called for in the Pharmacopœia. The unfortunate trade custom prevails which requires that they should be in opaque porcelain white crystals. To secure this appearance they have to contain a considerable impurity of alkaline carbonate which unfits them for use in many mixtures into which many physicians seem to have a desire to combine them. Presence of an excessive amount of chlorides, sulphates, and even water, are the rule rather than the exception. The price has been ranging so very close upon the cost of manufacture that the having even only one per cent. of water present may make the difference between loss or profit in the sales. It is the pure, dry, colorless, translucent crystals that physicians should learn to demand to have dispensed for them.

The compound spirit of ether, or Hoffmann's anodyne, is an important drug, of which probably many physicians never have seen a true sample, the imitation being so very much the more common of the two, most manufacturing chemists using therefore a residuum by-product left in the process of rectifying crude ether. The chief excuse offered for this fraud is the great cost of the true ethereal oil, which is about fifty times that of the same weight of alcohol, and this plus the other costs of the manufacture. As alcohol is at present worth about forty cents per pound the ethereal oil is therefore worth not less than \$20 per pound, while the pharmacopœial preparation, as ours is mixed with an equal volume of stronger ether, should cost about \$10 per pound. The common commercial compound spirit of ether has averaged at the price

of about fifty cents per pound, while it should have been nearly four times that sum. The cheap preparation, however, does not usually contain as much as one fourth part of the proper amount of the expensive ingredient, ethereal oil, but commonly it has none of it at all. The above-mentioned by-product from the rectification being variously modified by the addition of alcohol, ether, fixed oils, etc., so as to make it match in taste, smell, opalescence, and the other physical properties, a standard sample of the true preparation kept by the manufacturer. A drug prepared as an imitation in this manner must be most uncertain in its action, and it cannot surprise any one that the product as obtained from different stores varies very much in its properties, and very often must disappoint the reasonable expectations of physicians. It is for this reason, I suppose, that this important preparation has so much fallen into disuse in these latter days.

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

C. M. GREEN, M.D., SECRETARY.

ANNUAL MEETING, April 25, 1885. The President, Dr. JAMES C. WHITE, in the chair.

Dr. ROBERT T. EDES read a paper on

#### SOME NON-VALVULAR DISEASES OF THE HEART.<sup>1</sup>

Dr. MINOT thought there was nothing improbable in the idea of the so-called functional derangements of the heart being dependent upon structural changes in the nerves or ganglia, which were not necessarily permanent. The researches of Charcot and Vulpian have shown that paralysis following diphtheria probably depends upon structural alteration of the cord or nerves, or both. This alteration, however, must be transient in the large number of cases which recover.

Dr. F. C. SHATTUCK expressed his obligation to Dr. Edes for bringing this interesting and important subject before the Society. Hitherto our efforts have been directed to perfecting our knowledge of the valves and heart muscles with the result that we are now in a position to diagnose many of the pathological changes in these structures with great accuracy. Faulty innervation of the so-called "functional" character has been dwelt upon more or less by all writers on cardiac disease, and frequently comes under the notice of every practising physician. The reader has well shown how little attention structural changes in the cardiac ganglia has received in the past from either pathologists or clinicians, and how very limited is our real knowledge in regard to them. The subject is a difficult one, much more difficult than the study of the lesions of the muscular and fibrous portions of the heart; but that fact makes it none the less important that our attention should be called to it.

In several cases of pericarditis without appreciable serous effusion coming on insidiously during the stage of absorption of left pleurisy, and apparently secondary to that disease, the speaker had

<sup>1</sup> See page 103.

been struck by great irregularity in the action of the heart. In the absence of pain, as well as of any other evidence of *acute* inflammation, and of effusion, the symptom was striking and the speaker had been at a loss to account for it fully: perhaps the cause lay in some such condition of things as Dr. Edes describes; but the changes in the cardiac ganglia, if changes there were, were less serious, as the patient ultimately recovered perfectly.

#### THE PERIOD OF INCUBATION OF TYPHOID FEVER.

Dr. F. C. SHATTUCK reported the following facts which suggest the possibility that the poison of typhoid fever may lie dormant in the system at least four weeks before the disease begins to manifest itself. He had recently had under his care a young lady with mild but unmistakable typhoid, who on January 10th moved into a new house from one which she and her family had occupied for some years, but left because there were bad smells which the landlord refused to try to remedy. February 6th she was taken down with the fever, and at the request of Dr. S. the Board of Health examined both houses. The new house was in perfect order; but the soil-pipe of the old house was broken at a point so near the cold-air box of the furnace that the odor of peppermint came up the registers. The family drank only spring water, so the disease cannot be laid to Pegan Brook and the inhabitants of Natick. Careful inquiry failed to show any other cause for the attack.

Dr. MINOT asked if the period of incubation of typhoid fever could be five or six weeks.

Dr. SHATTUCK said that he did not mean to assert that his patient contracted her disease in the house from which she moved: the facts were reported only for what they were worth. In one house there was a satisfactory cause, in the other there was not. Our knowledge is not complete as to the duration of the stage of incubation of the infectious diseases, and one reason which led to the reporting of the case was the positive assertion of one of the physicians connected with the Board of Health that so long a period of incubation of typhoid fever is impossible. Our knowledge does not warrant such a positive statement one way or the other.

Dr. MINOT alluded to the great difficulty of detecting the source of infectious disease in many cases. In a family occupying a recently built house in which no pains or expense were spared to make the drainage and plumbing as perfect as possible, several cases of diphtheria occurred. The most minute investigation having failed to show any sanitary defect, the house was thoroughly fumigated with burning sulphur; but on the return of the family, several days afterward, a fresh case occurred, which proved fatal.

#### INCIDENTAL BUSINESS.

The Treasurer submitted his annual report, showing the income of the Society to have been \$563.93, and the expenditures \$494.72: there remained in the treasury \$69.21.

The Treasurer announced that the ordinary income of the Society would not be sufficient to meet the expenses of the ensuing year: on the Treasurer's

suggestion it was therefore voted that an extra assessment of one dollar be levied on each member, to be collected at the annual meeting of the Massachusetts Medical Society.

The Committee on Social Meetings reported an expenditure of \$50, and a balance on hand of \$58.73. It was voted that the Committee continue to provide supper at the stated meetings of the Society.

It was also voted that the President be authorized to appoint at his discretion delegates to attend the annual meetings of the American Medical Association without calling a special meeting of the Society for the purpose of so doing.

The Nominating Committee submitted its report, and the Society proceeded to ballot for officers for the ensuing year. It was subsequently declared by the tellers and announced by the President that the nominees of the Committee had been duly elected.

Officers of the Suffolk District Medical Society, elected April 25, 1885:—

President, George B. Shattuck. Vice-President, John Homans. Secretary, Charles M. Green. Treasurer, Edward M. Buckingham. Librarian, B. Joy Jeffries. Commissioner of Trials, Charles W. Swan. District Nominating Committee, Richard M. Hodges. Committee of Supervision: Benjamin S. Shaw, Samuel A. Green. Committee on Social Meetings: Calvin Stevens, Francis H. Brown, George W. Gay, Abner Post. Censors: A. N. Blodgett, E. G. Cutler, T. M. Rotch, F. C. Shattuck, F. H. Williams. Councilors: S. L. Abbot, James Ayer, H. H. A. Beach, H. J. Bigelow, C. J. Blake, J. G. Blake, H. I. Bowditch, A. T. Cabot, D. W. Cheever, Hall Curtis, H. Derby, O. W. Doe, F. W. Draper, J. R. Draper, S. H. Durgin, Thomas Dwight, R. T. Edes, R. H. Fitz, C. F. Folsom, G. W. Gay, J. O. Green, S. A. Green, F. B. Greenough, W. H. H. Hastings, R. M. Hodges, C. D. Homans, John Homans, W. Ingalls, B. J. Jeffries, F. I. Knight, S. W. Langmaid, M. B. Leonard, G. H. Lyman, F. Minot, C. B. Porter, John P. Reynolds, W. L. Richardson, G. C. Shattuck, B. S. Shaw, A. D. Sinclair, D. H. Storer, A. M. Sumner, C. W. Swan, G. G. Tarbell, O. F. Wadsworth, J. C. Warren, Thomas Waterman, James C. White, W. G. Wheeler, E. N. Whittier, H. W. Williams.

#### BOSTON SOCIETY FOR MEDICAL OBSERVATION.

CHARLES H. WILLIAMS, M.D., SECRETARY.

MARCH 2, 1885.

Dr. F. H. WATSON read a paper on

#### CHRONIC PROSTATITIS,

which is printed on pp. 496-499.

Dr. PORTER said the most sensitive part of the urethra was in the prostatic portion, or just in front of it. In these cases he had found a cold steel sound of the greatest service. It dilates the urethra to its normal size; it seems to press the blood out of the velvety and inflamed surface of the mucous membrane and reduces the sensitiveness of the parts.

He considered tonics internally and cold steel locally of the greatest benefit; also the use of soluble bougies is a very valuable means of treatment in many cases. The hot-water douche is often of great benefit, and in cystitis irrigating the rectum often relieves the bladder; the water may be from 115° to 120°. He mentioned one case where there was a hyperæsthetic condition of the urethra, in which coitus produced almost immediate ejaculation, followed by an intense priapism, often lasting from six to eight hours; the patient was relieved by the use of the steel sound. He also spoke of the mental condition which was often present, and could generally be traced to the reading of some quack advertisement, and called attention to the need of combating this condition, which may often entirely unfit the patient for work, although his other symptoms may not be serious.

DR. A. T. CABOT said that those cases of chronic prostatic inflammation that he had seen might be divided roughly into two classes: First, cases dependent upon excessive or perverted sexual excitement; secondly, cases in which the prostatic urethra was the seat of an inflammation that had extended to it from some neighboring part (urethritis or cystitis). In patients of the first class adjustment of the sexual hygiene, tonics, and counter-irritation over the perineum, with the occasional passage of a large sound, usually sufficed to bring about a cure. In cases of the second class, which were characterized by the presence of pus in the first part of the urine passed, the deep injections of nitrate of silver in the manner described by Dr. Watson were found most efficacious. The benefit derived from these injections seemed to be increased by the passage of a sound immediately before their use. He would be inclined to include some of the enlarged prostates seen in old men among the chronic inflammatory processes. These cases are intermittent in their symptoms, a period of quietude being followed by a stage of inflammation, during which there is a marked increase in the size of the gland and in the difficulty of micturition. The prostate during these attacks is hot and tender, and leeching the perineum often does much to control the symptoms. Each of these accessions of inflammation, as it subsides, leaves the gland with a slight augmentation of size.

DR. TILDEX said that all these symptoms might be found in other conditions than inflammation of the prostate; he had seen such a case where the trouble was caused by an anterior stricture, and one was only justified in treating the prostate locally when other troubles had been eliminated. Enlargement of the prostate should always be determined by rectal examination. He thought the injections of nitrate of silver were very serviceable; he had often used general tonics and a pill of ergot, strychnia, and cannabis indica.

DR. WATSON said when we get no discharge from the anterior urethra, but find prostatic epithelium and shreds of mucus, with swelling of the prostate gland, we may be sure of prostatic trouble. He had never seen a case of prostatitis caused by bicycling or horseback riding, but where the trouble already existed these exercises would increase it.

DR. B. F. DAVENPORT then read a paper on

#### THE QUALITY OF THE PHARMACOPEIAL DRUGS IN COMMON USE.<sup>1</sup>

DR. EDDES spoke of the increasing use of alkaloids in the place of the crude drugs. He considered it a great gain, as the dose was more easily regulated and the quality of the drug was much better, as the alkaloids were much less likely to be adulterated. He mentioned the extract of cannabis indica as especially untrustworthy, whereas the tannate of cannabin was much more reliable, and in using opium, belladonna, or cinchona, the alkaloids were much more used than formerly.

DR. DEBLOIS showed a plaster nasal splint. Two bandages are incorporated into the plaster, which is fitted to the nose while soft; on hardening, the plaster holds the parts comfortably in place, and it can be kept in place by the two bands, one tied behind the ears and head, the other over the top of the head.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, May 7, 1885.

##### THE PHYSICAL EXAMINATION OF WEAK CHESTS AND DIFFERENTIAL DIAGNOSIS OF THE SEVERAL FORMS OF EARLY PHTHISIS.

DR. E. DARWIN HUDSON, JR., read the paper of the evening on this subject. The interpretation of physical signs, he said, could never be dissociated from some theory of the nature of the existing disease. For nearly fifty years the specific nature of all phthisis and its transmission solely by heredity, according to the pathology of Bayle and Louis, remained unquestioned; but the last twenty years had witnessed almost a revolution of opinion as to the prominence, or causative relation, of military tubercle in phthisis, and a majority of all investigators and of the profession had come to acknowledge the three forms of phthisis, the catarrhal, fibroid, and tubercular, as so clearly presented by Sir Andrew Clark and Professor Loomis. There was also reason to believe that in very many cases the disease exists in a mixed form, and he felt satisfied that in consideration of the different methods of origin and the complex nature of a large proportion of cases, our physical exploration was incomplete if we discovered only the presence of cavities and softening, or the evidences of local consolidation. A complete diagnosis should include, *in extenso*, an exact knowledge of the condition of each portion of the respiratory apparatus, including the air-passages, vesicles, interstitial tissue, and pleura; and the views which he wished to present related to the methods of examination most useful in studying weak chests with tendencies to phthisis, in detecting the times of transition from danger to disease, and in differentiating the early forms of phthisis.

Later on he spoke of the importance of examining all parts of the chest, and called special attention to two areas, often affording most valuable information, which were almost wholly passed over by most examiners. These were the high axillary region and the interscapular spaces. In the first, the initial area of pneumonic consolidation in cases of irregular pleuropneumonia and in certain low and

<sup>1</sup> See page 500

indefinite forms of pneumonia, as evidenced by bronchial breathing, had alone been found. In the interseapular region are the larger bronchial trunks and the hilus of each lung, close to the posterior wall of the thorax; but in order that the area could be examined with advantage, it was necessary that the patient should cross his arms in front, each upward at an angle of 45°, with the hand on either side grasping the convexity of the shoulder, and should also bend the head well forward. In this way the interseapular space could be more than doubled in area, while the muscles were rendered tense and thin.

*Inspection.* He was convinced that in a large proportion of chest cases, and in a large number of phthisical ones, an approximate diagnosis could be made by inspection alone. It was highly desirable, therefore, to extend it, in detail, to all the structures of the thoracic wall. Among other points, he spoke of the significance of the direction of the clavicle; stating that when it was deflected upward and backward, at an angle of thirty, thirty-five, or forty-five degrees, the chest development had evidently been most defective during a long term of years, and the presumption was in favor of the existence of lungs, undeveloped at their apices, which had more fully occupied the supraclavicular and clavicular areas. He also dwelt upon the relation which slight lateral curvatures of the spine have to the condition of the respiratory organs (claiming that in many cases their appearance was subsequent to the occurrence of pronounced attacks of pleuritis or pleuropneumonia, or a period of long-continued unilateral thoracic pain with associated cough), and on the importance of closely observing and interpreting, with their full significance, the changes in the individual intercostal spaces, and also in the supraclavicular space, suprasternal notch, and epigastrium. Dr. Hudson explained in the following way the fact that the apices are preferably attacked in phthisis: (1) The apices are so frequently enfeebled by contraction of the upper part of the bony thorax, — whether by want of muscular activity and development, or by rounded shoulders through carelessness and indolence, or through confining work at desk or trade. (2) The apex region in this enfeebled condition is soonest reached and most easily invaded by the frequently occurring catarrhal inflammations. (3) Because the apices, when invaded by hyperæmia or catarrhal processes, are not favorably affected by the energetic force of cough.

*Mensuration and Palpation.* He had but a word to say in regard to the former, but mentioned, in regard to palpation as a method of chest examination, that it was particularly valuable as relates to the subject of fremitus. Fremitus was especially instructive for negative diagnosis; often indicating the normal chest by a characteristic vibration communicated to the hands, which could not be misinterpreted.

*Percussion.* The exclusively pulmonary origin of percussion sounds was easily disproved; the elasticity of the chest-wall being undoubtedly an essential factor or contributor to the percussion note. In contracted chests and in the mixed forms

of early phthisis percussion leads to no positive diagnosis, until supplemented by auscultation.

*Myoidema.* Dr. Hudson devoted considerable time to this phenomenon, which was first reported by Graves and Stokes, in 1830. The result of his personal observations was: (1) That it frequently exists in established phthisis, where the long-standing and progressive intrathoracic disease has wasted the body. (2) That it frequently exists in incipient phthisis. (3) That it is exceptionally present in any other disease, and its presence in any such case justifies a suspicion of phthisis. In but one case, a convalescent typhoid, did it seem pronounced, and so exceptional was this case that, though chest disease was not demonstrable, he felt that its early manifestations might soon appear. He usually percussed with a quick blow upon the costal cartilages of either side; when instantly two or three little conoidal tumefactions appeared. He had sometimes seen in the intercostal space an associated reflex muscle wave, which floated away toward the shoulder until lost. He believed the so-called "myoidema" to be a true cutaneous reflex, and said he had come to regard it as of much diagnostic value. In concluding this subject he passed around a photograph representing two of these tumefactions on the chest-walls.

*Auscultation.* The absence or modification of the vesicular murmur had always, and properly, been regarded as a first warning of phthisis; but the presence or absence, fullness of development or enfeeblement of the vesicular murmur was not of so great value in differentiating the three forms of phthisis, and especially the relative proportion of each in mixed phthisis. He had for a long time come to regard the study and application of the conducted whisper as of equal or greater value than the study of changed vesicular murmur and conducted voice, and of far wider application in determining and differentiating the early steps of the three definite forms and the many mixed cases of phthisis. By employing the smaller tube of the stethoscope in connection with the incisive, high-pitched whisper, close comparison of adjacent limited areas, as contiguous lobules, could be made to great advantage. He also especially valued the whisper tests in distinguishing a healthy lung from one but slightly diseased. The occurrence of a hamoptysis was often the occasion of a first examination of a hitherto unsuspected or a long-neglected chest; and the physical signs were widely different, as a rule, during the first hours, or days, succeeding a hamoptysis.

In all disease the effort of the physician, Dr. Hudson said in conclusion, should be specially directed to arriving at an early and accurate diagnosis; and with reference to pulmonary phthisis it may be truly said that the usefulness of the medical attendant is greatest in the cure and restoration of the enfeebled chest and chests invaded to a comparatively slight extent by disease. The fully developed consumption is so difficult to combat that it is an *opprobrium medicinæ* that so little can be done.

#### DISCUSSION.

DR. ALFRED L. LOOMIS said he was much pleased that the author of the paper had so sharply defined

the physical signs met with in early phthisis, and while he could not agree with him in every particular, in the main he was entirely willing to endorse the positions taken. In regard to inspection, he had come more and more to realize the importance of the method. It often happened that the appearance of the chest alone was sufficient for the diagnosis of early phthisis. Although in 1,200 or 1,500 chests he had found only 10 per cent. that were perfectly symmetrical naturally, the general inspection of the chest afforded certain knowledge to the skilled examiner which could not be derived from any other source. There were certain areas which were of special importance. When he first began the study of thoracic diseases, and for many years afterward, he was accustomed to look principally to the infraclavicular spaces, as he had been taught; but for a considerable time past now he had come to regard the signs found in the scapular spaces of much greater importance. Many and many a time he had found the signs of early phthisis there when they could not be detected anywhere else. In a large number of cases the disease commenced in this region, and he regarded this area of particular value from the fact that here he often found evidences of disease on both sides, while elsewhere it was impossible to ascertain that it existed except on one side. It was the localized bronchitis which told us of the phthisical trouble. The axillary space was also of great importance, and when there was extensive consolidation of the central portion of the lung, he had yet to meet the first instance in which the physical signs in this area did not indicate the condition.

In regard to percussion, he said he would be inclined to lay more stress on the value of the method than Dr. Hudson apparently did. As often practised, with sledgehammer-like blows, always in one direction, he thought that very little information could be gained from it; but a single tap, light though firm, would often give a more exact idea of the amount of infiltration present in any case than could be obtained by auscultation. Percussion was of special importance in the scapular space, where a peculiar dull note (a simple loss of resonance) was of peculiar significance. In the auscultation of the voice, the whisper was of far more value than the spoken tone; particularly in giving information in regard to the condition of the pleura. There were certain changes which gave rise to very few physical signs which could be accurately determined by means of the whispered voice. In regard to the respiratory murmur, he recognized three changes of importance in early phthisis, namely, as regards softness, harshness, and interruption. If the murmur was feeble, as well as harsh, it indicated an affection of the pleura, probably tubercular in character. By the peculiar harshness of the vesicular murmur he had detected the commencement of acute phthisis months before the easily recognized signs of the condition had appeared.

Dr. PACK spoke in confirmation of Dr. Hudson's views in regard to myoidema.

Dr. E. G. JANEWAY said in reference to myoidema that he had studied the matter sufficiently to convince himself of the unreliability of the phenomenon as a diagnostic sign. He had seen it fre-

quently in other diseases than phthisis, and in various muscles all over the body. He believed that it could often be found in emaciated subjects, whatever the cause of the loss of flesh, and thought that the only reason why it had not been so generally observed in other wasting diseases besides phthisis was because in them the physician was not ordinarily apt to tap the chest. As he had just said, myoidema was not limited to the chest; and, as a rule, he had found it much more perfectly developed over the biceps and deltoid muscles than over the pectoralis major. He believed that the phenomenon was undoubtedly purely muscular. In the early stages of phthisis the most that we could make out by physical signs was condensation, thickening, consolidation, and local bronchitis. While all the signs had their value (palpation probably the least of any), there are always chances of error, and the true significance of the condition present might not be imparted by them. He would attach considerable importance to signs of irritation of the bronchi, and rales in the small bronchi, limited to the supra and infraclavicular spaces, he thought was of great significance. When there were evidences of consolidation, it would not do to trust to a single examination, since pneumonias not infrequently occurred at the apex of the lung. Such pneumonias ran a characteristic course, and were apt to involve the posterior and middle parts of the upper lobe, leaving the anterior portion untouched. At the present time he should not be willing to make a positive diagnosis without resorting to a careful microscopic examination of the sputa. The character and number of bacilli present in any given case were of great importance in determining the kind of phthisis from which the patient was suffering. Dr. Janeway laid stress upon the necessity of making the microscopic examinations with great care and deliberation, and in accordance with the most approved methods, and said that in more than one instance an incorrect diagnosis had been made through lack of proper caution. In conclusion, he spoke of the importance of inquiring into the past history of the patient in every case, since the signs of early phthisis might apparently be present, when in reality these are simply evidences of a bygone disease which had existed in the lungs years before.

Dr. HUDSON remarked that in the limits of such a paper he could not hope to cover the entire ground, and that there were many other points which he would gladly have touched upon had time permitted. He had endeavored to indicate, however, in as plain a manner as possible the physical characteristics, not so much of typical cases of phthisis as of those of a more obscure variety. In regard to myoidema he said that he wished it to be distinctly understood that the phenomenon in question was *not* a muscle wave, but a true cutaneous reflex. In the paper he had been particular to say that he had sometimes seen an associated reflex muscle wave in the intercostal space, which floated away toward the shoulder until lost. He thought Dr. Janeway would hardly dispute the fact that there was a real elevation of the skin in urticaria and cutis asneria, and since this was the case, he believed it was reasonable to suppose that the so-called myoidema was a cutaneous phenomenon. Finlayson and Gairdner

expressly stated that the designation given by Lawson Tait, myoedema, was a misnomer. For some time past Dr. Booth had examined every patient coming under his observation in the department for nervous diseases, of the Manhattan Eye and Ear Hospital, for true myoedema, and had not found it in a single instance; and, as he had mentioned in the paper, he had himself observed it in no cases where phthisis was not present, with the exception of one or two of convalescence from typhoid fever. That it was not a muscular phenomenon he thought was proved by the fact that the tumefactions were caused by striking upon the costal cartilages, where there was no muscular tissue.

DR. JANEWAY said he would like to add but a single word to what he had said before. He had carefully examined the photograph exhibited by Dr. Hudson to make sure that the phenomenon treated of in the paper was the same thing which he himself understood by the term myoedema, and he found that it was, precisely. He thought Dr. Hudson could hardly successfully deny that the fibres of the pectoralis major extended over the costal cartilages.

#### PATHOLOGICAL SOCIETY OF PHILA- DELPHIA.

THURSDAY evening, April 23, 1885. The President, DR. E. O. SHAKESPEARE, in the chair.

##### NOTES ON THE MORBID ANATOMY OF PNEUMONIA.

DR. OSLER read a paper summarizing his experience while pathologist at the Montreal General Hospital. Of 105 autopsies in cases of lobar pneumonia, of which notes were available, five were discarded for various reasons. The mortality at the hospital is high on account of the large percentage of grave cases which are admitted, very many in persons debilitated and dissipated.

Of the one hundred cases seventy were males and thirty females. Of ninety-four instances in which the age was given, there were eleven cases under twenty years; twelve between twentieth and thirtieth; eighteen between the thirtieth and fortieth; twenty-one between the fortieth and fiftieth; twelve between the fiftieth and sixtieth years, and twenty cases over sixty. In fifty-one cases the right lung was affected; in thirty-two the left, in seventeen both. Other details were given of the various lobes affected. The heaviest lung weighed was 2,303 grammes, and in eight instances the affected organ weighed over 2,000 grammes. In about fifty per cent. of the cases there was red hepatization; in thirty per cent. mixed red and gray, and in about twenty per cent. gray hepatization. The condition of the pleural air-passages, bronchial glands, and unaffected portions of the lung tissue were described. Among the terminations there were four instances of abscess formation, three cases of gangrene, and one in which there was a process of fibroid induration beginning in the lung. This case was a man aged fifty-five, admitted with pneumonia of the right lung five days after the initial chill. Resolution did not occur and he died in the fifth week.

*Postmortem.* The right lung was found solid,

grayish in color, and in many areas the tissue had a smooth, homogeneous, translucent aspect, and in these a fibroid change was going on; the alveolar walls were thickened and the fibrinous plugs in the air-cells seemed undergoing transformation into connective tissue (a slide was shown illustrating this). There were no caseous portions and no tubercles.

As to the other organs, the frequency with which large firm clots were found in the heart was specially dwelt upon. In only thirty-five instances was the spleen much enlarged. In one it weighed 670 grammes. In twenty-five per cent. there were marked fibroid changes in the kidneys. Of the complication, there were five cases of pericarditis and sixteen cases of endocarditis. In eight instances the meninges of the brain were inflamed, in five of them associated with ulcerative endocarditis. In five instances there was acute croupous or membranous colitis, and in one instance croupous gastritis.

DR. TRYON, in the discussion of Professor Osler's paper, said that he had been rather incredulous of the termination of croupous pneumonia in fibroid induration, but the specimen exhibited by Dr. Osler demonstrates conclusively that such a condition exists. The facts presented in the paper are such as are not generally collated.

Collective reports of autopsies in cases of particular forms of disease would be of great value in the study of pathology. Dr. Formad asked Dr. Osler why his was not a case of acute phthisis. Croupous pneumonia is a very common accident in acute phthisis.

It is croupous pneumonia which causes deaths, which is well shown by recent investigations of Mercur, of the University of Pennsylvania.

DR. FORMAD did not believe that croupous pneumonia can last five weeks.

DR. SHAKESPEARE said that the remarks of Dr. Osler about the frequent existence of very firm clots in the right heart, extending into the ventricles, can be corroborated by any one who makes autopsies of cases of pneumonia at hospitals. He had seen them in cases of phthisis quite as extensive and firm, reaching into the vessel going to the afflicted part of the lung. It is interesting to note the systemic involvement of these cases of croupous pneumonia, and the affection of internal organs, as well as lungs, in the process which has been regarded as a local disease. We have to do with a general wide-reaching affection, rather than local inflammation. The opinion was advanced by Dr. Osler that the exudate in the air-cells organized, that the process in the organization of the croupous exudate is similar to that in the clot in arteries after ligation, and that comparison was the point which Dr. Shakespeare wanted to bring out. Dr. Shakespeare said that he did not believe that a blood clot in a vessel ever organizes, and his opinion is based on facts detailed in an investigation which he has published on the healing of arteries after ligation. The vessel healed, not by the agency of the white cells caught in the meshes of the reticulum, but by proliferation of the endothelium of the tunica intima and subjacent connective-tissue cells. He thought there was reason to believe that there is in

this process in the lungs an analogue of the process after ligation.

We have to do with an outgrowth of the inter-alveolar walls. The ground which Dr. Shakespear takes is purely that of analogy to the process in a blood clot in a ligatured artery.

DR. OSLER, in closing the discussion, said that it was well known that croupous pneumonia might persist five or six weeks, or even longer, before resolution took place.

It was difficult for any one who had not had the experience to realize the anxiety which such a case would cause. He had reported two such cases of delayed resolution, one in the fourth week and one in the eighth, both with perfect recovery. He was quite aware of the difficulty in distinguishing certain cases of acute phthisis from pneumonia, and had seen a case with Dr. Ross in which the diagnosis was for some time in doubt, but in the case in question the person had been under observation from the outset, and the symptoms were those of ordinary pneumonia.

Postmortem there were no caseous masses, no miliary tubercles, only the condition already described. The termination in fibroid induration, though rare, was perfectly well recognized. In Cornil and Ranvier's Manual, as well as in Green's Pathology, was a figure which might have been taken from the slide under the microscope.

DR. M. H. FUSSELL, of Manayunk, presented specimens from a case of

#### PRIMARY TUBERCULOSIS OF THE KIDNEYS.

The reporter never saw the subject alive from whom the specimens were removed, having performed the post-mortem examination for a friend.

Case of Edward B., aged forty; single; by trade a paper-maker. In following his calling he was forced to stand in a dust-loaded atmosphere from morning until night. He worked at this trade from boyhood, steadily, with the exception of four years during the late war. His grandfather died of bladder trouble; his father died of apoplexy; his mother, brothers, and sisters are all living and healthy. He was always a robust man; his weight was one hundred and seventy pounds, and he never had any serious illness; he had gonorrhœa during the war. Four years ago while in camp he made a misstep and fell. The next morning he passed much blood in his urine; previously to this he was perfectly well. From this time until death he was troubled with slight pain in his loins and with frequent micturition; his urine was sometimes bloody, sometimes milky. The patient's bladder finally became incontinent and he was forced to wear a urinal.

The patient's general strength did not seem to suffer until the past six months, when he began to lose flesh and strength, and at death he was much emaciated. He had never had any cough or diarrhœa. Two weeks before death he began to vomit; this increased in frequency until he was unable to retain anything on his stomach. Just before death, breathing was rapid and full. The patient was very restless, vomited, and passed urine freely. The pupils were dilated.

DR. FUSSELL examined the urine several times.

The specific gravity ranged from 1.002 to 1.010. Large amounts were passed. Albumen was present. The microscope showed pus, blood, and granular epithelium. Many of the cells were irregular in shape, the pyramidal form predominating. No casts were found at any time. Unfortunately, a critical physical examination of the patient was never made. At different times surgeons had sounded him for stone and had failed to find any.

*Postmortem.* Nothing especial noted on the exterior of the body.

*Thorax.* Heart about normal in size. The muscle looks normal, and contains a large amount of fluid blood and currant-jelly clots. A small decolorized clot on the left side. Valves normal.

*Lungs.* Both pleural cavities obliterated. The pleuritic adhesions were tough, the lungs being with difficulty torn from the cavity. In places the pleura was much thickened. The surface of both lungs was studded with miliary tubercles. On section the lung substance was crepitant and studded with myriads of miliary tubercles. No caseous masses nor cavities were found in either lung. The bronchial glands were enlarged, not caseous.

*Abdomen.* Viscera in normal position, peritoneum free from tubercles and of a healthy look.

Liver of normal size and color. Over the surface a few stellate cicatrices were noted, but no tubercles seen on the surface nor on section of the organ. The bile-ducts free.

The stomach contained greenish-black fluid, the mucous membrane of a greenish color corresponding to the contained fluid. The rugæ were much enlarged, especially at the cardiac end. Near the pylorus there was a small injected spot.

*Kidneys.* The right measures six inches in length and three in width, and is of a reddish hue; the surface is studded with tubercles; on stripping off the capsule the larger of these remain with the kidney structure, while some of the smaller ones are torn off. On section, the cortical substance is seen to have a thickness of about one third of an inch. Numerous foci of softening are seen. Three are of the size of a nickel five-cent piece. There are very many smaller ones, situated mostly in the pyramids. Numerous miliary tubercles throughout the substance of the kidney. The foci of softening are evidently due to breaking down of the tubercles. The ureter is dilated, measuring half an inch across in some portions. The mucous membrane is ulcerated. The pelvis of the kidney is not dilated and shows miliary tubercles.

The left kidney is large, and is converted into five or six cysts. There is but little kidney substance remaining. The surface of the kidney is studded with a few tubercles. The cysts are lined by a thick, leathery membrane which can be stripped from the kidney substance. On puncturing the cysts, a perfectly clear serous fluid at first escaped, soon followed by a milky substance containing some cheesy masses. The pelvis is smaller than normal, the ureter entirely occluded.

The suprarenal capsule had undergone degeneration and is of a uniform yellowish-white color, and presented tubercles.

The bladder was slightly contracted, the mucous membrane indicated, the muscular coat being

exposed. The vesical trigone was of vivid red color and studded with miliary tubercles.

The intestines were normal, no enlargement of lymphatic elements. The mesenteric glands were slightly enlarged. The prostate gland and spleen were not examined.

PROF. WM. OSLER kindly made sections of the kidney and suprarenal capsule, and the reporter is indebted to him for the following report:—

First, Extensive, wide-spread, small-celled infiltration between tubules and Malpighian tufts.

Second, Distinct miliary tubercles with centrally placed giant cells.

Third, Areas of softening and disintegration. Tubercle bacilli carefully sought for but only two undoubted specimens found.

Suprarenal capsule showed miliary tubercle with centrally placed giant cells.

DR. FORMAD referred to a similar specimen which had been exhibited by Professor Tyson at a former meeting of the Society.

DR. OSLER remarked that Dr. Fussell's case corresponded in all essentials to what we know as tubercular nephritis. The bacilli, however, were scarce and difficult to find. Since the report of Dr. Tyson's case a few weeks ago, he had had occasion to look over the notes of several cases and found that they formed a complete series from cases of unilateral disease to instances with tuberculosis of the entire urinary tract and general infection. The condition was not infrequently met with accidentally in persons dead of other affections.

*Tubercle bacilli in the urine.* Dr. Osler showed a slide of pus from the urine in another case of tuberculous kidney with the tubercle bacilli stained.

The President, DR. SHAKEPEARE, reported a case of

#### INTESTINAL STRICTURE.

The patient was admitted to the Philadelphia Hospital one week previous to her death, under the care of Dr. Evans, the house physician. She had obstinate constipation, followed by stercoraceous vomiting. She suffered acutely, lapsed into an unconscious state, and died, all treatment proving ineffectual.

At the autopsy the thoracic organs were found apparently normal. In the right iliac fossa a lobulated tumor was apparent on opening the abdominal cavity. The colon was distended with gas in the transverse portion, and in the descending portion was narrow. The ascending and transverse portions had hardened feces. There was a double twist of the intestine and two strictures; one in the ilium two inches above the ileocecal valve, and one two inches below the valve. They would not admit the finger. There was a ring of hardened tissue in each stricture. There was congestion of the mucous membrane in the small intestine and adhesion of the first part of the descending colon on its under surface to the abdominal parietes. The kidneys were normal; a large tumor of the right ovary was also present, attached to the uterine.

DR. FORMAD, who made the autopsy, remarked that acute peritonitis had, in this case, become chronic and that it was the contraction which made the strictures. The cause was probably the abdominal tumor. He was not aware that there was a

case on record where a tumor produced stricture. The constriction was due to outside pressure.

### Recent Literature.

*Injuries of the Spine and Spinal Cord without apparent Mechanical Lesion, and Nervous Shock, in their Surgical and Medico-legal Aspects.* By HERBERT W. PAGE. Second edition. Philadelphia: P. Blakiston, Son & Co. 1885. Pp. xii.—397.

It is only two years since the first edition of the excellent work appeared. But few changes have been made. We can recommend the new edition as heartily as the first; it is by far the best book which has yet been written upon the subject.

*Neuralgia and the Diseases that Resemble It.* By FRANCIS E. ANSTIE. New York and London: G. P. Putnam's Sons. 1885.

This is a timely reprint of Dr. Anstie's work which appeared in 1871. It will be gratifying to those who desire to obtain this classical treatise to know that the Putnams have reprinted it. It is a pity that the index has been omitted in the reprint.

Those who have not had an opportunity to read Anstie's work will find it worth their while to procure and read it now. While saying this, we do not mean to accept the whole of what is stated. We should make objections more especially to the author's views of the pathology of the disease.

*Lectures on Diseases of the Nervous System, Especially in Women.* By S. WEIR MITCHELL. Second edition. Philadelphia: Lea Brothers & Co. 1884.

The first edition of this book appeared in 1881. Some of the lectures have been altered and three new ones added. It is scarcely necessary to repeat our commendation of the work as given in the notice of the first edition. The three new chapters are interesting and instructive, though they are chiefly devoted to reports of very rare cases, such as few physicians will meet.

One chapter is upon hysterical joints. The history of a young girl is given, who suffered from pain in the knee with swelling, rigidity of the leg, and periodically local rise in temperature. The symptoms were so similar to inflammation that her physician, acting upon the advice of European surgeons, laid open the joint, in hopes that ankylosis would result, and so a cure be obtained. The articular surfaces were normal, the enlargement was due to plastic infiltration of the fatty and connective tissues outside the capsule. Ankylosis did not result.

The chapters on "Hysteria and organic disease of the spine," "The rectum and defecation in hysteria," are equally interesting, and the cases given are full of instruction.

In the closing paragraph of the book, Dr. Mitchell has italicized a sentence in the second edition which was not thus emphasized in the previous edition. Speaking of the rest treatment, he says: "It is a plan never, in my opinion, to be used where exercise, outdoor life, tonics, or change have not been thoroughly tested."

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## AN EPIDEMIC OF TYPHOID FEVER FROM CONTAMINATED SEWAGE.

DRS. M. S. FRENCH and E. O. SHAKESPEARE, having been requested by the Mayor of Philadelphia to visit Plymouth, near Wilkesbarre, Pennsylvania, where an epidemic has existed for the last month, read a preliminary report before the Philadelphia County Medical Society, May 13th, and will present a full report before their State Medical Society at its meeting in Scranton on the twenty-seventh instant.

They found that Plymouth was situated in a valley, on the border of the river Susquehanna. The city of Wilkesbarre, of 30,000 inhabitants, delivers its sewage into the river only two miles above, and the refuse-water from abattoirs and the coal mines is also pumped into the river. The neighborhood of Plymouth is supplied by water from three sources: the Susquehanna River, shallow wells, and by a reservoir fed by mountain streams, the latter usually being sufficient to supply the needs of the town; but on account of the springs being frozen the water company, about March 20th, commenced pumping the river-water into its mains, but discontinued a week later.

Upon investigating the subject, it was found that during February and March a case of typhoid fever had been under treatment on the mountain near the water-course which supplied the reservoir, and the nurse had thrown the excreta out on the frozen ground on the border of the stream. In March, a thaw with rain came, and washed the excretions into the reservoir, and the solution was subsequently distributed through the pipes to a large part of the city. In ten days' time the epidemic began, fifty cases of typhoid fever occurring daily between the fifth and fifteenth of April. The part of the town supplied exclusively by well-water and the river-water escaped entirely, with the exception of a few inhabitants who were in the habit of drinking some of the mountain-water in the morning at home, before going to their daily work. In other parts of the town the extent of the disease was in direct ratio to the amount of spring-water which was used. Not-

withstanding the filthy character of the water from the river it did not originate any cases of the disease.

The investigation of this instructive epidemic, in which some twelve hundred cases of typhoid fever occurred in a small town with a mortality of nearly one hundred, emphasizes some important points and principles: (1) That the epidemic was caused by an infected water-supply; (2) that a single case of typhoid fever may originate an epidemic if the excreta are allowed to pollute drinking-water; (3) that the water-supply may be contaminated by sewage, and yet in the absence of the specific poison not cause typhoid fever; (4) that a freezing temperature does not destroy the activity of the typhoid-fever germ, nor does dilution. Prior to the visit of Drs. French and Shakespeare, the sickness had been attributed to the use of the river-water, and the water company was enjoined and forbidden to use the water from the Susquehanna River, under penalty of having its charter revoked.

## PRIMITIVE DRY PLEURISY AND FIBROID LUNG.

THE relations of the above conditions were chosen by the distinguished Sir Andrew Clark as the subject of the Lumsian lectures for the current year. The well-deserved eminence of the lecturer and the great interest of the subject with which he deals render it a pleasure as well as a duty to notice his utterances, in the hope that some of our readers may refer to recent British journals and read the lectures in full. Here it is only possible for us to attempt a brief presentation of some of the most salient features of the subject.

Although there are those whose opinion is entitled to great respect who deny either the existence of such a thing as primitive dry pleurisy or its causal relation to fibroid disease of the lung, we have no hesitation in ranging ourselves alongside of Sir Andrew in affirming that the former occurs, and that the latter sometimes springs directly from it. In the first lecture, twelve cases, selected apparently from a much larger number in the experience of the author, are reported; while some of these are certainly not conclusive, most of them are so; and the great length of time during which some of them were followed up greatly enhances their interest.

It is not, of course, meant that primary dry pleurisy is the only cause of the fibroid lung; it may ensue on pleurisy with effusion, pneumonia, or bronchitis; it may also either follow a true phthisis as well as eventuate in tubercular disease.

Primitive dry pleurisy may terminate in recovery after a longer or shorter time; it may continue with fresh outbreaks and new formation of false membranes without extending into the lung itself; it may spread along the interlobular septa and the

bloodvessels, more and more destroying the vesicular structure of the lung tissue. In the latter event some of the bronchi, vessels, and lymphatics are obstructed and obliterated, while others may be dilated. Ectasis of the blood and lymph-passages does not form so striking a feature, either pathologically or clinically, as does ectasis of the bronchi, by which cavities of large size may be formed, especially if ulceration attack the walls and invade the neighboring tissue. Bronchiectatic cavities are of comparatively little consequence as long as their contents can be freely discharged; if, however, the secretion be retained sufficiently long to undergo decomposition the case wears a grave aspect. Secretion may, of course, be hopelessly pent up and result either in abscess, or, the fluid portions being absorbed, in a caseous mass. The same forces which dilate the canals of the lung produce emphysema here and there; the supervention of tuberculosis in a fibroid lung has been already alluded to. This is briefly the chain of changes which may follow directly on a primitive dry pleurisy with the lapse of time.

If the pleurisy has not invaded the lung, the patient is apt to have the appearance of health, and may either experience no subjective indications of disease, or only a slight and inconstant cough with scanty expectoration, and some local discomfort in the affected side; sometimes he is himself conscious of the pleural friction. If, on the hand, the lung has been attacked the chief clinical feature is the association of marked and long-standing anatomical changes in that organ, almost always unilateral, with a good or fair condition of the general nutrition and strength. The patient may be fat, and his only real complaint be of inability to exert himself without shortness of breath, though more or less cough and expectoration are nearly constant.

The typical bronchiectatic patient is thin, stooping, and cyanotic with severe cough and profuse expectoration, purulent or even fetid in character, and yet "displays a combination of mental and physical energy not to be met with in any other disease." Another peculiarity of bronchiectasis is that it is often bilateral. In fibroid lung with or without bronchial dilatation the heart is often drawn out of place by the contraction of the side; and the increased resistance in the pulmonary circuit throws extra work upon the right ventricle, failure of which is manifested by the well-known signs of venous stasis, cyanosis, dropsy, and passive congestion of the internal organs giving rise to albuminuria and dyspeptic symptoms. Even when all these are present with proper management the patient may often be restored to a surprising degree of activity. Thus we see what a marked contrast these cases present to those of ordinary phthisis, and yet many a mistake in diagnosis has been made with them, patients living much longer and more active lives than was expected by their medical advisers.

The physical signs of these conditions, although different from those of tubercular disease, do not differ as much as do the rational signs, the careful study of which is reviving from the neglect they suffered for a long time after the introduction and perfection of methods of physical exploration.

Sir Andrew seems to admit the great importance of the presence of the bacillus tuberculosis in the sputum and thinks that a bronchiectatic can be distinguished with certainty from a tubercular cavity only by this criterion. It strikes us that his fears are not well grounded as to the active dissent likely to be excited by the assertion that chronic ulcerative and destructive processes may go on in the lungs without the presence of these organisms — in other words, that there is a phthisis which is not tubercular. The question is one of terminology rather than of fact. The pathology of these lectures is very old-fashioned in some respects; and in some points, not exclusively pathological, there is a certain lack of clearness at which we are surprised. As to this, however, we trust that our readers who have not already done so will put themselves in a position to form their own opinions.

#### TENICIDE THERAPEUTICS.

BERANGER-FERAUD has published an interesting *résumé* of all cases of tenia occurring at the marine hospitals of Saint Mandrier and Cherbourg for a period of twenty-three years (1860 to 1882 inclusive). At both hospitals it was always the unarmed tenia — the tenia mediocanellata — which was observed; the tenia solium, so common in this country that it is, according to Flint, almost the only kind met with, was not seen in one unequivocal instance. At Saint Mandrier there were 593 admissions for tapeworm during the time mentioned; at Cherbourg, 418. It appears from each year's statistics that tenia cases have been steadily on the increase since 1860, the figure at Cherbourg being 1 for 1861 against 39 for 1882, and Saint Mandrier giving a similarly augmented proportion. As for the symptomatology of the cases reported by Beranger-Feraud, the patients were all adults, well and strong, and no special morbid phenomena were noted; certainly nothing on which alone a diagnosis could have been based. Out of 118 cases carefully watched by the *interne*, there was not one in which there were any very pronounced nervous disturbances. In both hospitals dyspepsia with augmentation, diminution, or perversion of the appetite, diarrhoea, colicky pains, a creeping sensation in the intestines, etc., was complained of by many of the patients, but the greater number were, for the first time, apprized of the existence of the parasite by the presence of the joints (proglottides) in the stools.

In the treatment of these patients a variety of

tæniifuge agents was used, the results of which are minutely given. In two cases only was turpentine administered; in one the larger part of the worm without the head was expelled, in the other several joints only were passed. The author recalls previous experiences of his own with this medicament during the campaign of Crimea. In eight trials with turpentine, only one was successful in bringing away the entire worm; in the seven other cases large portions of the parasite came away, but no more than might readily follow the administration of any energetic purgative. Moreover, the ingestion of a large dose of turpentine is always exceedingly disagreeable, and less than one or two ounces is of no avail. It is hardly necessary to add that such a dose may provoke a troublesome irritation of the alimentary canal, long manifesting itself by gastric disturbance and by diarrhoea. On the whole, Beranger-Feraud advises that henceforth turpentine be expunged from the list of tæniifuge medicines, as being both disagreeable and dangerous, and almost sure to disappoint. As for Filix Mas, the trials made in the two military hospitals were not encouraging, and in no instance did expulsion of the head of the entozoön follow its administration. It is possible that a poor preparation of the oil may have been used, or it may not have been given *secundum artem*, for if we may trust the testimony of Dr. Gull, in Guy's Hospital Reports (3d series, vol. i.), this anthelmintic was formerly singularly successful in English practice.

Graziadei,<sup>1</sup> in view of the unpleasant results sometimes accompanying the administration of this drug, used thymol in a number of cases, forty-five in all. The parasite was in all the cases the ankylostoma, and the success, according to this author, was perfect in every instance. The method of administration was as follows: First, a purgative was given, then after its operation, six doses, each of two grammes of thymol, were given in cachets every two hours, followed in each case by two teaspoonfuls of some generous wine. Usually a sensation of warmth in the stomach, ensued, with tinnitus, sweating, and sometimes a feeling of heat in the urethra on micturition. There were signs of slight intoxication with loquacity followed by deep sleep. Three to twelve hours after the last dose of the medicine diarrhoea usually sets in which brings away more or less of the ankylostoma. If the microscope shows none of the eggs of the parasite, the cure is considered complete and tonics only are given. But if the ova are discovered in the stools, at the end of five days the process is repeated and may be gone through even four or five times.

Pumpkin seeds were employed in thirty cases at Cherbourg, with a percentage of five per cent. in which the entire worm was expelled after the use of this medicine. The tæniifuge was generally given hulled and in the form of a paste with milk, the

patient having been kept on a milk diet the day before. From three to four ounces of the mashed seeds is a suitable dose to take at one time. In some instances this dose was preceded by an ounce of castor oil the evening before, and followed by a second draught of the oil two hours after the ingestion of the anthelmintic.

Kosso was employed at Cherbourg 203 times, with complete success in 22 cases, expulsion of the worm without the head in 126, and entire want of success in 39; 16 cases were not afterward heard from. At Saint Mandrier there were, in 173 cases, 14 complete expulsions and 159 failures. In other words, the Abyssinian anthelmintic was successful in 12 per cent. at Cherbourg, and in 6 per cent. at Saint Mandrier.

Pomegranate bark (*Punica granatum*) gave the best results of all the anthelmintics at the hospitals Saint Mandrier and Cherbourg. Out of 134 trials, it brought away the whole worm in 57, that is, in 43 per cent. There was, besides, a radical cure in several cases where the head was not found, but where there was never afterward the appearance of any segments in the dejections.

The pomegranate is given in the form of the bark of the root, a decoction being prepared by boiling two ounces in two pints of water down to a pint, of which quantity one third is given every hour till the whole is taken. It is desirable that the decoction should be made of the fresh bark and taken fasting.

It is unquestionable that the recent discovery by Tanret in the pomegranate bark of the alkaloids, to which he has given the name *pelletierines*, has been a step in the way of progress in the treatment of an affection often so trying to both patient and physician, and brilliant results from the use of these mixed alkaloids have been reported by Laboulhène, Dujardin-Beaumetz, and DeRochemare. The trials which Beranger-Feraud has made with these *pelletierines* have resulted in a radical cure in 76 per cent. of cases, that is, out of 41 essays there was complete expulsion of the tænia in 37.

As this new remedy has, of late, been introduced into this country (where we already hear good reports from its use), it seems desirable to reproduce the minute directions which Beranger-Feraud has given for its administration. The *pelletierine* is furnished to the trade only in bottles, each containing one dose.

#### MEDICAL NOTES.

—One of the latest wiles of the Adversary (meaning, of course, the peripatetic "agent") is to ask for a word with the doctor and to say that he was requested to make an appointment for Mr. So and So, of Worcester or Fitchburg, who will arrive in town next Tuesday at half-past eleven. The physician replies that he cannot without inconven-

<sup>1</sup> *Revue des Sciences Médicales*, April, 1885.

ience be in at that hour, but mentions his office-hours, and in a glow of grateful feeling at his extending practice, complies with the visitor's request for his card. Visitor then remarks casually that the reason he was given the message was because of his having business with a neighboring doctor whom he has always supplied with safety-matches. A sample package is then naturally produced, and—the victory is won. The defences have been carried, and nothing awaits the bewildered garrison but rapine and slaughter. A similar artifice wrought the destruction of Ilium. *Timeo Danaos et dona ferentes.*

—At the forthcoming meeting of the British Medical Association, in the section of surgery, it is arranged that the following two subjects of great practical interest shall be discussed: (1) Mr. Treves (London) will introduce the subject of "Operative Interference in Intestinal Obstruction." (2) Mr. Reginald Harrison (Liverpool) will read a paper introductory to a debate on "Bladder Tumors, their Diagnosis and Treatment."

—The *Indian Medical Gazette* has recently changed ownership, and the excellent reputation it already bears seems likely to suffer nothing from the new hands into which it passes. This journal is almost the only specimen of its kind from the "low latitudes," and the diseases peculiar to the tropics have always received abundant illustration and comment in its columns, while from its exchanges it culls for the Orient the best medical progress of the Occident.

#### PHILADELPHIA.

—The University of Pennsylvania closed the one hundredth and twentieth annual session of its Medical Department, and held its one hundred and eleventh annual commencement on May 1st, graduating one hundred and eight candidates for the degree of M.D. At the same time the degree of D.D.S. was conferred upon forty-nine graduates of the Dental Department. The Trustees have decided not to fill the vacancy in the Faculty caused by the resignation of Dr. Harrison Allen for the present, and have appointed Dr. Edward T. Reichert to lecture on physiology during the coming year.

—At the Jefferson College it has been announced that Professor Pancoast has tendered his resignation, to take effect at the close of the next session. It is not expected, however, that any vacancy will be caused by this resignation, as it is probable that another member of the Faculty will be transferred to this chair.

—At the last meeting of the Medical Jurisprudence Society, May 12th, on motion of R. C. McMartin, Esq., a report was presented of a special committee on "The Legislation Necessary in Relation to Habitual Drunkards, Opium-eaters, and Similar

Classes." The report brought out the facts that there is no power anywhere lodged to interfere with the person or property of an inebriate until the disgrace of an inquest has been incurred, and that there is no legal provision enabling friends of the patient to use the only class of houses fitted for the cure of their cases.

Legislation on the following points was urged: Permission to use public or licensed insane asylums for the custody of habitual inebriates. Authorizing the detention of such persons for a necessary time. Permitting friends to procure the appointment of a committee on persons under twenty-five years of age without an inquest. Defining the power of the committee to restrain the person.

Regulating the removal of restraint, so that a fair opportunity may be given to test the fact of reformation or cure, and authorize an immediate restoration of the restraint on property and person. Such legislation must be accompanied with restrictions or guards against the abuse of these powers by securing the property of the patient from any use other than such as he could be compelled to apply it to by law, if he were of sound mind. All temptation to profit by the commitment of an inebriate must be removed. The test of the necessity of committing the patient must be determined by jury trial.

—Dr. B. F. Baer, President of the Philadelphia Obstetrical Society, has resigned from the University of Pennsylvania, where he was engaged in the Out-Patient Department, and has entered the Polyclinic as Professor of Gynecology. Dr. H. Augustus Wilson has returned from Europe, after two years' absence, and is now Professor of Fractures and Dislocations in the Polyclinic.

—Dr. A. P. Brubaker has been elected to the Chair of Physiology in the Pennsylvania Dental College, to succeed Professor Chapman.

### Correspondence.

#### DEATH FROM OVERDOSE OF OPIUM.

NEWPORT, R. I., April 16, 1885.

Mr. Editor,—I send you the following case of opium-poisoning, which you may deem worthy of putting on record.

W. A. C., aged sixteen; stout boy; had been treated for three days for a cough with small doses of narcotic sedatives. On the night of the third day, he received, by order of his physician, ten grains of Dover's powder, and one-sixth grain of morphine *per os*. He was found dead in bed the next morning. He had taken altogether in the three days about two and three-fourths grains of opium and one-sixth grain of morphine.

When called to see him the next morning I found his skin livid and pupils dilated.

The moral is double: Care in administering opium where the respiration is embarrassed, and care in dealing with the present high grade of the drug.

Very truly yours,

F. J. B. CORDERO, Assistant Surgeon U. S. N.

## Miscellany.

### LONGEVITY OF STATESMEN AND PUBLIC OFFICIALS.

THE most recent of the "Toner Lectures," a course given at irregular intervals under the endowment of Dr. J. M. Toner, of Washington, is one by Dr. Charles A. Mills on "Mental overwork and premature disease among public and professional men." The lecture, like its predecessors, most of which have been given by well-known physicians, has been published by the Smithsonian Institute in pamphlet form. The cases, sixty in number, collected by the author, are divided into two classes: men in public and official life, and professional men; the former class included twenty-eight members, distributed as follows: Cabinet officer, one; senators, eight; representatives in Congress, ten; department officials, five; governors, two; candidates for important offices, two.

The average longevity of men in the higher walks of political life in this country is regarded as considerably below the average of those who occupy similar positions in England. Comparing, so far as information was available, the ages at death of United States congressmen and members of the English Parliament, who have died since 1860, the following results were obtained: Fifty-nine United States senators gave an average of sixty-one years; one hundred and forty-six United States representatives an average of fifty-five years; the average for both being, therefore, fifty-eight years. One hundred and twenty-one members of Parliament gave the remarkable average age at death of sixty-eight years.

Taking twenty-five of those that might be regarded as the most eminent American statesman of the last one hundred years, and comparing their ages at death with those of the same number of the most distinguished English statesmen, the United States gave an average of sixty-nine years, and Great Britain of seventy, practically the same. It may be added, in this connection, that Mr. Gladstone is in the seventy-sixth year of his age. Lord John Russell, who was an active member of the House of Lords to the time of his death, after a long career in the House of Commons, was ninety years old when he died, and Lord Palmerston, who died while occupying the position of premier, was eighty-one years old. Lord Beaconsfield, Earl Derby, Lord Aberdeen, Lord Melbourne, and Earl Grey were also old men when holding places of power, and did some of their best work at an age when most American public men have ceased to do anything important.

### THE POSTERIOR SPLINT FOR THE FOREARM.

Is a very practical article in *The Polytechnic* (February 15th) by Dr. Charles W. Dulles, called "Suggestions from dispensary experience for the surgery of general practice," the author has a word to say about splints, in which he emphasizes the importance of the element of weight in that connection. The lighter the better, he considers a good principle. In fractures of the forearm he advocates what is

not a new discovery, but is certainly not in wide use, namely the posterior straight splint. He says:—

"Any one who studies a forearm will see that when the hand and finger are extended, the dorsal surface is almost an accurate plane, while the ventral surface is very uneven. Arguing from this, I thought it well to follow the apparent hint of nature, and to use this surface for my splints. I soon found that I could treat injuries of the forearm and hand requiring a splint very successfully with a thin, straight splint, applied in the way just described. And I may say that I have found it much easier to prevent stiffness of the wrist-joint—the bone of fractures at the lower end of the radius—by this than by the time-honored Bond's splint, which I have not used for several years. With the Bond's splint I have, in former years, had much trouble from stiffness, and seen much trouble when it has been used by others, because, while the position of the hand seems to be favorable to motion, I have not found it really so, but that the patient's fingers are either bound to it too firmly, or they themselves clasp the block so constantly and so rigidly, in spite of all injunctions to the contrary, as to tend to stiffening of all the joints involved. I need scarcely add to what I have already said any further arguments as to the advantage of the posterior splint in the way of lightness and the facility it affords when used in the way I suggest for examining the seat of injury without disturbing it. The Bond's splint, on the other hand, as frequently applied, is heavy, hot, more or less painful, and troublesome to remove for subsequent examination."

### ARISTOTLE'S IDEAS OF AN ELEPHANT.

F. A. FERNALD, in the *Popular Science Monthly* for April, questions how far Cuvier's statement that "everywhere Aristotle observes facts with attention" is true. In describing the elephant, Aristotle tells many things correctly, but some very incorrectly, so that it is a question whether he ever saw this animal in his life. He affirms that it has no nails on its toes, though he correctly refers to the toes, which are scarcely distinguished. The nails of the elephant are one of the "points" which the natives of India always regarded as marks of a well-bred animal, and are usually conspicuous. Let us take another point, the "gray-headed error" that the elephant has no joints. Aristotle says: "The elephant is not so constructed as to be unable to sit down and bend his legs, as some persons have said, but from his great weight he is unable to bend them on both sides at once, but leans either to the right side or the left, and sleeps in this position." That is to say, the elephant, having bent one foreleg, cannot then bend the other so as to kneel with both, which is contrary to fact. Although in this passage Aristotle demolishes the absurd statement that the elephant has no knee-joints, yet, in his treatise on the *Progressive Motions of Animals*, he seems to leave the matter in doubt. After showing that without inflection there can be no progression, he says: "Progression, however, is possible without inflection of the leg, in the same manner as

infants creep; and there is an ancient story of this kind about elephants, which is not true, for such animals move because inflection takes place in their shoulder-blades or hips." The existence of animals without knees is again supposed by this remark: "Since the members are equal, inflection must be made in the knee, or in some joint, if the animal that walks is destitute of knees." If Aristotle had ever seen an elephant move, is it not probable that he would have spoken more decidedly and correctly on these points? But the most astonishing assertion is that "the elephant cannot swim on account of the weight of its body"!

#### ST. JOHN'S HOSPITAL, LOWELL, MASS.

The eighteenth report of this institution has reached us, and shows a prosperous year, during which extensive improvements have been made. These improvements have enhanced the benefits and conveniences of the hospital and placed it on a par with first-class institutions of a similar nature in other cities. A new wing, which furnishes ample and much-needed accommodations for the attendant Sisters, has been occupied. In the spacious basement is located the bakery, a large refrigerator, and the servants' refectory. The first floor is occupied by the kitchen, an apartment fitted with the latest and most approved apparatus for cooking, the living-rooms of the Sisters, and the pharmacy. The latter is finely appointed, and is well stocked with medicines, surgical appliances, and the utensils required for the manufacture of tinctures, etc. We notice as a somewhat novel fact that this department is in charge of a Sister who is an experienced pharmacist. On the second floor are the Sisters' infirmary, dormitories, and the chapel. The third floor is also divided into dormitories. The building is provided with all modern conveniences; the sanitary accessories are perfect, and the apartments are high-studded, light, and airy.

The old Livermore house, formerly occupied by the offices and the Sisters' apartments, has been entirely renovated, and furnishes comfortable quarters for the aged inmates and chronic cases formerly located in the upper story of the main building. It is heated by steam, furnished by an independent boiler in the basement. The whole number of patients treated during the year was 319, of which about 30 were surgical cases. The hospital, since its organization in 1867, has treated 4,280 patients.

inspector describes the various fallacies proceeding from too implicit reliance upon the lactometer and eremometer and describes at some length the method which he has used, — a modification of the Wanklyn method.

We note as of special interest the statement of the inspector that only about a quarter of the whole amount of the various substitutes for butter sold in the markets are so labeled as to indicate their true character.

Various suggestions are made by the writer of the report, one of them of a method which he believes would secure to the residents of the city the delivery of their milk-supply on the average twenty-four hours earlier than at present. For this, as well as for suggestions as to the examination of milk by the consumer himself, our readers are referred to the article itself.

#### A NORTHERN MEMORIAL TO SOUTHERN HEROISM.

A MEMORIAL window has recently been placed in St. Peter's Church, Fernandina, Florida, by a physician of Boston, in memory of two of the Southern professional brethren, Drs. Wellford and Herndon, who heroically laid down their lives in the performance of self-elected duty during the epidemic of yellow fever which prevailed in Fernandina in 1877. It was a striking coincidence that these two men, both born in the same city just two years apart, and in the same month, and having volunteered their services, reached Fernandina in the midst of the epidemic on the same day, and that their deaths also occurred the same day.

The memorial is a graceful tribute from a Northern man to his Southern associates who died in a noble cause. In the lower part of the window an illuminated tablet has the following inscription:

FRANCIS PRESTON WELLFORD, M.D.,

Born in Fredericksburg, Va.,  
Sept. 12, 1829.

JAMES CARMICHAEL HERNDON, M.D.,

Born in Fredericksburg, Va.,  
Sept. 22, 1831.

Died in the faithful discharge of their duty,  
at Fernandina, Florida, Oct. 18, 1877.

To whose memory, in grateful recognition of their noble lives and heroic death, this window is dedicated by a New England member of the profession which they so much honored and adorned.

"Greater love hath no man than this, that a man lay down his life for his friends."

#### REPORT OF THE MILK INSPECTOR OF THE CITY OF BOSTON, 1881-85.

This official, whose duties are of such importance to the well-being of the citizens, has just made his twenty-sixth annual report. It covers not only the subject of the dairy products, but vinegar also, which has recently been added to the commodities coming under this supervision. In the matter of milk the inspector made 4,272 analyses and found it necessary to give warning in about a thousand instances. The warnings were so promptly heeded, however, that only 42 cases were entered for prosecution. The

#### HYPNOTIC CHICAGO.

The profession in Chicago have had a curious experience. A well-known member of the Chicago Medical Society read before it a lecture on mesmerism, or "hypnotism," as the modern fashionable word is, and illustrated it with a living example. The members were profoundly impressed, and an interesting and learned discussion followed. But some one of them of an investigating turn of mind pursued the subject further, and discovered that the "able paper" was largely cribbed from an encyclopaedia, and that the subject was what they call in

that enlightened metropolis a "horse," in other words, one who hires himself out to professional mesmerists for exhibitions. These "horses" must have a hard time. They submit to having pins thrust in their flesh, red pepper put in their eyes without wincing, and pretend that they believe themselves to be George Washington or Daniel Webster at the wink of the mesmerist. It appears to be quite an avocation in Chicago, a city which is nothing if not progressive.

The result of it is that there is not a man left in Chicago who has faith in any variety of ism whatever, and no energetic young doctor out there eavesdropped for psychical research, but devotes his undivided attention to patients on the avenues, with an occasional dip into fall wheat and mess pork. To use one of their own expressions, it will be a cold day when the next mesmerist catches the Chicago profession napping. — *Medical and Surgical Reporter.*

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 9, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diphtheria and Croup.	Scarlet Fever.	Measles.
New York . . . . .	1,340,114	705	252	18.62	16.10	6.72	1.96	4.20
Philadelphia . . . . .	927,995	397	136	15.08	10.14	5.46	3.80	1.56
Brooklyn . . . . .	644,526	274	86	18.80	16.80	6.00	3.60	2.40
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	182	57	11.10	28.50	4.40	1.60	1.10
Baltimore . . . . .	408,520	129	40	11.70	10.96	7.02	1.56	—
St. Louis . . . . .	400,000	129	—	14.04	15.60	1.56	—	2.24
Cincinnati . . . . .	272,400	81	41	19.68	19.68	3.69	7.38	—
New Orleans . . . . .	234,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	75	27	9.31	14.63	1.03	1.33	1.33
District of Columbia . . . . .	194,310	80	26	13.75	8.75	5.00	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	40	9	10.00	22.50	2.50	—	—
New Haven . . . . .	62,882	20	7	20.00	5.00	10.00	5.00	—
Nashville . . . . .	54,400	18	5	22.22	11.11	—	—	—
Charleston . . . . .	52,286	23	7	17.40	8.70	—	—	—
Lowell . . . . .	71,447	19	5	10.52	15.78	—	5.26	—
Worcester . . . . .	68,442	26	9	15.40	23.10	11.50	—	—
Fall River . . . . .	62,674	17	7	5.88	17.66	—	—	—
Cambridge . . . . .	60,995	23	11	4.35	17.40	—	—	—
Lawrence . . . . .	45,516	20	6	10.00	15.00	5.00	—	—
Lynn . . . . .	44,895	15	3	20.00	6.66	13.33	—	—
Springfield . . . . .	38,090	12	2	8.33	8.33	—	—	—
Somerville . . . . .	31,350	12	2	8.33	33.32	8.33	—	—
Holyoke . . . . .	30,515	10	4	30.00	20.00	10.00	—	—
New Bedford . . . . .	30,144	21	5	4.76	9.52	—	—	4.76
Salem . . . . .	29,503	8	0	12.50	62.50	12.50	—	—
Chelsea . . . . .	24,347	12	2	8.33	16.66	8.33	—	—
Taunton . . . . .	22,693	12	1	25.00	8.33	25.00	—	—
Gloucester . . . . .	21,400	8	4	12.50	37.50	—	—	12.50
Haverhill . . . . .	20,965	—	—	—	—	—	—	—
Newton . . . . .	19,421	5	1	—	—	—	—	—
Brockton . . . . .	18,523	7	2	14.28	28.56	14.28	—	—
Malden . . . . .	15,273	7	3	25.00	—	—	—	—
Newburyport . . . . .	13,947	4	0	—	—	—	—	—
Fitchburg . . . . .	13,433	4	0	—	—	—	—	—
Waltham . . . . .	13,568	3	0	—	33.33	—	—	—
Northampton . . . . .	13,165	5	0	20.00	—	—	20.00	—
91 Massachusetts towns . . . . .	—	73	13	2.71	15.07	—	1.37	—

Deaths reported 2,476: under five years of age 797; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 369; lung diseases 401; consumption 389; diphtheria and croup 129; diarrheal diseases 51; measles 52; scarlet fever 48; typhoid fever 27; cerebro-spinal meningitis 15; malarial fevers 13; puerperal fever 12; erysipelas 11; whooping-cough eight. From diarrheal diseases, New York 18, Brooklyn nine, Philadelphia five, Boston and Cincinnati four each, St. Louis three, Baltimore, District of Columbia, and Charleston two each, Providence, Lawrence, Springfield, and Holyoke one each. From typhoid fever, Philadelphia eight, New York five, St. Louis four, Boston two, Brooklyn, Cincinnati, Buffalo, Providence, Nashville, Charleston, Lowell, and Holyoke one each. From cerebro-spinal meningitis, New York seven, Philadelphia and Cincinnati two each, Boston, Baltimore, Buffalo, and Fall River one each. From malarial fevers, New York four, Philadelphia and St. Louis two each, Brooklyn, Baltimore, Buffalo, District of Columbia, and Charleston one each. From puerperal fever, St. Louis four, Brooklyn and Philadelphia two each, Buffalo, Nashville, and Worcester one each. From erysipelas, Philadelphia three, New York and Nashville two each.

Cases reported in Boston: measles 78, scarlet fever 30, diphtheria 28, typhoid fever five, and smallpox one.

In 112 cities and towns of Massachusetts, with an estimated population of 1,110,457 (estimated population of the State 1,955,404), the total death-rate for the week was 17.36, against 19.73 and 19.00 for the preceding two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,806,416, for the week ending Saturday, April 26th, the death-rate was 23.4. Deaths reported 3,394: infants under one year of age 338; acute diseases of the respiratory organs (London 39, Bristol, Liverpool, and Manchester one each) 12. The death-rates ranged from 15.7 in Derby to 35.5 in Newcastle-upon-Tyne; Birkenhead 21.3; Birmingham 18.8; Bradford 20.2; Liverpool 20.2; London 22.3; Manchester 30.9; Nottingham 30.2; Sheffield 23.9. In Edinburgh 18.9; Glasgow 27.2; Dublin 31.2.

For the week ending April 25th in the Swiss towns there were 32 deaths from consumption, lung diseases 35, diarrheal diseases 11, diphtheria and croup seven, puerperal fever four, erysipelas and typhoid fever each three, smallpox and measles each two, scarlet fever one.

The death-rates were: at Geneva 15.2; Zurich 23.8; Basle 23.1; Berne 28.4.

The meteorological record for the week ending May 9th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, May 2, 1885.	Barom- eter.	Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall. Duration, Hrs. & Min. Amount in Inches.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.		7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	
Sunday, 3	29.886	42.8	49.9	33.3	39	22	34.7	W	NW	NW	5	20	4	C	C	C
Monday, 4	29.892	43.7	43.7	35.3	61	66	71.0	NE	E	S	5	22	4	C	F	O
Tuesday, 5	30.052	46.9	53.3	39.8	71	66	73	SW	E	SW	3	11	8	F	O	R
Wednesday, 6	30.049	44.4	47.9	43.4	84	81	86	E	E	E	12	14	14	O	O	O
Thursday, 7	30.025	44.0	46.5	41.3	88	88	89.0	E	E	NE	10	18	10	O	R	O
Friday, 8	29.864	41.1	44.6	39.3	100	97	97.3	N	E	N	10	18	10	R	O	O
Saturday, 9	29.697	45.8	53.1	40.3	84	86	80	N	E	SW	9	14	8	O	F	C
Mean, the Week.	29.962	43.3	53.2	39.2			75.7									10.0 0.56

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 9, 1885, TO MAY 15, 1885.

A BOARD of medical officers, to consist of A. K. SMITH, lieutenant-colonel and surgeon, J. C. G. LAFPETERET, major and surgeon, JAMES P. KIMBALL, captain and assistant surgeon, appointed to assemble at United States Military Academy, West Point, N. Y., on June 1, 1885, to examine into the physical qualifications of the members of the graduating class and the members for admission to the Academy. S. O. 106, A. G. O., May 9, 1885.

McKEE, JAMES C., major and surgeon. Sick leave of absence still further extended four months on surgeon's certificate of disability. S. O. 105, A. G. O., May 8, 1885.

#### SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY. ONE HUNDRED AND FOURTH ANNIVERSARY.—The Annual Meeting will be held at 9 o'clock A.M., Wednesday, June 10, 1885, in Huntington Hall, at the Institute of Technology, Boylston Street (between Berkeley and Clarendon), Boston. The usual arrangements have been made for the preceding day, Tuesday, June 9th. By order of the President, FRANCIS W. GOSS, *Recording Secretary*. ROXBURY, May 11, 1885.

Tuesday, June 9, 1885. 10 o'clock A.M. The Fellows of the Society are invited to visit the Massachusetts General Hospital, on Blossom Street, the Boston City Hospital, on Harrison Avenue, and the Children's Hospital, on Huntington Avenue.

12 o'clock M. Meeting in Huntington Hall. Papers will be read as follows: "The Pathogenesis of Certain Affections of the Skin," by George N. Tilden, M.D., of Boston. "Con sanguineous Marriages: their Effect upon Offspring," by Charles F. Willington, M.D., of Roxbury. "Labor complicated with Fibroids," by James R. Chadwick, M.D., of Boston. Adjournment at 2 o'clock.

3 o'clock P.M. "The Climatic Treatment of Phthisis," by Harold Williams, M.D., of Boston. "How a Lesion of the Brain results in that Disturbance of Consciousness known as Aphasia," by Morton H. Prince, M.D., of Boston. "The Relation of Insanity to certain Nervous Affections," by Henry R. Steadman, of Roslindale.

Exhibits. During Tuesday and Wednesday, at the Institute of Technology, there will be an Exhibit of Electrical Apparatus. There will also be an Exhibit of New and Original Apparatus.

Wednesday, June 10, 1885. 9 o'clock A.M. The One Hundred and Fourth Annual Meeting. (1) Secretary's Record and Report. (2) Treasurer's Report. (3) Reports of Committees, etc. (4) Medical Papers and Communications: "Cremation in its Sanitary Aspects," by John O. Marble, M.D., of Worcester. "Diagnosis and Treatment of Oculitis posterior Position," by William L. Richardson, M.D., of Boston. "The Influence of Ovariotomy on Surgery," by John Homans, M.D., of Boston. Communications from the Reporters of the District Societies. (5) Introduction of Delegates. Intermission of fifteen minutes.

12 o'clock M. The Annual Discourse, by Franklin K. Padlock, M.D., of Pittsfield. The hall doors will remain closed during the delivery of the discourse.

1 o'clock P.M. The Annual Dinner will be served in the Skating Rink, on Clarendon Street, near Boylston, to which place the Fellows, called to order of seniority, will walk in procession. No person will be admitted to the dinner without a ticket. The dinner ticket (not transferable) may be obtained on Tuesday and Wednesday, at the Institute of Technology, by those who have paid their dues for the current year.

Councilors' meetings will be held during the ensuing year at the Medical Library, No. 19 Boylston Place, Boston, as follows: (1) The Annual Meeting, at 7 o'clock P.M., Tuesday, June 9th. (2) A Stated Meeting, at 11 o'clock A.M., Wednesday, October 7th. (3) A Stated Meeting, at 11 o'clock A.M., Wednesday, February 3, 1886.

The Annual Conference of the Censors will be held at 2.30 P.M., Tuesday, June 9, 1885, at No. 19 Boylston Place, Boston.

Censors' Meetings. The Censors for Suffolk District, officiating also for the State Society, will meet in Boston, for the examination of candidates, on Thursday, June 4, 1885, and on the Thursday before the last Saturday of September and of February. But they cannot examine any candidate who is already a resident, or in practice, in any District other than Suffolk. Their meetings will be duly advertised in the *Boston Medical and Surgical Journal*.

In the other Medical Districts the Censors will hold their meetings for the examination of candidates residing in their respective Districts, and none other, at the same place and on the same day as the stated meetings of the District Societies themselves.

OHIO STATE MEDICAL SOCIETY.—The fortieth annual meeting will be held at Dayton, Ohio, June 3, 4, and 5, 1885. The sessions of the Society will be held in the Young Men's Christian Association Building, No. 30 East 4th Street. A competent stenographer will be in attendance.

G. A. COLLAMORE, *Secretary*.

#### OBITUARY.

THE death of Dr. John Pierce, of Edgartown, Mass., of which notice has already been made in our columns, removes from that community one who was in every good sense one of its most conspicuous figures, and who socially and professionally held a high position among his fellow-men.

Dr. Pierce was born in Lebanon, Ct., November 25, 1805, but in 1808 became a resident of Monmouth, Me., where he received his academic education. He studied medicine with the late Governor Hubbard, of Maine, and at Bowdoin College, where he was graduated in 1833. He practised his profession in Wales, East Pittston, and Gorham, Me., and in 1838 he removed to Edgartown, where he was in active practice until 1879, and where he has since resided. For eight years he was the surgeon in charge of the United States Marine Hospital at Vineyard Haven, and was a Medical Examiner for Dukes County from the time that office was first established. Since 1840 he was a member of the Massachusetts Medical Society, and held various offices in that organization.

#### DEATHS.

DEED.—In Roxbury, May 11, 1885, Alfred Clark Downing, M.D., M.M.S.S., formerly of Palmer, aged thirty-six years.

## Original Articles.

## THE SELECTION OF A SUITABLE CLIMATE FOR THE VARIOUS FORMS OF PULMONARY CONSUMPTION.

BY J. HILGARD TYNDALE, M.D., OF NEW YORK.

THE difficulties in the way of a therapeutical basis for the climatic treatment of consumption, and the confusion incident to great diversity of opinion, are due to three facts:—

(1) The comparative recency of careful and correct meteorological observations in most countries.

(2) The lack of a theoretical basis for climate, thereby to build upon our knowledge of the effects of the several constituents of climate (soil and atmosphere) upon the functions of our organism.

(3) The fact that the empirical results of climatic treatment, thus far attained, have not been collected and compared.

That aggregation of pathological manifestations known as pulmonary consumption consists, broadly speaking, of the coexistence and coöperation of *inflammation* and *infection*. The acute manifestations of disease are, on the part of inflammation, croupous and catarrhal pneumonia; on the part of infection, acute tuberculosis. Either inflammation or infection usually exists alone at first and then in the chronic form, because lesions of an acute character cannot be classed as phthisis. During the further development of a chronic inflammation of the lung (catarrho-fibroid phthisis or cirrhosis) or the development of a chronic infection (localized tubercular invasion), the brother element will join the existing chronic process, either in a subacute form or as an acute invasion. We have examples of the subacute in cirrhosis being followed by an invasion of tubercle; of chronic tubercular nodes having a subacute zone of inflammatory action set up around them. Examples of the acute are found in a chronic catarrh of the apex being complicated by the superposition of *acute tuberculosis*; of old tubercular or cheesy nodes suddenly being invaded by an acute catarrh of the bronchioli, or, what is worse, *suppurative peribronchitis*.

It is in accordance with the length of time intervening between exacerbations of a subacute character that we speak of the *intermittent* and *remittent* forms in which phthisis so often presents itself, and which prolonged intervals give rise to the fallacious doctrine of "self-limitation."

What lesions, in a pathological sense, are brought about by this coöperation of chronic inflammation in the lung and infectious invasion?

(1) Local lesions of superficial inflammation; of condensation, or excavation, of lung tissue.

(2) General septicæmia, chronic or acute blood-poisoning, brought about by autoinfection or by invasion from without; and as a combined result of both we have:—

(3) An anæmic, flabby, and enfeebled condition of the two great *internal muscles*: the heart and diaphragm, the muscles of circulation and respiration.

(4) An enfeebled digestion and assimilation, nutrition not only not up to the requirement of furnishing material for repair, but failing to keep pace

with progressive destruction and infection. From this follows an interference with sanguification, aided by continuous poisoning of the fluids, in which of course the nervous system suffers. All these factors together produce what is collectively termed *malnutrition*.

We pass now from the actual damage done to an endeavor to classify the various forms in which phthisis presents itself into a few practical heads, which will cover every case which presents itself to climatic treatment. This division is one simply governed by the lung lesion on the one hand and the existing general health on the other: the local and general condition.

Both the normally robust and the hereditarily vulnerable, who are subjected at times to exposure, may be found to suffer from the following conditions:—

(1) Superficial inflammatory processes of the air-passages, of not over eight to ten weeks' standing, with a lowered general condition, said general condition being the direct cause of, and keeping up, the inflammatory process, a fact which explains its persistency as to time and superficiality as to intensity; the *functional* disturbance of mucous membrane as yet accompanied only by slight *organic* change, such as involves the bronchial submucous tissue.

(2) Slowly progressive *cavities* and *infiltrations*; the result of excavation on the one hand and of condensation on the other. Fever, usually of an intermittent type.

(3) Acute or subacute exacerbations of *inflammations* or *invasions of infection*, supervening after an intermission or remittingly upon either of the conditions of the first or second classes named above. Fever usually of a remittent type.

(4) The so-called "third stage": the only difference between it and the preceding one consisting in a *continuity* of action of the fresh inflammatory or tubercular invasion ending only with the death of the patient. Fever always of a continuous type.

Climate is a collective term, used to express the combination of various stable elements of *soil* and *atmosphere* with others more shifting. The meteorological conditions are an ever-shifting panorama of atmospheric elements within certain known limits.

We have seen that all detrimental elements of soil and water do harm by being diffused in the atmosphere which surrounds us. This atmosphere concerns us and our well-being in three different ways: its *pressure* upon the surface of our bodies; its *inhalation* into the lungs, plus the matters suspended in it; and the *stability* of its temperature. Therefore the constituents of climate which concern us are:—

(1) Atmospheric pressure, lessened at elevations and also by decrease of atmospheric moisture, ascertained by the *barometer*.

(2) The quantity of moisture in the atmosphere, ascertained by the *hygrometer*.

(3) The stability of temperature (no matter whether hot or cold) of the material we have to breathe, and which our sensations have to deal with. These facts are ascertained by the *thermometer*.

It will be perceived, then, that the above three constituents of climate represent the all-important

questions of *elevation, dryness, and equability* of temperature. The other constituents of climate are not only the outcome of the combination of two of the above, but are to be considered as natural accompaniments of elevation, dryness, and equability and not as separate elements in the choice of climate. These others are:—

(a) Sunshine, with its qualities of *abundance and intensity*; dependent upon pressure and humidity; inasmuch as lessened pressure at elevations and comparative absence of humidity create a purity and rarity of the atmosphere, which admits of an unobstructed passage of the sun's rays—the so-called “*diathermancy*” of the atmosphere. The number of clear and fair days in a month or year, as against the cloudy or rainy ones, represents the relative abundance of sunshine—its *quantity*,—a factor common to both dry and equable climates. Intensity of sunlight, on the contrary, represents the *quality* of sunlight and is found only in connection with dryness and elevation.

(b) Winds. The movements of the atmospheric ocean, dependent upon pressure and temperature, causing air when heated and not subjected to great pressure to rise and be replaced by the rushing in of colder air either horizontally, as across planes, or vertically, as down the mountain-side. We note here, as in all else, time and intensity, that is, frequency and velocity of winds, as well as the points of compass from which they blow.

(c) Electricity, dependent upon humidity and temperature; a certain degree of humidity being required to form clouds and certain differences of temperature to bring about atmospheric disturbances. Quality and tension of electricity are interesting features, but as yet we know nothing positive about their effects.

Out of the relations of these three last elements to the first result:—

(a) The production of ozone, of the intensity and utility of the antiseptic qualities of which we know as yet nothing relating to the human organism.

(b) Precipitation of rain, hail, and snow—a phenomenon having no direct bearing upon our organism.

(c) Organic and mechanical admixtures of the air previously referred to. Moisture is the only legitimate suspension in the air, and the reason why the organic and mechanic are not accorded equal importance is that they do not figure so extensively and permanently as moisture. *Moisture in excess* of the average, whether inherent in the soil or large bodies of water, has been proved to be the main *direct* cause of pulmonary consumption.

What are the climatic conditions under which the average human being can flourish? In an atmosphere floating over land or water, which does not furnish abnormal contaminations of the air: an atmosphere in which the pressure of the air column, the degree of moisture and the temperature of the air-mass undergo changes among each other *within reasonable limits as to time and intensity*—changes which are called “*atmospheric variations*”: the disturbances of health, whether of inflammation or infection, being dependent upon the frequency and intensity with which the usual equilibrium of these constituents is thrown out of a balance many points removed from what constitutes the usual average

variation in a given climate. The barometric, hygrometric, and thermometric conditions may undergo changes out of the usual channel, both as to *time and intensity*. A falling barometer, excessive moisture, and a falling thermometer may either occur suddenly, or with great intensity, or both; two of these conditions frequently occur simultaneously in this climate, for instance. It has been shown that epidemics of inflammatory conditions, such as we have had in the past winter, occur in exact proportion to the number of factors concerned, as well as the suddenness and intensity of the occurrence.<sup>1</sup>

These, then, are the combined disturbances which produce inflammation in relatively well persons and this accords with the statistics of the frequency of active inflammatory conditions of the respiratory mucous membrane in cold climates. What will the disturbances of pressure, moisture, and temperature do in tropical climates? The result is inflammation of an asthenic, stagnant form, with a tendency to blood-poisoning. This, too, is borne out by statistics.<sup>2</sup>

Our formula therefore reads: (1) The sudden or persistent disturbances of climatic constituents in countries where a *cold* temperature predominates result in acute *inflammation* of the lung in those of average health; in catarrhal (low-grade) inflammation in the vulnerable.

(2) The sudden or persistent disturbances of climate where *heat* predominates result in venous stagnation and embolism, in the tubercular form of phthisis and its various phases of *infection*.

With this knowledge before us, we are entitled to ask ourselves, Where shall our consumptives go? A superficial knowledge of the subject would lead us to believe that to determine where to send a patient should be governed by whichever element of disease—inflammation or infection—predominates. To a certain extent this is possible, but in the majority of cases these pathological factors are so harmoniously blended as to nullify such efforts. The teaching of Broussais of old, and Loomis and Flint of to-day, in fact, is: to be governed by the subjective symptoms of the patient, by his sensations and not by the objective physical find. This is substituting *degree* of temperature (warmth or cold) for the true attributes of climate: dryness, elevation, and equability.

If we should decide primarily for high altitude, we make sure of four desirable elements:—

(1) Constantly reduced pressure of the air-column.

(2) Equally constant dryness.

(3) Sunlight, abundant as to quantity and intense as to quality.

(4) A mean between excessive heat and cold,—a cool atmosphere.

What is conspicuously absent is equability of temperature, and this constitutes the main drawback of high-altitude climates in the temperate zone.

The same number and combination of requisite

<sup>1</sup> Pulmonary Consumption. With analysis of 1,000 cases, etc. by C. J. B. and C. Thos. Williams. 1872.

<sup>2</sup> Influence of meteorological conditions upon causation of empysem pneumonia. A. Serbert. American Journal of Medical Sciences, January, 1882, p. 168.

<sup>3</sup> Williams, op. cit. Orpellois, De l'influence des Andes sur la phthisie. Influence of climate in pulmonary consumption. C. T. Williams. Lettsomian Lectures.

therapeutic elements can be found nowhere else than at inland altitudes.

Having thus secured our main basis, we turn next to more exact individualization and find, perhaps, a "vulnerable" patient, whose objective symptoms would determine us to send him to an altitude, but in whom the subjective symptoms are very prominent, so that his shivering and shivering tendencies, even in moderately cool weather, make his *sensations* our first duty to consider. This calls for equability of temperature. But should his irritability be allayed by an equable climate, he should seek altitudes, and why? Because equability presupposes moisture and the greater the equability (at sea-level), the greater the moisture. Even in a choice of climate, equability should be subordinated to dryness, by preferring *reasonable equability with moderate moisture* to great equability with excessive moisture. But we have shown that dryness with coolness and a reduced air-pressure are the prime requisites for the average case. And what do we expect these constituents of reduced pressure and dryness to do? Let us recall the actual lesion in an average case of phthisis. What gross lesions do we find in a typical case?

(a) Local destructive processes in the lung.

(b) General septicæmia.

(c) Emfeebled and flabby heart and diaphragm.

We expect of dryness that it will cause a gradual shrinkage and dessication of matter devoid of life, of necrosed lung tissue. This is mainly accomplished by uniform water abstraction, that equalizer of our circulation, relieving stagnation. "The quantity of moisture in the air affects the rate of evaporation from the lungs and skin. Watery vapor, we know, abstracts an undue amount of heat from the respiratory tract, and gives rise to catarrhs, coughs, and perhaps inflammations."<sup>3</sup> This ready conduction of heat in a damp atmosphere produces excessive cooling of the skin and the upper portions of the respiratory tract. In the skin this results in an undue abstraction of heat and, of course, a retardation of normal evaporation of moisture carrying effete matter.

We expect of reduced pressure (aided by this relief from stagnatory processes) that it will call forth renewed activity of the circulation and respiration; at first only functional, but followed by organic changes in the heart and lungs approaching the norm. What proof have we of these assertions? In the absence of excessive moisture at altitudes, we may reasonably look for the absence of other contaminations; although the *freedom* from organic germs of rarefied air at altitudes has not been demonstrated. Since Tyndall's well-known experiment with bottled air from the Alps, no proof of absence of organic matter has been brought forward. So far theory. Practically, we have it on the authority of the statistics of Dr. Williams, of London: "Taking collectively all forms and degrees of phthisis, the *dry* climates are the most likely to arrest the disease."<sup>4</sup>

What proof have we of the effects of altitude? First, the truths taught by physiology, enabling us to judge that when such enormous pressure is taken

away from the body, arterial tension is at liberty to reassert itself.<sup>5</sup>

In practice we learn from such sources as Drs. Williams, Hermann Weber, and others that the action of rarefied air at altitudes upon the heart is one of lowering of action and strengthening of impulse; upon the lungs: expansion of the sound tissue and a commensurate widening of the thorax.<sup>6</sup> Dr. C. T. Williams says of altitude effects:<sup>7</sup>

"(1) Quickening of breathing on reaching high altitudes, supplanted by (2) gradual deepening of the respirations. After six weeks to three months, the rate becomes markedly slow and eventually reaches something like the normal, sometimes even less frequent."

Rarefied air at altitudes contains, of course, less oxygen per cubic foot than air at sea-level. Experiments on animals have shown that as long as the percentage of oxygen is not below 14 (21 being normal), the same quantity is taken up into the circulation as when ingredients are in normal proportion. Conversely, Regnault and Reiset have shown that when an *excess* of oxygen is added to air the quantity consumed is not greater. Both as regards the amount of oxygen per cubic foot and respirations necessary to make up for it, the patient accommodates himself to the surrounding circumstances; at first, as we have seen, by increased *functional* labor, which with the *organic* changes of widening of thorax, etc., becomes normal or even subnormal.

Of equability of temperature, as our third constituent, existing as it does with warmth or coolness and moisture, it is the soothing agent to cases of pulmonary irritation or subacute inflammation of the respiratory organs. Equability with *warmth or coolness* is the remedy for cases in which pulmonary irritation and low-grade inflammation are the prominent features. These are the class of cases recruited from the hereditarily scrofulous. This accords with what Dr. Williams says:<sup>8</sup> "A *warm and dry* climate is more successful in the treatment of phthisis of *inflammatory origin* than a warm or cold one." And again: "Warmth and equability of climate are more important than dryness for patients suffering from phthisis of *catarrhal origin*."

The thus far known and established effects of dryness, elevation, and equability having been noticed, let us look for a moment as to what is known of the effects of *cold and heat per se*. Tersely speaking, the effect of cold is a stimulating one, that of heat a sedative one. Stimulation refers to the vascular system; sedation chiefly to the nervous system. Cold increases tonicity of bloodvessels; hence, an active blood-supply to tissues and organs, and a commensurately more rapid waste and repair. "Increased oxidation of tissue is demonstrated by the greatly increased quantity of carbonic acid thrown off by the lungs on exposure to cold." (Kinger.)

<sup>3</sup> Kritische und experimentelle Untersuchungen ueber die Wirkungen des verminderten Luftdruckes auf den Aethmprocess. Von Steck.

<sup>4</sup> Ueber die Wirkungen der verminderten Luft auf den Organismus. Des Fraenkel und Goppert. Berlin, 1882.

<sup>5</sup> Hermann Weber, Medico-Chirurg. Transactions, vols. II, and III. Treatment of Phthisis by Residence at High Altitudes. C. T. Williams. International Medical Congress, 1882.

<sup>6</sup> On the Residual Lung in Phthisis. New England Medical Monthly, March 15, 1882.

<sup>7</sup> On the effects of Warm Climates in the Treatment of Pulmonary Consumption. Med.-Chirurg. Transactions, vol. IV., p. 239.

<sup>8</sup> Dimes Platz and the Effects of High Altitude. By Alfred Wies, M.D. Jena, 1882.

<sup>9</sup> Op. cit.

Heat relaxes the contractility of bloodvessels, and promotes active perspiration and corresponding relaxation, amounting to depression. A moderate amount of depression, however, is a sedative effect upon the sensations, and thus it is that when coupled to moisture the relaxing influence upon dry respiratory passages has a soothing effect.

In determining the proper climate for a consumptive, the resisting power of the patient to cold should decide between choosing warmth or coolness. Coolness he may have with dryness and elevation. Warmth he must seek in company with equability. Dryness and elevation restore tonicity to the vascular system. Equability acts as a sedative to the nervous system.

In the temperate zone inland elevation and dryness furnish to the sensations coolness in summer and cold in winter. Equability furnishes heat in summer and warmth or coolness in winter.

The above is a crude outline of the principles underlying the choice of climate for consumptives. Let us now apply them to daily practice. You have a patient before you suffering from one of the forms of consumption:—

(1) His local trouble is either in the nature of an *excavation* (loss of substance) or *infiltration* with shrinkage (contraction of substance).

(2) His general condition was either originally good or hereditarily vulnerable.

The features of local and general condition being established, we proceed to examine:—

(a) The heart; its *force* of impulse and *frequency*, which are to be considered in inverse ratio to each other. Force and slowness as “strong”; the “medium” of both, and feebleness of impulse and frequency of action as “feeble.”

(b) The sensibility of the skin and mucous membranes of the patient to extremes of temperature—heat or cold.

*The condition of the vascular system is the chief objective symptom.*

*The condition of the nervous system is the chief subjective symptom.*

The sum total of the result of the examination of the local process, general condition, vascular and nervous systems, forms the basis for our choice of climate. The therapeutic elements of climate given us are: dryness, equability, and elevation, with their accompanying lesser constituents (sunlight, etc.). In addition to these we have warmth and coolness to choose from and extremes of heat and cold to avoid, in order to suit individual sensations. Next remember two maxims:—

(1) That it is your aim to send the patient, if possible, to an altitude; the choice of low, medium, or high altitude to be governed by the corresponding condition of the heart. Feeble and frequent to low; medium to medium; forcible and slow to high altitude.

(2) That sensations should be made the determining feature only if *connected* with recent low-grade inflammation (subacute) or tendency to hemorrhage (nervous).

Do not pay too much attention to the lung process. Two thirds of the lung surface suffice to live within the limits of restricted vitality. The important factors are the vascular and nervous sys-

tems, from the examination of which we get an idea of what we call the “utility” and “resisting power.”

To show how easy it is now to determine the proper climate in given cases, let us glance once more at the various pathological conditions. We have:—

(1) Superficial catarrhal conditions, largely dependent upon the general condition.

(2) Cavities and infiltrations, occurring both in the originally robust, and as sluggish processes in the vulnerable.

(3) An acute exacerbation of either condition.

(4) The colligative stage, including acute tuberculosis.

The colligative-stage patients should remain at home. This, however, needs qualification. The acute exacerbations, namely, should likewise remain at home, until the fresh attack has been reduced, but should be sent off as soon thereafter as possible. The difference between the exacerbative and the colligative is largely one of degree, the former occurring intermittently and remittingly; the latter as a continuous process. Should a good intermission occur, third stages may sometimes be sent off.

The superficial are to be treated for their cause, the general condition, and this can be done on sea or land: a long sea-voyage; sojourn in the mountains; change from city to country.

This leaves us with cavities and infiltrations in the robust and vulnerable and their many intermediate shadings, as between the constituents of dryness, elevation, and equability. The best way to remember what to do is to fix the relative value of these agencies. This order is: Dryness first, equability next, and elevation third. Dryness is your first choice; the heart's action will determine the altitude (though, if in doubt, with a good medium altitude); equability is desirable, but as it is incompatible with dryness, is to be chosen as prime prescription only when decided irritation and very recent inflammation are the leading features.

Next let the patient state whether he feels best, generally speaking, in warm or cold weather. If warm, and elevation has been decided upon (medium or high), choose a medium or high altitude in a *southern latitude*. If cold be his choice, and elevation has been decided upon, choose a medium or high altitude in a *more northern latitude*.

If warmth agrees best with the patient, and equability of temperature has been decided upon, choose a southern latitude not too remote from the seacoast: but sacrifice a few degrees of equability for a less percentage of moisture.

If coolness is the patient's favorite temperature, and equability has been decided upon, choose inland, in a southern latitude (Aiken, S. C., Thomasville, Ga.). In either of the above cases, the climax of careful attention will be reached by selecting a southerly latitude in the winter and a northerly one in summer.

(To be concluded.)

—*Doctor*: “It is nothing but an attack of dyspepsia.” *Wife*: “And what does that come from, doctor?” *Doctor*: “That comes from the Greek, madam.”

TWO ATTACKS OF ASTHENIC PNEUMONIA:  
THE FIRST FOLLOWED BY PAROTITIS;  
THE SECOND BY TYPHOID SYMPTOMS.<sup>1</sup>

BY JAMES B. AYER, M.D.

Mr. J., druggist, though not robust, was in good health and in active business from the time he left the army up to November 30, 1883. Then (at the age of fifty-five) he was suddenly seized with a chill and sharp pain near the apex of the heart, accompanied by fugitive pains through the body and by pharyngitis and bilious symptoms.

One hour after the chill I was called to him and found the temperature 100.5° and pulse 76. The extremities were cold.

On the following day the temperature fell to 99.5 and he complained less of pain. He had a jaundiced hue and the urine contained an excess of coloring matter.

Respiration was more rapid than normal, and pneumonia of the asthenic type was suspected.

On the morning of the third day the temperature was 102.9°, pulse 90, and respiration 30. There was little pain or discomfort.

On the fourth day consolidation of the lower half of the left lower lobe could be proved. Temperature 103.5°; pulse 120.

Temperature on the fifth day 102°; pulse 100.

The crisis came on the sixth day, the temperature falling to 98.8°. He had coughed only a few times and had raised absolutely nothing. The disease had been uneventful, but with the crisis came severe prostration. I have rarely seen a patient so suddenly overcome by a feeling of weakness.

Very marked prostration remained more than one week but did not interfere with resolution. The day after the crisis he complained of dryness of the fauces. He could not open his mouth without suffering pain.

Examination showed swelling of the left parotid gland effacing the lower maxillary line. In the course of four days the parotid had become prominent, extending behind the ear and out on the cheek. It was very hard, involved the skin, and was quite painful.

The temperature at this time was normal; pulse 72. Poultices afforded more relief than camphorated oil. In a few days the right parotid gland hardened but did not become very prominent.

The left parotid at the end of a fortnight diminished one half, now being the size and shape of a very large plum. From some unknown cause it soon increased in size and remained prominently swollen and hard as stone up to December 18th; then it began slowly to grow smaller. The fauces up to this time had been dry, but began to be moist. At the end of six weeks the left parotid had regained its usual shape and size, but several additional weeks elapsed before both glands had softened.

At no time were there symptoms of abscess or of gangrene.

Mr. J. (though not over robust) attended steadily to his business up to February 12, 1885, fourteen months from the beginning of the first attack, when he was again attacked with pain in the

neighborhood of the left nipple, followed by similar symptoms to those characterizing the former attack. Up to the fourth day the pulse remained in the neighborhood of 90, the temperature fluctuating between 100° and 102.5°. On the fourth day bronchial respiration could be heard, and on the fifth it was evident that the lower half of the left lower lobe was again consolidated.

On the seventh day resolution began and was nearly completed by the ninth. The temperature had fallen to normal and the tongue was moist. During the whole illness he had not coughed.

Were it not for a flushed condition of the cheeks, and a strange look about his eyes, together with the recollection of the sequelæ of the previous attack, I should have felt no uneasiness about his condition.

He was sleeping well, did not complain of headache, no cerebral symptoms were evident, and he began to talk about sitting up in an easy-chair.

At noon of the tenth day he became very restless, incessantly tossing to and fro, and in the evening was constantly delirious.

The pulse-rate was over 120; the temperature could not be taken, but there was no febrile excitement. There was but little heat of the head. He had involuntary evacuations from the bowels and bladder every two or three hours.

The extremities were algid and the condition was that of collapse.

For a moment at a time he could be recalled to seeming consciousness.

Mustard was applied to the chest to the point of blistering, and hot-water bottles applied to the extremities. Constant friction by rubbing was ordered.

These symptoms continued forty-eight hours; during this time there were marked hallucinations of sight. He thought the nurse was the Virgin Mary, and would not allow her to care for him. He saw in imagination his grandchild and other relatives lurking about the room.

At the end of a couple of days he became more quiet, making less effort to get out of bed. At this time he appeared like one in a dream. With great difficulty the extremities were kept from growing cold. Fortunately nourishment and stimulants could be given liberally at frequent intervals.

The temperature fluctuated between 100° and 100.6°, the pulse between 120 and 130, and the respiration remained in the neighborhood of 15 on the day following the appearance of the delirious symptoms.

The next day found the temperature 100°, pulse 120, and respiration 10, while three days later the temperature had fallen to 96.8°, the pulse to 100, and respiration to 33.

On the fifth day after the appearance of delirium the mind had become clear. Delusions and hallucinations had disappeared, but there was diarrhœa and a portion of the evacuations were still involuntary.

The temperature at this time was normal. The tongue was covered with a thick coat of brown fur, and he suffered from thirst.

The respirations were rapid (in the neighborhood of 30), but careful examination of the chest showed no sign of pulmonary, nor of cardiac, disease.

<sup>1</sup> Read before the Boston Society for Medical Improvement, May 11, 1885.

On the following day (the sixteenth of the disease) our patient's condition was quite satisfactory, when suddenly the temperature fell below normal and alarming symptoms of collapse again appeared.

For forty-eight hours the temperature remained at  $97.8^{\circ}$ , then falling to  $96.8^{\circ}$ , where it remained a couple of days, again descending (on the evening of the twenty-first day from beginning of the attack and eleventh after delirium) to  $96^{\circ}$ . It remained between  $95.9^{\circ}$  and  $96^{\circ}$  till the evening of the twenty-third day.

During these seven days the temperature was taken with the greatest care.

The pulse fluctuated irregularly between 74 and 100, without regard to the temperature, but the respirations gradually became slower.

During this period of seven days the body could with great difficulty be kept from growing very cold and the tongue was dry and furred. A slight movement of the body increased alarmingly the prostration. At times he seemed in an almost lifeless condition.

On the twenty-third day I began to give him fluid extract of coca in three and one-half grain doses, which I thought had an excellent effect, but it was discontinued after the third dose on account of nausea. At this time he began to improve. On the twenty-fifth day the temperature reached  $97.8^{\circ}$ . The extremities could now be kept warm. The tongue presented a glazed appearance.

He sat up on the thirty-first day for a few moments, went downstairs on the forty-ninth day, and on the seventieth day was able to be out of doors a good portion of the pleasant weather. His temperature at this time was  $98.2^{\circ}$  only.

Dr. James Ayer saw the patient frequently with me in consultation. By his advice I was encouraged to persistently give brandy, quinine, carbonate of ammonia, and liquid nourishment during the period when there was little prospect of recovery.

Briefly to recapitulate: Our patient, aged fifty-five, strictly temperate, not previously ill for many years, after an insidious attack of pneumonia developed a swelling of the parotid gland the day following crisis in connection with prostration. After a tedious convalescence he returned to business and enjoyed fair health for the period of one year, when a similar attack of pneumonia occurred, followed three days after the crisis by the delirium of cerebral exhaustion and by a severe form of prostration, the symptoms at this time being typhoid in character.

On the sixth day he apparently began to improve, but immediately afterward an alarming state of collapse followed, the temperature falling to  $95.9^{\circ}$ . This condition of collapse lasted seven days and was followed by a protracted convalescence.

These attacks were examples of the asthenic form of pneumonia. The pulmonary symptoms were mild and insidious, but the prostration was severe and the only source of danger.

Regarding the parotid complication, Jürgensen says: "The reports of the Vienna hospitals mention this complication only six times out of 5,738 cases."

According to Grisolle, patients over sixty are most liable to be attacked. He states that as a rule only

one parotid gland is attacked but in its whole extent. He says that usually this complication is serious, ending in suppuration or gangrene.

Loomis says: "Metastatic parotitis is a rarity. It begins with a catarrh of the duct. The exact cause is obscure. It shows a tendency to suppuration from the beginning and is generally confined to one side."

Pepper says: "Sympathetic or metastatic parotitis is usually unilateral and terminates in suppuration or, much more rarely, in gangrene." He mentions its connection with several diseases, but not with pneumonia. He says that the exciting cause is probably mechanical, excessive dryness connected with fever causes occlusion of the parotid duct with retention of the saliva, suppuration of glandular tissue following. He recognizes that there is a cogent objection to this theory, namely, that dryness of the throat is common in connection with fever, but subsequent parotitis very rare.

Ringer speaks of it as rare, and says that it quickly suppurates. He calls it "parotid bubo."

Jeaffreson, whom he quotes, states that not more than three per cent. of "parotid buboes" resolve.

Flint met five examples of parotid swelling following typhoid and typhus fever, in the winter of 1849-50, but since that time has rarely observed it.

In our case the parotid enlargement was, in my opinion, merely a symptom of debility—as is the case with most glandular swellings.

The Collective Investigation Committee of the British Medical Association, after analyzing the returns of 1,060 cases of pneumonia, report that sequelæ are of very rare occurrence. They report no case of parotitis following pneumonia.

Neither do they find any case of typhoid symptoms resembling those following our patient's second attack.

They do, however, mention one case of congestion of the brain, one of meningitis, and two of acute mania following pneumonia.

It is certain that cerebral exhaustion, combined with a state of general prostration, very rarely gives rise to well-marked typhoid pneumonia following pneumonia, but I cannot give definite figures regarding the frequency.

Typhoid symptoms follow the *asthenic* forms of pneumonia, and are generally fatal in their character.

Owing to the depressing treatment and the rage for venesection which existed in former times, it is said these symptoms were formerly met with more frequently than now.

## THE BASAL PATHOLOGY OF CHOREA.<sup>1</sup>

BY H. C. WOOD, M.D.,

Clinical Professor of Nervous Diseases, in the University of Pennsylvania.

I HAVE come to some definite conclusions concerning the basal pathology of chorea, which I should be glad to communicate to the College, and give the grounds for my belief.

The first point which I wish to make is that the

<sup>1</sup> Communicated to the College of Physicians of Philadelphia, May 6, 1885.

term chorea is simply one which is analogous to the term paralysis, and that the choreic movement is no more the same thing, necessarily, in its basal pathology, than is palsy the same thing in its basal pathology. When we come to study the various forms of disease closely connected with the choreic movements, we find, in the first place, the so-called cerebral or post-hemiplegic chorea, in which, after cerebral palsy, there appear violent convulsions with choreic movements. The seat of this lesion has been assigned by Professor Charcot to the corona radiata, near the lenticular nucleus; and there have been a number of postmortems made which verify this view of its location. There can be no doubt that, in many cases, the lesion is situated in this position; but, on the other hand, it is equally certain that there have been cases of so-called post-hemiplegic chorea in which the lesion has been in the external capsule and in the cortex. We may, therefore, say that this post-hemiplegic chorea is associated with various lesions in the brain, so far as seat is concerned.

Then, again, there has been reported in the *Compt. Rend. Société Biologie*, of Paris, a case of typical post-hemiplegic chorea, having absolutely all the features of organic hemiplegia with chorea, in which the most careful examination made by thoroughly competent persons failed to show any lesion whatsoever of the brain. As there had been a previous history of hysteria, the patient dying of pneumonia, we are forced to the conclusion that we may have post-hemiplegic chorea, which is without lesion, and hysterical in its nature.

When we come to study the more general forms of chorea, leaving out of sight for the present the chorea of childhood, or St. Vitus's dance, we have a chorea which is plainly hysterical; we have the electric chorea of the French, which I believe to be another form of hysterical chorea. We learn that, therefore, we may have a chorea dependent upon lesion of the brain, which also may have various seats, or we may have a chorea independent of any lesion whatsoever in any portion of the nervous system.

When we come to study chorea of childhood, we find that the pathology is perfectly parallel to that of the other forms of chorea. We have a large number of reported cases in which the lesion was evidently capillary embolisms of various portions of the brain, especially of the corpora striata and optic thalami, but also in other portions. We have other cases in which no lesion was to be found. Then we have recent cases, especially reported by Dickinson and Ross, in which serious lesion was found in the spinal cord. The clinical history of chorea in childhood also shows conclusively, to my mind, that it may exist without any organic lesion which can be detected. We have it developing in a moment from emotion, passing off in a few weeks, and affected immensely by a few doses of arsenic or other agencies which would be powerless to affect any severe organic lesion.

So far as the study of the disease in the human subject is concerned, I think that these remarks sum up all that we can reach to, namely, that we may have chorea with various lesions and without lesions.

I have been much interested this winter in studying chorea in the dog. I found that, by offering a small sum of money, I could obtain all the choreic dogs that were needed. I made a careful study of the subject. It has been affirmed that chorea in the dog is different from chorea in the child. The great reason for believing the disease is distinct is that in the dog the movements are chiefly rhythmical, whereas in the child the movements are not usually rhythmical; but I have seen dogs with absolutely a rhythmical chorea, and with all the awkwardness of chorea of children; and, occasionally, we have more or less of the rhythmical type in children. When we come to look at the points of resemblance in the two diseases we find, in the first place, in each case it especially affects the young animal. In the second place, that in each case the disease is associated with a constitutional disorder—distemper in the dog, rheumatism in the child. In the third place, the symptoms are exactly analogous, except that there is more tendency to rhythm in the one than in the other. In the fourth place, the clinical experience of veterinarians and of physicians has led to the same result, namely, that arsenic is the best remedy that is known for chorea in the dog, and that it is the best that is known for chorea in the child.

Unless in the case of a contagious disease, where you can pass the disease from one animal to another, it is manifestly impossible to be perfectly positive that a certain disease in the animal is the same as a certain disease in the child; but, when you find the habit of the affections the same, the symptoms parallel, and the therapy identical, you have as good reasons as can be possibly assigned for believing that the diseases are closely similar. It is, however, not necessary for my present purpose to take it for granted that the diseases are the same.

When I came to study chorea in the dog, the first point to settle was the seat of the lesion. I therefore cut the spinal cord so low as not to interfere with breathing. I found that, invariably, the choreic movement continued after section. Before the section the motions of the front and hind legs were synchronous; that is, a wave of motion starting in the front paw would pass down the hind foot; but after the section this synchronous movement was wanting. The hind legs were completely isolated from the upper portion of the nervous system, and yet continued to exhibit the choreic movements, proof that the movements originated in the spinal cord. I therefore had my search for the seat of lesion narrowed down to a small fragment of nerve tissue. I found that not only did the movements originate in the spinal cord, but that they originated, in all probability, in the motor cells, because when I galvanized the bare sciatic nerve, although the animal exhibited no signs of pain, the movements in the hind leg were at once inhibited. The galvanism of the sciatic nerve could only affect the motor cells. Therefore I came to the conclusion, physiologically, that we had to do here with movement which originated in the motor cells of the spinal cord.

The next step was to examine the cord. Gowers and Sankey found in the cord a peculiar infiltration with leucocytes, and they came to the conclusion

that leucocytal infiltration was the basal pathology of this disorder. Gowers had previously examined a cord without finding this condition. I examined a spinal cord and thought that I had found Gowers's lesion, but I was careful not to say so positively, because I had a suspicion that what was supposed to be a lesion was simply a peculiarity of the dog's cord. When I examined the cords of healthy dogs I found the same leucocytes. I do not say that what I saw was the same as the condition described by Gowers.

When I first examined the cord I perceived nothing wrong beyond what has been noted, but, by-and-by, as I began to study the specimen more and more closely, I found that the motor cells refused to take the carmine and hematoxylin staining as they should do. Then I remembered that I had killed the dog early in the disease. Then I took the cord of a dog which had died of the disease. Under these circumstances the lesion in the motor cells was very marked. They were crumpled up, the processes were gone, and the nucleoli had disappeared. They were merely masses of matter, taking very little staining, just enough to show that they were protoplasmic. As I killed dog after dog in different stages, I found that the motor cells were to be noticed in all stages of degeneration. First, the perfect cell, then the cell which stained badly, then one with nuclei disappearing, the margins becoming obscured, the processes dropping off, and opacity occurring; and, finally, the irregular protoplasmic balls. In a few cases I noticed peculiar degeneration, that is, the formation of vacuoles in these cells. A change, then, in ganglionic cells is what I believe to be the basal lesion of chorea.

It so happens that some years ago Putnam, of Boston, studied chorea in the cat. In the first case he found no lesion, but in the second he found the lesion which I have described. The important point is that he found that this lesion pervaded not only the spinal cord, but the whole nervous system. We all know that the choreic movement is only a part of the symptoms of the disease, and that the moral and intellectual part of the child also suffers. I believe that in children we have an altered condition of the ganglionic cells. The reason that no lesion is found early is that the disease is at first functional. It is not necessary that I should call attention to the fact that there is no such thing as functional and organic disease. The line which we draw is a purely arbitrary one; for the moment there is altered function, there is altered protoplasmic change, and when there is altered protoplasmic change, there is altered nutrition, and then organic disease. Our microscopic eye is so blind and gross that it cannot see these fine changes until they become so distinct that we can detect them, and then we say that organic disease exists.

The history of chorea I conceive to be this: Owing to emotional disturbance, some stopping up of various vessels of the brain, or sometimes to the presence of organic disease, now this cause, and now that, there is an altered condition of the ganglionic cells throughout the nerve centres. If the cause is removed, and the altered condition of the nerve cells goes only so far, it remains what we call a functional disease. If it goes so far that the

cells show alteration, we have an organic disease of the nervous system.

The capillary emboli, the clots, the tumors, and the various gross lesions which have been found in chorea, are not, in my opinion, the basal lesion, but the cause which produces these changes in the cells which are at the bottom of the choreic movements.

[A number of micro-photographs were exhibited.]

## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M.D.

### A CONTRIBUTION TO THE PATHOLOGY OF PHOSPHORUS POISONING.

VON STARCK<sup>1</sup> has carefully compared a number of cases with especial reference to the statement of Perls that the distinction between fatty degeneration and infiltration of the liver lies in the way in which the normal constituents are replaced by fat. In the first case it is solid constituents, while in the second it is the water.

Comparative analyses were made on the organs coming from cases of phosphorus poisoning and from the so-called acute (idiopathic) atrophy of the liver.

In the last-named disease there was found a marked increase in the amount of water, a moderate accumulation of fat, and corresponding to this a decrease in its solid parts. In the former, on the other hand, the water was decreased, the fat enormously increased, and the solids somewhat decreased but not proportionately. The only chance of confounding the two arose in those extremely rare cases of poisoning in very much emaciated individuals, and when death did not occur until the tenth or twelfth day.

The question naturally arises, from whence comes this large quantity of fat in so short a time? If it is assumed that with the exception of the amount normally present, it is all produced by a destruction of the albuminous constituents, then the amount thus used up must be very great. And this would be shown by a marked increase in the excretion of nitrogen, which, however, is not the case. Leberdeff<sup>2</sup> has also come to a similar conclusion against the assumption that the accumulation of fat in phosphorus poisoning is to be referred to the destruction of albumen. He goes too far, however, in the opinion of the author, in stating that all the fat in such pathological conditions is derived from that already prepared in the body. His experiments upon dogs in relation to this are of the utmost importance and need careful repetition. He fed the animals, which had been emaciated by starvation, upon linsed oil, tallow, and lard, then poisoned them with phosphorus. The examination of the liver showed that the greater part of the fat was of a different character from that normal to the dog. From this the fact of fatty infiltration was directly proved. To deny the origin of fat from albumen as Leberdeff does is not to be allowed. But we can agree with him in attributing the greater part to an

<sup>1</sup> *Deutsch. Arch. f. Klin. Med.*, vol. III., p. 181.

<sup>2</sup> *Pflüger's Arch.*, vol. XXX, p. 15.

infiltration, which comes mostly from that already prepared in the body. In confirmation of this would stand the fact that in a very thin person who has died from this poison there is found a small and not an enlarged fatty liver. From all this he concludes that Perls's definition of the distinction does not apply without further restriction to the results obtained from analyses and that these are only of relative worth.

He further gives the history of a case of recovery in which an increase of the excretion of nitrogen had been noticed with a slight icterus. This had hitherto only been found in fatal cases.

His conclusions are summed up as follows:—

(1) Even in a case terminating in recovery, an increased secretion of urea may be found on the fourth to sixth day, without any apparent increase in the size of the liver.

(2) From the analysis of the fat and water found in the liver it appears that the first has originated in other places and been mostly infiltrated.

(3) Since phosphorus can remain in the stomach and intestines until the end of the second day (see his case in the original), an evacuating treatment is indicated even at that time.

(4) From the estimate of fat and water in the liver of acute atrophy (idiopathic) the origin of fat from albumen is to be assumed.

#### THE HYALINE (WAXY) DEGENERATION OF THE SMOOTH MUSCULAR FIBRES.

According to Von Recklinghausen there is a degeneration of smooth muscular fibres identical with that first described by Zenker for striated muscles. In consequence of this Beneke<sup>3</sup> first instituted some experiments on these last in order to study the process in its simplest aspect. For this purpose he watched the changes which took place in a frog's muscle when placed in a weak solution of common salt. From this it seemed probable that two distinct and diametrically opposed processes went on side by side. One consisted in the washing out of an albuminous substance soluble in the salt solution and the other in the precipitation of an insoluble one. The greater the amount of fluid present, the faster the degeneration progressed. The sequence of events was as follows: The solution permeated the muscle and freed the soluble albuminate from its anatomical arrangement. Then when the structure was disturbed the insoluble and consequently coagulable bodies ran together into hyaline flakes, which finally changed into the characteristic clumps. If this coagulation had already taken place before the soluble parts were removed (as in rigor mortis, by placing the muscles in distilled water, or by strong faradization) then the changes were greatly modified and went forward much more slowly. The author considers that similar modifications take place after the death of the fibres when this occurs within the living organism, or in wounded fibres which are simply kept wet without additional fluid, as in the case of stumps after amputation. Here the microscopic pictures varied somewhat and although not identical were very closely related to those seen in his experiments.

The hyaline degeneration of the smooth muscle

can be placed by the side of this last, however. In this case there is also a separation of one albuminate which permeates the living cells, and the appearance of another kind in the form of highly glancing balls. But there are some obvious differences. In the striped variety the most marked pictures of degeneration—aside from what occurs in typhoid fever—are seen after the use of the salt solution; while under physiological conditions there is only seen the marks of post-mortem coagulation. In the smooth elements, on the other hand, the hyaline changes are most marked after the undisturbed physiological death of the intact cell within the organism. The salt solution seems to render the production of the most marked examples very difficult and by a relatively large excess of fluid to stop them entirely. A medium amount of moisture is most favorable to their development. Examination of the stomach, intestines, etc., of frogs, rabbits, or cattle gave no reason to believe in the occurrence of a hyaline deposit in living cells.

In man the degeneration was noted very shortly after death in an extreme degree and to a great extent. This was especially the case in the intestines where single cells of the most characteristic type could be met with only a few hours post-mortem. At times the highly refracting masses appeared as large cubical bodies, or as finely plaited threads, or as rods placed transversely, or as spindles laid obliquely, or they assumed half-moon shapes. There does not appear to be any regularity in their arrangement, but they never are seen to fill the entire cell. The unoccupied part is more or less collapsed, and pale. Not infrequently little fat drops are to be made out. As a rule the nuclei are intact; but exceptionally they are invaded in the same way.

In its relation to reagents hyaline acts very variably. From this the author concludes that it is not necessarily a pure substance but can be mixed more or less with other albuminous materials. Acetic, nitric acid and potash in weak solutions make the fresh hyaline unrecognizable, that is, it is dissolved. The development of this substance is therefore impossible in all cells which are rich in acid or alkali. For instance, in cadaveric softening of the stomach, when the gastric juice reaches the muscularis, as well as in the alkaline condition produced in extreme decomposition, or by the action of the intestinal juice on the muscular cells laid bare in ulceration.

This degeneration has essentially the same course in man as in animals. It is the expression of the cell, which may either be local and occur during the death or the life of the individual, or be generally diffused with the death of the whole organism. Its production is dependent upon the method in which the cell dies and the character of the fluid which bathes it. From this point are to be considered the effects of general or local disease on the course of this process. In general anemia the cells appear pale, narrow, and show small hyaline stripes. In a case of acute anemia following placenta previa the uterine tissue was extremely affected, more markedly on account of puerperal hyperplasia of the cells. In inflammation the degree is very varying, most remarkable where a hypertrophy has been called

<sup>3</sup> Fortschritte der Medicin, 1885, p. 179.

forth by chronic inflammation, as, for example, in the stomach or bladder. In general diseases accompanied by fever the conditions vary with the different cases.

Hypertrophied muscle cells in new growths in the neighborhood of the muscularis are found extremely altered. In one case of myelitis, with long-existing paralysis of the bladder and anus, hyaline masses were found but sparingly in the dry muscular wall of the bladder. In the coats of the intestine, on the contrary, they were very numerous, but without any great distinction between the amount found in the sphincter ani interni and other parts of the canal.

#### OBSERVATIONS ON ISCHEMIC MUSCULAR PARALYSIS AND CONTRACTIONS.

It is well known that after the application of a tight bandage on the forearm and hand there sometimes follows paralysis and contraction, which have been regarded as the result of an ischaemia. In the lower extremity this has rarely been observed. Leeson<sup>4</sup> has taken this topic for the subject of an inaugural thesis. The phenomena seem to depend upon cutting off the arterial blood supply, while the venous hyperaemia, often associated with this, acts in hastening the beginning of the paralysis. It seems to be in no way associated with a primary injury of the nerves from pressure, but is solely a contraction of inflamed muscles. The primitive fibres die upon being deprived of oxygen for too long a time; their contractile substance coagulates, becomes agglomerated into balls, and is finally absorbed. The contraction which follows is to be looked at as one similar to that of rigor mortis. The occurrence of paralysis and contraction at the same time marks this as not of nervous origin, as well as the fact of the great resistance to any passive motion.

Such cases are not infrequent in the large clinics, the author having met with seven during one winter. In six there was fracture of the fore, or upper, arm, and in one there did not appear to have been any injury. The clinical features were as follows:—

Shortly after the bandage was applied, the hand and fingers, which had been left free, began to swell, and great pain was felt in the entire arm, as well as numbness in the fingers. The symptoms were usually so severe as to cause removal of the bandage in a short time. If this was not done the fingers and hand began to be firmly flexed. The pain still kept on. At the end of twenty-four hours, if the arm was examined, the hand was found to be in a position of moderate contraction, the limb felt brawny and hard, the muscles were so stiff that the patient could not make the slightest movement himself, and any attempt at forced movement of the fingers caused intense pain. Afterward swelling of the included part began, and usually reached its height in from two to eight hours. This gradually receded, giving place to a cicatricial contraction. If the injury was only moderate there was associated with the flexion an inability to move the fingers and hand, dependent upon a true muscular paralysis, as shown by the electric current. An absolute shortening could not be demonstrated.

In the severe cases, however, there was a diminution in the length of the muscles, especially in the flexors of the forearm. When the points of insertion were brought nearer together the fingers could be straightened, but when they were separated by extending the wrist they then assumed the flexed position corresponding to the real shortening of the muscles.

The examination with electricity gave the same result in all cases. On direct irritation by the Faradic current there was not the slightest reaction. The constant current, on the other hand, produced very weak, but still perceptible, contractions. The paralysis was thus clearly of myogenic origin.

These clinical facts have been further controlled by experiment. Frogs and rabbits were used for this purpose. In the former it was possible to produce an ischemic paralysis by passing an elastic ligature round the entire limb, taking care to exclude the sciatic nerve. The process, however, went on with too little energy to compare it with that observed in man. In rabbits, on the other hand, the parallel was very close. One of the posterior extremities was enveloped in a flannel or rubber bandage under moderate pressure, or bound round with a rubber tube at the upper part of the leg. If the circulation was stopped for at least three hours there was a functional disturbance quite analogous to that seen clinically. Directly after the removal of the pressure the limb was found to be paralyzed, the temperature slightly lowered, but the sensibility not essentially diminished. Faradic reaction was always lessened, and in some cases entirely wanting. At the end of twenty-four hours the loss of power still continued, and the temperature appeared higher than that of the other limbs. Swelling was apparent, and reached its highest point in from forty-eight to seventy-two hours. The muscles were very hard to the touch. In from eight to fourteen days the inflammation had entirely subsided, and the paralysis disappeared. After three weeks the leg was entirely well. The nerves showed themselves to be unaffected throughout. The difference in the final result from that observed in man was explained by the fact that the animals were allowed free use of their limbs after the removal of the bandage. If, however, the leg was fixed in a splint for several weeks the paralysis and loss of electrical reaction continued permanent.

Bits of muscle were taken from three patients and from the animals experimented upon and examined microscopically. At the height of the invasion there was a marked accumulation of round cells between the fibres, which were thus widely separated and often destroyed. In the later stages the cells had given place to formed connective tissue, among which were to be found muscular fibres markedly atrophied and devoid of nuclei. The capillaries were also seen to be wanting in nuclei. The number of destroyed and degenerated fibres was greatest in those places where the inflammatory appearances were most expressed, as shown by the great cellular increase. But this varied in different parts of the same muscle.

Regeneration was very rare. A slight improvement was seen after treatment, but entire restitution was found only in the lightest cases. Prophy-

<sup>4</sup> Fortschritte der Medicin, vol. III, p. 108.

lactic care is all that does any good, and the dangers of the plaster bandage in the typical fracture of the radius are strongly emphasized.

ON THE INFLAMMATORY CHANGES IN THE GLOMERULI,  
AND ON ACUTE NEPHRITIS.

Larghans<sup>5</sup> has written a long article, of which only the results can be noticed here, and which is a confirmation of investigations already published by him. Klebs was the first to show that in many forms of acute nephritis, for example, that following scarlet fever, the glomeruli alone were affected. The author has gone a step further, and shows that the changes which take place in the capsular epithelium and that covering the coil of capillaries of the Malpighian bodies are to be sharply differentiated from those going on inside of the capillaries themselves.

He found in the glomerulus the following changes:

(1) A filling up of the capillaries with a protoplasmic mass rich in nuclei. (2) Desquamation and proliferation of the epithelium covering the glomerulus, associated with emigration of leucocytes. (3) Similar changes in the epithelium of the capsule.

His studies further lead him to consider the normal capillaries of the glomerulus as having the following structure: Their wall consists of two layers, an outer, thicker, homogeneous one, which can well be regarded as a basement membrane, and an internal firmly adherent nuclear layer. The protoplasmic substance of this is extremely firm, and not easy of observation unless thickened pathologically.

He lays great stress on the necessity of the finest manipulation of the specimens, and his own method has been to cut extremely fine sections, from specimens imbedded in celloidin, with Thom's large microtome. The glomeruli naturally fall out of their capsules, and are then allowed to settle to the bottom of a glass, carefully taken up with a pipette, and stained in carmine. The preparations were previously hardened in spirit or osmic acid.

Isolated bodies were also obtained by carefully teasing a bit of kidney, that had been macerated for one or two days in chromate of potash, with very fine needles under a simple microscope.

The author believes that the implication of the stroma is of secondary importance, and that the changes of the glomeruli should have a much more important place than has hitherto been assigned them. His division of the forms of acute nephritis would depend upon the degree to which the tubules and Malpighian bodies were affected, and he distinguishes three classes:—

I. Nephritis with equal disease of the glomeruli and tubes.

(1) Moderate degree. Glomeruli with little swelling of the endothelial lining, slight granular degeneration of the epithelium of convoluted tubules, hyaline casts. Stroma often not perceptibly affected. Usual form in diphtheria.

(2) Middle degree. The endothelial lining of the glomeruli markedly swollen, even to clotting of the capillary wall, but without much effect on the circulation. (Amount of urine normal.) Epithelium of the capsule and glomerulus swollen; a ring of albumen in the capsule. Swelling and advanced

granular degeneration of the epithelium of the cortex. Casts. Stroma swollen and granular. Small foci of cell infiltration.

Pneumonia, typhoid fever, puerperal fever, ulcerative endocarditis.

(3) High degree. Filling of the capillaries of the glomerulus with protoplasm rich in nuclei; circulation impeded, which can cause diminution of the secretion even to complete anuria. Swelling, proliferation, and desquamation of the glomerular and capsular epithelium. Tubules; swelling of the epithelium, with extreme granular degeneration or complete desquamation. Stroma as above or diffusely swollen. Typhus and phlegmone.

II. Nearly pure glomerulo-nephritis. Extreme degree of intracapillary changes in the glomerulus, often with implication of the epithelium covering its loops, more rarely of that on the capsular wall. Slight granular degeneration in the tubules. Stroma unaffected. Scarlet fever, measles.

III. Pronounced or exclusive disease of the tubules.

According to the author's experience this only occurs in the kidney of icterus. The clinical facts of the occurrence first of casts and then of albumen also substantiate this. Further, the accumulation of dark-brown pigment in the cells of the collecting tubes points to their taking part in the secretion of urine, which has been denied by some. Some other soluble poisons, as aloin, cantharidin, chromic acid, and dissolved hæmoglobin seem also to act chiefly upon the lining of the tubes.

## Hospital Practice and Clinical Memoranda.

### EMMET'S OPERATION FOR LACERATED CERVIX, UNDER HYDROCHLORATE OF COCAINE.

BY A. GASTON ROETH, M.D., OF BOSTON.

Mrs. A. M., aged thirty-five; multipara; her last child was delivered with forceps, since which time she has complained of leucorrhœa, menorrhagia, and backache. On examination I found a laceration extending from the os externum to the fold of the vagina, on the right side, readily admitting the finger into the cavity of the uterus.

As Emmet's operation for the relief of this condition is always performed under ether, I deem it noteworthy to give my individual experience relative to the value of cocaine in its performance.

With twenty minims of a four per cent. solution of Merk's hydrochlorate I made three hypodermic injections into the cervix, that is, one into each side of the rent, and one at the base of the sulcus. After an interval of five minutes I painted the surfaces which were to be denuded, and shortly afterward began and completed the operation in the usual manner. From the moment of the denudation of the hypertrophied surfaces to the insertion of the last wire suture the patient made no sign of pain.

The quantity of the drug used was a little more than half a drachm. In future I shall always depend on hydrochlorate of cocaine as a substitute for ether in this operation.

<sup>5</sup> Virchow's Archiv, vol. xcix, p. 163.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

MAY 11, 1885. The President, Dr. F. W. DRAPER, in the chair.

Dr. THOMAS DWIGHT called attention to

#### SOME POINTS IN THE PHYSIOLOGY AND PATHOLOGY OF THE NECK AND CHEST, SHOWN BY FROZEN SECTIONS.

showing the actual specimens and also plates. The points to which attention was especially called were: The effect of rotation of the head on the larynx; the relation of the carotid to the sterno-mastoid muscle; the shape of the œsophagus; also the effect of effusions on the lungs and pleura.

Henke has stated that rotation of the head takes place mostly between the atlas and axis, and very little below these bones: that in front of the vertebrae it takes place mostly between the hyoid bone and thyroid cartilage, and but little below the thyroid; also that turning the head draws the sterno-mastoid forward enough to cover the carotid and remove it from the anterior triangle. Dr. Dwight's subject was frozen, lying on its back, with the neck turned as far round as it would go, and bent a little downward. The first section was through the chin, and carried entirely through the neck, and shows a prevertebral space filled with loose cellular tissue, a space through which an abscess can burrow downward. It should be stated that if the parts are relaxed by death before freezing, the relative position may be slightly changed by that cause. In going down the neck the thyroid was found to be rotated as well as the hyoid; the cricoid, too, was much rotated, and the trachea was also curved much to one side. The œsophagus, instead of being flattened from before backward, as is commonly taught, was round, and with a positive cavity during most of its course, though somewhat flattened at its upper end. This is also shown in the plates of Braune. It lay, as usual, somewhat to the left of the trachea, the position which caused Nélaton to propose making the same cut in opening it as in tracheotomy, and then pushing the trachea to the right. The arch of the aorta pushed the œsophagus to the right, that is, in to the middle line. At the bifurcation of the trachea it suddenly became wider to thirty-five millimeters. The aorta and œsophagus wind spirally about each other, as is also shown in the plates of Pirogoff and in Dr. Dwight's own sections of a child. The left subclavian and right axillary arteries were shown in one section, the subclavian resting on the pleura.

A point of clinical interest is that the fissure separating the superior lobe gets to the bottom of the lung before it gets to the front of it, explaining how we may have resonance in front in spite of the presence of consolidation of the lower lobe.

Dr. DWIGHT referred also to a paper by Mr. Moxon, in the *Lancet* in January, 1884, on the different effect on the heart of effusions in the right and left pleural cavities. Moxon thought that pressure on the right side of the heart made it smaller by interfering with the entrance of blood, while pressure on the left by making the passage of blood

different from the lungs to the heart tended to dilate it, and give this as a reason why the apex-ventricle is more readily displaced to the right than to the left.

Dr. F. I. KNIGHT asked if Dr. Dwight supposed sudden deaths in pleurisy to be due, as Trousseau believed, to a twist in the vena cava.

Dr. DWIGHT thought it more likely to be that than a twist in the aorta.

Dr. E. G. CUTLER said that he had made one post-mortem in which there was a double twist, the heart from right to left and the apex from left to right. He could not repeat this artificially except from the apex.

Dr. F. H. HOOPER referred to the shape of the œsophagus, which is supposed by Morell Mackenzie to have a greatest transverse diameter.

Dr. DWIGHT said that there is no question but that the greatest diameter is transverse. The mistake is in supposing that the walls lie together. There is a certain lumen.

Dr. DRAPER stated that many medico-legal writers included among the signs of death by drowning the presence of a considerable amount of water in the stomach; the theory being that fluid could enter the stomach by the œsophagus by vital action only, and that the anatomy of the pharynx and œsophagus forbade its penetration to the stomach post-mortem. He asked Dr. Dwight if his observations on the position and anatomy of the œsophagus confirmed that view.

Dr. DWIGHT answered that he had some hesitation in answering absolutely. He would be slow to deny that some water *may* enter, but it is with difficulty. The tongue may fall back so as also to close it.

Dr. J. B. AYER read a paper entitled

#### TWO ATTACKS OF ASTHENIC PNEUMONIA: THE FIRST FOLLOWED BY PAROTITIS; THE SECOND BY TYPHOID SYMPTOMS.

Dr. W. W. WELLINGTON reported the following cases in connection with Dr. Ayer's:—

On the evening of the eighteenth of April I was called to see Miss S., aged fifteen years. Early in the forenoon she had had a severe chill, followed by fever, headache, pain in the right side of the chest and in the back. At the time of visit the pulse was 120, the temperature 101° F., respirations 28, and there was a slight cough.

Next day (19th) pulse 130, temperature 104° F., headache, delirium, cough, pain in the right side, some abdominal pain, and slight diarrhœa. Next day (20th) symptoms the same, with the addition of rusty sputa. No noticeable change in respiratory sounds. Next day (21st) pulse 120, temperature 103° F. Sputa rusty and more abundant. Respiratory sounds normal. Next day (22d) pulse 120, temperature 104°, respirations 36. Evident pneumonia with consolidation of the upper lobe of right lung, with bronchial respiration and bronchophony. Sputa rusty. Next day (23d) pulse 120, temperature 103½° F., respirations 32. Pneumonia extending down right lung. Some diarrhœa. Next day (24th) dullness and bronchial respiration over whole of right lung. On the morning of the next day

(25th) the pulse and temperature had subsided, and, from this time on, the lung improved, dullness gradually passed off, and breathing became better. The pulse was 88, and the temperature 97.8°.

On the evening of the 26th (the twelfth day of the sickness) there was a chill, followed by severe fever, and on the morning of the 27th I found the pulse 120, the temperature 103.8° F., the respirations 20. Patient was feverish and stupid. I supposed the pneumonia had attacked the other lung, but auscultation revealed no change in the breathing. At my evening visit the girl was sitting up in bed, reading the newspaper; the pulse 96 and the temperature 99.5° F. There was no extension of the pneumonia, and the right lung was improving.

The next three days there was each day a slight paroxysm of fever, lasting two or three hours.

May 1st. A.M. pulse 116, temperature 104.8° F., respirations 20. Dull and listless. A slight chill preceded the fever. Slight dullness remained over right shoulder, and a few coarse râles over remainder of right side of chest. In evening, pulse 96, temperature 99.5° F.

May 2d. A.M. Chill and fever. P.M. Feeling well; pulse 88, temperature 98° F., respirations 16.

May 3d. A.M. Chill and fever; pulse 120, temperature 105° F. P.M. Feeling well; pulse 92, temperature 99° F.

May 4th. A.M. Feeling well; pulse 100; temperature 99.1° F. P.M. Chill, fever, and sweating, lasting from 12 M. till 4 P.M.

May 5th. A.M. Pulse 96, temperature 98.8° F. Had slept all night; no pain; good appetite. At 1 P.M. a chill, followed by heat, lasting till 11 P.M. In evening, pulse 120, temperature 105° F.

May 6th. A.M. Pulse 96, temperature 98.5° F. P.M. Fever a little later than yesterday.

May 7th. A slight chill and fever occurred during day. Patient took seventeen grains of quinine.

May 8th. No chill or fever. Eighteen grains of quinine.

May 9th. No chill or fever.

May 10th. Slight chill and fever, followed by sweating. Dull and heavy all day.

May 11th. No paroxysm.

May 12th. No paroxysm; appetite good; feeling well. Recovered without further relapse.

Here was a case of pneumonia which ran its course in about a fortnight. It had two peculiarities: (1) Though the disease was clearly enough pneumonia from the beginning, judging from the constitutional symptoms, yet no sign was discovered by auscultation till the fifth day, when evidence of consolidation was found in the upper lobe of the right lung. Thence it spread down through the whole lung. The disease probably began in the central part of the lung. (2) It first showed itself in the upper lobe, and spread downward, contrary to the usual custom. Such exceptions, however, are not very rare.

But I report this case chiefly on account of its accompaniment. On the eighth day of pneumonia, and about the time it began to decline, a chill occurred, followed by fever, headache, and exhaustion. A similar paroxysm occurred the next day. These paroxysms increased in severity, so that for

several days the pulse rose to 120 and the temperature to 103° and 105° F., falling off in a few hours, the pulse to less than 100 and the temperature to 98° or 99° F. During this time the pneumonia, judging from the physical signs, was declining. There was no local trouble to explain this state of things. Such paroxysms are usually caused by pyæmia or malaria. I am confident there was no pyæmia. Malarial disease seems to be finding its way eastward, and possibly this was one of its visitations.

Quinine was given pretty liberally. Its first effect was to postpone the paroxysms; finally it seemed to stop them. The whole disease lasted twenty-five days.

CASE II. Pneumonia in a man of seventy. On the ninth day convalescence fairly began. Severe epistaxis, for which left nostril was plugged, and which returned two days later, the plug having been out for a day, but being then returned. On the following morning the roof of the mouth and soft palate covered with a gray membranous exudation; throat red and swollen. In the evening the exudation had separated from the roof of the mouth and hung like a curtain. Detached a large piece with scissors. Breath very offensive. Respiration and swallowing difficult. Pulse and temperature nearly normal. There was no constitutional symptom, but the membrane was a week in disappearing. In the course of the week was bleeding once, apparently from the lungs, and the patient became very weak, but rallied with food and stimulant. At the end of three weeks from the beginning of the attack consolidation remained. He left the city, and was said to be well in a few months.

CASE III. A gentleman, aged sixty-eight. He had been unfortunate in business, and probably this in some degree affected his general health. Began to feel sick the day before the first visit. Complained of pain in the back and legs, and also in the lower part of the right chest. Pain on taking a long breath. Pulse 100, temperature 102° F. No chills or cough. Auscultation negative. For the next three days his temperature was 101.6° F.; pain in side continued.

Fifth day. Pain in side continued; friction, with dullness, was for the first time discovered. Respirations 28, pulse 88, temperature 101.5° F.

Eighth day. The pain in side relieved, and pulse and temperature normal. Tongue coated. No appetite. Instead of improving he grew worse. There was no return of fever, but he gained no appetite, grew weaker, and looked pale and haggard. The tongue coated. Slight diarrhæa, which was readily checked, but no pulmonary symptoms.

He grew worse every day. Exhaustion became extreme. He could hardly be raised in bed without fainting. Anorexia was complete. All he prayed for was "to be let alone." Specific gravity of urine was 1012, with a sediment of uric-acid crystals. Later, he had hiccup, occasional involuntary defæctions, retention of urine. He died on the seventeenth day of the disease.

The autopsy showed hepatization of upper lobe of right lung and incipient pneumonia of middle lobe; also pleurisy, with effusion of lymph over the lower lobe. Abnormal redness of lining membrane of stomach also existed.

Pleurisy had been discovered antemortem; pneumonia had not; in fact, it had not been suspected. This may be considered gross neglect on my part. I can only say, in extenuation, that the patient had no fever, after its subsidence on the eighth day, until the day before he died, when his pulse went up to 112; he had no chills, no special dyspnea, no expectoration, no cough, nothing, in fact, to indicate pneumonia. The original pain in the side had disappeared with the fever. A careful physical examination would undoubtedly have revealed dullness, etc., but no disease being suspected no examination was made.

Dr. S. L. ABBOT spoke of a case of pneumonia, still under his treatment, which had presented some peculiar features. The patient was a lady over sixty years of age, of marked nervous temperament. After returning home in a horse-car, on the afternoon of the 30th ult., she had severe chills, with pain across the loins, and considerable headache. The following night she slept little on account of pain, which extended up to the lower part of the left chest, and a frequent cough, without expectoration. Respiration was found to be somewhat harsh in the lower half of the left back, where there were a few coarse mucous rales. There had been free perspiration during the night after taking fifteen grains of Dover's powder, at intervals, in five-grain pills. The tongue was moist and nearly clean. Temperature in the morning (May 1st) 103° F. At this time pain in the back was so severe, extending up to the shoulders, that the patient was unable to sit up or turn in bed without crying out. As she had suffered somewhat from rheumatism in times past, it was thought to be largely of rheumatic character, as the physical signs would hardly account for it; and salicylate of sodium was prescribed, to be given in the dose of ten grains every two hours until relief, with spts. etheris nitrosi f5ss. In the evening the patient was easy while at rest, except on full inspiration, which caused pain at the base of the left chest. The pulse was 129 and the temperature 103° F. Physical examination showed marked bronchial respiration at the base of the left chest behind, but not much dullness on percussion. The following night the patient suffered much from pain and frequent dry cough, and the salicylate was again administered. On the following morning the pulse was irregular, 100. Carbonate of ammonia was given every two hours, and a drachm of brandy once an hour. Salicylate of sodium was omitted.

Was called to patient between 7 and 8 the next morning, and found her in a very alarming condition. The pulse was extremely weak and very intermittent, and there had been several attacks of dimness of sight without actual syncope. Through misapprehension on the part of her attendant little nourishment had been given during the night. She was lying on the right side, the affected lung being uppermost, so that respiration was much impeded. She was immediately turned upon her back, and stimulants were given very freely, with marked relief in the course of half an hour. Ammonia was continued, and stimulants were given through the day, with milk and beef-ten, so that in the evening the pulse was full and regular, and the temperature was 101.6° F.

The next day the patient was in good condition, the pulse in the morning being 111, at 6 p.m. 108. Respiration 30 in the morning, 26 at 6 p.m. Temperature 101° F. in the morning, 101.8° F. at 6 p.m. Bronchial respiration and bronchophony were heard from the left scapula to the base of the lung.

Dr. ABBOT was called at 8 p.m., and found the patient again suffering from violent and irregular action of the heart. There was corresponding irregularity of the pulse, the heart's action stopping sometimes for an interval of six beats. Relief followed in the course of an hour under the free use of stimulants. At midnight he was again called and found her suffering in the same way, but more severely than on either of the previous occasions. Half an ounce of raw brandy was given at once, but caused distress at the epigastrium without any relief to the heart. Half a cup of warm milk was also given, with the same result. As the condition of the patient was very urgent, half a syringe of brandy, diluted with an equal amount of water, was injected subcutaneously in a few minutes, and gave very prompt relief. Within ten minutes the pulse was full, strong, and regular. Since that time there has been no recurrence of heart-failure, the heart-sounds are perfectly normal, and the patient is now convalescent.

The heart-failure in this case was most alarming, and on each occasion seemed to threaten speedy death or thrombosis of the pulmonary artery. There is no disease of the heart, but the patient has been subject to palpitation on moderate exertion. The first attack seemed to have been provoked by the unfavorable position of the patient and the want of sufficient food and stimulants during the previous night. Possibly the debilitating influence of the salicylate of sodium may have had a share in producing it; the attacks recurred, however, after the discontinuance of this remedy. The great value of the subcutaneous injection of stimulants in such an emergency was strikingly illustrated, apparently, in the present instance, saving the patient's life.

Dr. KNIGHT remarked that pneumonia without cough is not uncommon, and spoke of the value of the number of the respirations as giving an indication where to look in cases of concealed pneumonia.

#### NEW YORK ORTHOPÆDIC SOCIETY.

ANNUAL meeting, January 29, 1885. Dr. V. P. GIBNEY, Acting President, in the chair.

Dr. CHARLES F. TAYLOR presented

#### TWO CASES OF TALIPES:

one a hemiplegic equinus in a lad, who presented, in October last, an extreme degree of the deformity. He showed photographs illustrative of the deformity, and stated that he had, contrary to his custom, divided the tendo-Achillis and plantar fascia at one sitting, at the time the case came under his care in October. His reason for doing the operation was that the boy was deaf, and would be hard to "break in" to mechanical treatment. The result has been brought about by the use of apparatus, thus making the case more easy of management. The patient walks

without any apparent deformity of the foot, and the tendo-Achillis is of normal length.

The other was a case of congenital equino-varus, complicated with a spina bifida (dorso-lumbar region), in a girl about six years of age. As shown by photographs, the case was, in September last, at the time of the beginning of treatment, fairly well marked, the degree being about midway between a straight foot and an extreme case of equino-varus. The patient had attended daily at his office. The form of apparatus he now uses will give way soon for another, and the speaker wished to emphasize the fact that he relied on no one form. What was useful at one stage of the treatment was of no service at another stage. Traction by means of adhesive plaster was interfered with by excoriation dependent upon the low vitality of the limb. He now proposes to use a retaining apparatus. The foot had been nearly restored to normal position.

DR. LOUIS HALL SAYRE presented a case of

#### DORSAL CARIES AND SUPPURATIVE DISEASE OF THE HIP.

The deformity of the spine was great, but anchylosis seemed to have been fully established, and the limb was in a good position, permitting an easy gait. All disease was apparently arrested, and the limb could be moved over an arc of about 90°. Three years ago the patient had come under his care, and the spinal deformity was about the same then as now. The disease at the hip had advanced to the second stage, and a large abscess presented. A wire cuirass was used for four months, and the abscess was freely opened, thorough drainage being secured. The hip splint and plaster jacket were employed after the cuirass, and the abscess on the inner side of thigh interfering with the perineal strap, a shoulder was constructed around the lower part of the jacket for the reception of the pelvic band of the hip splint. Counter-extension was thus secured. The child, the speaker stated, had been free from pain during the whole course of treatment, and was now wearing only a plaster-of-Paris corset, the head spring having been discontinued.

DR. A. S. JUDSON read a paper entitled

#### THE MANAGEMENT OF THE ABSCESSSES OF HIP DISEASE.

considering only those cases in which there is deeply seated osteitis. He stated that treatment by the hip splint might, in favorable cases, be expected to prevent abscesses (1) by arresting motion in the joint, thus combating inflammation; (2) by providing an ischiatic crutch, thus protecting the friable bony tissue from injury in walking; and (3) by permitting locomotion, thus promoting the general health. In many cases, however, abscesses are inevitable, whatever treatment be adopted. But, where abscesses occur, if the above treatment of the bone disease is thoroughly practised, they are not a cause of additional anxiety, and do not interrupt the process of repair which is set up by the processes of nature in the diseased bone. A number of cases were cited in which the restoration of the patient, locally and generally, had not been delayed by the presence of collections of fluid or purulent discharges. His clinical experience in cases which

had ended fatally had failed to convince him that the liability to death is increased by the collection and discharge of pus.

He also defended the expectant treatment of abscesses of hip disease, having adopted this view after practising the early and free incision in many cases. He argued that incisions, dressings, the use of drainage-tubes, and the injection of antiseptic fluids deal with the soft parts and the fluids, but are powerless to affect the bony tissue in which the disease is lodged. To use his words: "If the physician chooses to regard himself as a military commander, intent on subduing the enemy intrenched in the bony tissue, let him beware of having his attention distracted by sorties in the soft parts. Let him control the bone disease by fixation, protection, and hygiene, and the abscesses and sinuses will not require the bistoury and drainage-tube."

In support of his views he presented the histories of twelve cases of chronic osteitis of the hip attended by purulent discharges, in which the department of the abscesses was described in detail. In a number of these cases the treatment of the abscesses had been purely expectant, and the patients had been restored to perfect health, with useful limbs and a minimum deformity.

#### DISCUSSION ON DR. JUDSON'S PAPER.

DR. STEPHEN SMITH, in opening the discussion, complimented the author in bringing out in such strong relief the old or conservative method of treating cold or congestive abscesses. He believed that all were unanimous in the treatment of hip disease by means of the usual long splint. The older surgeons were governed by two considerations in the management of the consecutive abscesses: (1) They did not believe that such collections of pus were injurious; (2) they dreaded the admission of air into the abscess cavity because of the liability of severe inflammation of the sac or its extension to other tissues. They thus either let the abscess alone, or opened by valvular incision, the object in the latter instance being the avoidance of distention and the admission of air. The aspirator proved to this class of surgeons a valuable aid. When a spontaneous opening occurred, and no inflammation followed, the highest degree of success was obtained. Hence the "let-alone" method. In addition to the pus from the bone, the sac itself furnished a liberal amount, and the drain upon the patient, especially in a child, was often most debilitating, while amyloid degeneration of vital organs was frequently the result. He had seen children recover from hip-joint disease and die of amyloid disease.

The present teaching of surgical science is in striking contrast with this method of treating abscesses. Pus, we are now taught, is an unfavorable complication of any surgical disease. Hence its early removal, together with the cause, follows as a necessity. The methods of procedure are such that the patient need not be disturbed. At a single sitting abscesses that would discharge for months under the let-alone treatment may be obliterated with the cause of the suppuration, and that, too, without subsequent fever or other constitutional changes than rapid convalescence. Even when the pus depends upon carious bone we can remove the dead

portion of bone, cleanse and disinfect the cavity, and secure rapid healing without any constitutional disturbance. The present stage of progress demands this, and he believed it possible, by operation, now to arrest the disease almost in its incipency.

Dr. H. L. TAYLOR commended the paper for the point so well brought out that we no longer treat abscesses, but treat the disease which gives rise to the abscess. He believed, however, that an abscess which gave rise to pressure caused necrosis, and should therefore be evacuated. His experience was based upon the practice of Dr. C. F. Taylor, who, under such circumstances, made a free incision, having found the aspirator ineffectual in removing the floating shreds of necrotic tissue. Moderate pressure after incision was employed, and the results had been good.

Dr. C. F. TAYLOR was in full accord with Dr. Judson on the point that an abscess does not affect the probability of cure. Extensive abscesses, of course, will make a little difference because they mean more extensive disease. Ordinary abscesses, however, that arise during the course of treatment, do not amount to much in the prognosis of the case.

Dr. RIDGON, in confirmation of the views in the paper, cited a case that came under his observation in St. Luke's Hospital in 1878. A large abscess filled the anterior portion of the thigh, and was opened antiseptically, the Lister dressing being applied. To this day, he believed, the abscess was discharging. Another case, in a pale, sickly specimen of a child, with conjunctivitis and purpura hemorrhagica, was also in St. Luke's at this time. The child had hip disease and a large abscess on the anterior surface of the thigh. A spontaneous opening took place, and fully a pint of pus escaped. In three months the patient was discharged cured, and the hip to-day is perfectly well. He had seen a number of cases in St. Luke's where antiseptic precautions were carried out in the incisions, and he had seen many of late years in which spontaneous opening occurred. The latter do better than the former. He waited until the skin became necrotic, then opened, and he believed that in many instances he had killed the patient by departing from this rule and opening early.

Dr. WYETH was so utterly at variance with all the remarks, save those made by Dr. Smith, that he hardly knew where to commence. He could not comprehend why an abscess in or about the hip-joint should receive different treatment than an abscess of the tibia or other part. He did not hesitate to open an abscess wherever he found it. Two of his cases died, he was positive, because he did not open the abscesses, and in this he only followed his teaching. During the last two years he had departed from his teaching. Within the last year he had five or six cases, and in one of these he opened the abscess as soon as he saw it, removing the dead bone by free incision. He found the acetabulum perforated, and removed all the diseased bone, even including the trochanter minor. The child was afterward seized with pneumonia, not connected with the hip disease, and made a good recovery. It is well to-day, so far as the hip-joint is concerned, having been

seen within five months. In another case, similar to this, he had a result equally good, and both were discharged cured in six months.

Just as soon as the suppurating process occurs in an osteitis and arthritis, or a peri-arthritis, and he can find the sign of such an abscess, he believes that the freer the incision and the wider the opening of the wound the better will be the result.

Dr. KETCH stated that the practice of the New York Orthopaedic Dispensary for the past two years had been non-interference with hip abscesses. He was sure that the records would furnish better results during this period than in 1878-79, when it was the practice to open antiseptically.

Dr. H. W. BERG called attention to the views of Billroth, who taught non-interference because, by opening abscesses, the disease was not eradicated, and that one should not interfere with nature unless the suppurating bone were removed. A radical operation, or none at all, is what Dr. Berg insists upon.

Dr. C. F. TAYLOR believed that one may find an abscess depending upon disease in the hip-joint, having, however, no direct communication with the joint, and such an abscess we should treat as an independent condition. These abscesses occur frequently in the later stages of the disease, burrow along the shaft of the bone, and produce superficial caries.

THE CHAIRMAN gathered from Dr. Judson's paper the impression that abscesses arising from *osteitis* of the hip were alone considered, and that the discussion should be so limited. The question then at issue was, Shall the abscess be opened without reference to interference with the carious bone which feeds the abscess, or shall it be left to nature?

The author of the paper regards abscesses as harmless, and the experience of the Chairman coincides with this view, that is, so long as they are not merely opened. If one must interfere, then let a thorough operation be made, whereby all the carious bone will be removed, the cavity cleansed antiseptically, and the limb fixed in the best position possible for recovery. One or two strong objections to the let-alone theory were: (1) the extensive burrowing, sometimes of a collection of pus, thus endangering important tissues by continuity, and leaving a larger extent of tissue for the cicatricial process. This very cicatrization in early life interferes with the development of a limb, and produces unpleasant complication in after life. (2) Amyloid degeneration is a result of prolonged suppuration, especially if the suppuration occur in a child with a tuberculous family history. Dr. Poore has found this true. The views then summarized are: let the abscesses alone unless they encroach upon important parts and occasion much discomfort.

Dr. STEPHEN SMITH remarked that he thought it would be very unfortunate if the first public declaration of this Society was to the effect that pus was a harmless material and may be retained with impunity for any length of time in the tissues of young children; he did not believe that this view belonged to the present era. He did not believe that merely opening an abscess under a spray, and dressing with antiseptic dressings, was all that was required; the treatment must be radical. We have two objects in

view in opening an abscess: (1) Get rid of the pus in order that it may not be absorbed; (2) destroy the source of the pus itself. If the abscess is extra-articular entirely, which may be the case, cleanse it thoroughly, and then close it, employing firm and equitable compression, as with sponges laid over the external surface. Many of these abscesses never suppurate at all. If, however, after this treatment the abscess communicate with dead bone, this must be removed. He had a case recently where he opened the hip-joint, removed the diseased bone, cleansed the cavity, and the case was permanently cured.

The President wished to state distinctly that the Society did not commit itself to *any view*. The freest range in discussion is permitted, and an opportunity will be afforded for the opinion of all.

Dr. ROBERTS believed that both laboratory work and modern surgery taught that pus should be removed whenever it is found possible. He detailed the modes of production of abscess in connection with hip-joint disease, and was positive that the treatment employed should depend upon these conditions. He argued that mechanical appliances failing to relieve deep-seated and persistent pain would furnish evidence that the abscess was in the head of the bone. Under these circumstances he would recommend the plan advocated by McNamara of drilling into the head through the trochanter without interfering with the capsular ligament. As illustrating the difficulty of removing by the most thorough operations, he cited a case on which he had operated several months ago, removing portions of head and acetabulum until he fancied he had removed every particle of necrotic tissue. Three or four months afterward he learned that another abscess had formed. General surgery had demonstrated that these abscesses could be cured by proper antiseptic precautions, and the teaching should be heeded.

Dr. POORE thought that the tendency of hip disease in patients free from tuberculosis or strumous diathesis was to a cure, while the tendency was the reverse in patients with this diathesis well marked. In cases wherein a tuberculous diathesis was present amyloid degeneration was apt to occur. He had seen cases, too, wherein recovery had taken place despite the amyloid degeneration. He believed that periarticular abscesses in hip disease did connect by an opening, however small, with the joint itself. He, of course, admitted that simply to open an abscess of this kind would not cure the bone disease. Hip disease in children, in his experience, began in an osteitis of the head, or of that portion in close relation with the diaphyso-epiphyseal line. The pelvic bones were also often involved.

It was the speaker's impression that one loses more cases without than with operation. He thought that the same rule that applied to abscesses about the knee-joint should apply to those about the hip-joint. He favored early incision in disease at knee, elbow, and shoulder, and by the same reasoning favored like procedure for a suppurating osteitis at the hip-joint. Illustrative cases were cited, and regret expressed that free incision had not been made. Billroth's rule, he thought, was made for spinal caries. He was perfectly willing to admit that an excised is not as useful as an ankylosed limb.

Dr. WILLIAM T. BULL could not speak from any experience in the treatment of hip abscesses, but his results in opening cold abscesses from other sources had been such as to commend this plan. They all closed very promptly. Reasoning by analogy, he believed that the disease could be materially shortened by early interference under strict antiseptis. A case of iliac abscess was reported by the speaker, the sac extending from the upper third of the thigh into the iliac fossa. There was no evidence of bone disease in the history of the case, and after evacuating several pints of pus he could discover no bone by exploration. The sac was fully distended by a solution of carbolic acid, then a drainage-tube inserted, and the whole dressed in the usual way. Healing took place at once.

Dr. JUDSON, in closing the discussion, called attention to the pathology he had aimed to emphasize, and renewed his statements about treating the bone and the joint, and leaving the abscess to take care of itself. He could see nothing rational in treating the bone by superficial incisions of abscesses. He had nothing to retract.

### Recent Literature.

*The Oleates: An Investigation into their Nature and Action.* By JOHN V. SHOEMAKER, A.M., M.D. Philadelphia: F. A. Davis. 1885.

In this book are set forth the methods of manufacture and the therapeutic effects of the oleates of various alkaloids and metals. The former possess no value, but to the latter class are attributed marked and definite action of various kinds. Our own experience with the oleates has been as yet of too limited nature to permit any well-grounded opinion as to their merits, but so far as it goes, it confirms the opinion of Sigmund that, for the purposes of innaction in the treatment of syphilis, the oleate of mercury is not so efficient or trustworthy as the ordinary mercurial ointment, and also the statement of Living that, in the treatment of tinea trichophytina, the oleate of copper, for which so much has been claimed, is not so good as the oleate of mercury, which is the most commonly used and most useful of the oleates. Of the oleates of iron, silver, aluminium, tin, nickel, etc., we know nothing, and if we did would hardly dare to express any but a favorable opinion, in pavid recognition of the fact that "a very few unfortunate, careless, and injudicious observers, sceptics in therapeutics, who only believe in the older and oft-tried remedies, have taken up the oleates for fashion's or popularity's sake, and after a very limited experience in their application condemn them without a fair trial." G. H. T.

— An esteemed subscriber wishes us to state that a cushion stuffed with curled hair, and made at least three feet square and three inches in thickness, with a hole at the centre six inches across, will be found to be superior to the ordinary india-rubber air-cushion in certain cases where it is necessary to turn the patient over on the side at short intervals for the relief of bedsores.

# Medical and Surgical Journal.

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## THE RELATION BETWEEN LUPUS AND TUBERCLE.

FRIEDLÄNDER was the first to express the opinion, published in the sixtieth volume of Virchow's Archives, that lupus is true tuberculosis of the skin. This opinion, based upon the resemblance in structure of the nodule of lupus to tubercle, and the presence therein of giant cells which were regarded by him as characteristic of tubercle, was not generally accepted, it being evident that giant cells were to be found in other processes than tubercle, and also that, as a rule, lupus does not occur in individuals ordinarily recognized as tuberculous. The discovery, however, by Koch, of a special variety of microorganism peculiar to tubercle having furnished a more tangible and evincive method of diagnosis, the detection of the same bacillus in the nodules of lupus crystallized the amorphous opinion of Friedländer into definite fact. The honor of this discovery belongs to Demme, and his results have been confirmed by Pfeiffer, Krause, and Schuchard, Doutelepoint, and others.

The most striking work in this direction has been done by Koch himself, who has isolated the bacillus in question and shown that in its cultivation outside of the human organism its behavior is in all respects the same as that of the bacillus of tuberculosis; and, furthermore, that inoculation of animals with the products of such cultivation has been followed in every instance by the development of ordinary tuberculosis. He also draws particular attention to the fact recognized by all observers that this microorganism is present in lupus in very much smaller quantity than in typical tuberculous products; so much so that only patient search is rewarded by its detection. This fact, which is also true of so-called surgical tuberculosis (*née* scrofula), goes to explain the large number of negative results obtained by Cornil and Leloir, who inoculated animals with portions of diseased tissue taken from cases of lupus, and not with the isolated and cultivated bacillus itself.

The identity in the anatomical structure of the nodule of lupus and tubercle taken together, with the

presence in each of apparently the same microorganism, furnishes strong presumptive evidence that lupus is cutaneous tuberculosis, and the only argument brought forward against this supposition by Kaposi and Vidal, who are its opponents, is that the differences in clinical course and appearance between lupus and the rare but typical and well-recognized tuberculous ulceration of the skin are too great to admit of unity of pathogenesis. The obvious reply to this is that the conditions of pathology are too numerous and complicated to permit any such assertion, and that unity of pathogenesis does not of necessity imply unity of result, a notable and common example of which fact is furnished by syphilis.

The assumption that lupus is a form of tuberculosis of the skin is not upset by the arguments which go to show that it has no special connection with hereditary tuberculosis, it being found combined with the latter in only from ten to fifteen per cent. of cases. Human tuberculosis in any situation is usually a localized process, which seems to find in the lungs the most favorable conditions for its propagation and development, and the bacillus of tuberculosis is capable of evolution only under certain conditions of tissue and environment and within a narrow range of temperature. The conditions which obtain in the skin are manifestly hostile to its welfare as compared with those furnished by the lungs, and this accounts for the uncommon occurrence of lupus and its extremely slow advance.

The fact that lupus usually first manifests itself in early life seems to indicate that the skin loses with age its susceptibility to the influence of the bacillus, or, in other words, furnishes less favorable conditions for its development. Such cutaneous susceptibility must be either inherited or acquired, for it is manifestly not common to all individuals.

There is nothing to show that it is hereditary, and everything is against this supposition but the facts that, in a large proportion of cases, lupus is developed only in the neighborhood of cicatrices due to scrofulous disease, or upon mucous membranes already altered by catarrhal processes, and that in not a few instances injury or attacks of dermatitis seem to precede the first appearance of the disease, which signify that such peculiarity of skin and mucous membrane is, in part, acquired by reason of antecedent pathological processes. These facts were regarded by Randnitz as going to show that lupus was due to a localized specific predisposition; but, in the light of recent knowledge, they indicate rather an acquired and local predisposition to a special form of infection.

Nor is clinical evidence wanting to show the connection between lupus and tuberculosis, for cases of acute miliary tuberculosis, of "galloping consumption," and of tuberculous meningitis, have been observed, in which the only evident source of infection was preëxisting lupus of the face and extremi-

ties. Such cases are very exceptional, it is true, but under the circumstances they acquire a significance of value out of proportion to their numerical importance, and thereby rendered more conspicuous. What is true of lupus also holds good of many of the manifestations of ordinary serofula, and not the least boon conferred by our knowledge of the bacillus of tuberculosis is the consequent and final elimination of syphilis as a possible aetiological factor in their production, a possibility which has overshadowed so many pathological problems.

### THE PHYSIOLOGY OF "FALLING BODIES."

THE recent performance of "Professor" Odlum in New York in jumping from the Brooklyn bridge calls attention again to some of the moot points connected with the physiology and physics of "falling bodies." From the nature of the case the physiological questions to a considerable extent can be answered only by *a priori* reasoning. For in fatal cases it must remain undecided what was the proximate cause of death and whether the heart stopped beating before the body struck or not. Our friends, the professors of natatorial and saltatorial science, seem disposed however to do what little they can to elucidate these interesting points, and in time some of them may be more fully cleared up.

There seems little reason to doubt that most of the professional jumpers have retained consciousness during their falls through distances ranging up to 130 feet or thereabouts. The man who was killed last week had previously made several high jumps of from 80 to 110 feet without ill effects. In this case the height being 135 feet, the time occupied being about three and a quarter seconds, there was nothing up to the time of his striking the water which would have interfered with perfect consciousness. The rate of motion just before the water was reached was not more than 100 feet per second, a speed not rarely equalled by railway-trains and exceeded by ice-boats. The only way in which this motion could have an effect greater than horizontal motion at an equal rate would be either by involving a sudden change in barometric pressure, or by accumulating the blood in the brain through the *vis inertia*, the motion being in the direction of the long axis of the body. As to the former point, we may say that for the height in question at average temperatures the difference in the barometric record would be hardly more than one eighth of an inch. Of course a change of pressure even to this amount occurring in three seconds is more rapid than one is ordinarily subjected to, but there seems no reason to suppose the body could not accommodate itself to it, even if any effect were produced in so short a time. As to the throwing of the blood back upon the brain by the rapid motion in the direction of the feet, we know that persons who are inexperienced in traveling often sleep in

railway-trains with their feet foremost without evil effects.

It does not, however, follow that because acrobats and sailors can drop 130 feet or so without losing consciousness the same thing would hold true of all persons falling from such a height. The sensation of giddiness caused in inexperienced persons by a high elevation sometimes leads to syncope, and there is no reason why the giddiness induced by high altitude when increased by the terror of actually falling may not cause syncope, if not death by shock, before the concussion comes. We have no right to assume that what may happen to a cool, professional gymnast, taking a leap intentionally, *must* happen in the case of man unused to giddy heights falling accidentally.

The Sam Patches and the Odlums who have met their death from high jumps have done so from the shock of the impact. If they could have struck the water squarely feet foremost they would doubtless not have been killed. We doubt very much, however, in long falls whether, as we find stated by an esteemed contemporary, the individual, be he never so skilful an acrobat, can, unless ballasted, by voluntary efforts maintain a vertical position. As soon as he is withdrawn from his support the centre of gravity of his body tends to assume the lowest position possible. An attempt on the part of the individual to regain his original position, independently of the exceedingly brief time allowed for its execution, will fail because there is no *point d'appui* upon which to work. He can flex or extend his arms and legs upon his trunk by contracting the muscles from their origin, but he cannot, as when in contact with resisting objects, reverse their action and make them work from their insertion upon their origin and so alter the position of the trunk. The fact that a drunken man three years ago jumped from High bridge into the Harlem River, a distance of 115 feet, and was taken up alive, may, perhaps, be interpreted to mean that the immunity enjoyed by the inebriated is a better protection in a high jump than can be gained by a deliberate attempt at maintaining equilibrium.

In falls from a much greater height, such as sometimes occur over glaciers and in the cañons of our western country, though positive evidence must always be wanting as to whether consciousness has been lost before the moment of concussion, there is, we think, a possibility that such is the case. In falling 1,000 feet, for instance, the time occupied being eight seconds, the rate of speed just before the bottom is reached is 257 feet per second, nearly three miles a minute. This would probably induce considerable mental confusion and combined with intense fright probably complete syncope. Supposing the temperature at the summit to be 5° C., and at the base 15° C., the barometric variation would be over an inch. In eight seconds then the individual would experience this change of atmospheric

pressure and also a variation of 10° C. (18° F.) in temperature.

In the fall of a mile, as from a balloon, the velocity just before striking the ground would be 579.5 feet a second, at the rate of some 6.5 miles a minute, and according to the relative conditions of the temperature at the higher and lower point the barometric range would be greater or less but in any event considerable to be experienced in the brief period of eighteen seconds. We would commend a parachute attachment on the head to the consideration of future jumping "Professors," as likely to modify the uncertainties of the trip.

## CHOLERA AND CHOLERA PREVENTION IN SPAIN.

MYSTERIOUS rumors have been coming from Spain for some time back of the active presence of cholera at various points in that country. These were still without official confirmation, when even more mysterious reports find circulation of the successful inoculation against the disease with an attenuated cholera virus, by a Dr. J. Ferrán, of a town called Tortosa.

This follower in the footsteps of Jenner and Pasteur is said to be only thirty-three years of age, and a graduate in medicine of Barcelona. He is reported to have received the honorable notice of the Academy of Medicine of Madrid, some years since, for investigations on microorganisms; and it is also said that he was sent last year to Toulon and Marseilles, during the cholera epidemic. Some months since he forwarded a communication to the French Academy of Medicine, explaining his methods and detailing his results. A committee of the Academy was appointed to consider and report upon this communication.

It is said also that a medical commission will be appointed by the Spanish Government to estimate the value of Dr. Ferrán's method of inoculation.

It is not difficult to believe that cholera is present in Spain, or that the fact of its presence there has been purposely suppressed. It was certainly rather surprising that the country escaped as easily as it did last year. On the other hand, Spain is one of the very last countries from which the past would lead us to expect any light on scientific problems, and especially a discovery so interesting, so important, and so comparatively novel as an attenuated virus of cholera—a discovery which has thus far eluded the most ardent and skilful microscopists of Germany and England. It would seem to indicate a revival of learning and independent thought, for which we confess ourselves entirely unprepared.

Under the circumstances an attitude of judicious scepticism may well be maintained.

## MEDICAL NOTES.

NEW YORK.

—At the autopsy of the man Odlum, who eluded the vigilance of the police, and leaped from the Brooklyn bridge into the East River, striking upon his side, it was found that the five lower ribs on the left side were fractured diagonally and that there was rupture of the lungs, liver, spleen, and kidneys. The immediate cause of death is said to have been hæmorrhage from the lungs. The height of the jump was 140 feet.

## Obituary.

DR. SAMUEL CABOT.

THE late Dr. Samuel Cabot, who died on April 13th, at the age of sixty-nine years, was a man of decided individuality. He was born in Boston, of Massachusetts stock on both sides. Through his mother, who was a daughter of Col. Thomas H. Perkins, one of the most prominent Boston merchants of his day, he inherited certain marked traits of character.

He was graduated at Harvard College in the class of 1836, and already whilst at Cambridge he developed that keen love for shooting and for the pursuits of a sportsman which he never lost. At the same time his taste for field sports led him naturally into the study of birds and their habits, and all through his after life this interest continued to occupy much of his time and thoughts, and contributed much toward the formation of his character.

Dr. Cabot took his degree of M.D. at the Harvard Medical School in 1839, and further pursued his professional studies in Paris in 1839-40. A journey to Yucatan, with J. L. Stephens, and a long illness, from the effects of which his constitution apparently never recovered entirely, after his return from Paris, brought him late into the profession. During the hours of waiting for professional work he was industriously occupied in preparing and stuffing the birdskins which he had brought home from Yucatan, and in the general work of the Natural History Society, of which he was at that time an active member.

In 1852 he was appointed a Visiting Surgeon at the Massachusetts General Hospital, a position which he held with credit until 1882, when he resigned.

His natural love for children, enhanced by his own domestic life, led him to take an active interest in the Massachusetts Infant Asylum. He had much to do with the establishment of it. In its early days the want of popular sympathy gave it an additional claim upon his support. He never faltered in this work, but stood by it through good and evil report.

Dr. Cabot was one of the early, ardent, and persistent agitators for the abolition of slavery in this country.

His most striking characteristic was a detestation of wrong and injustice, wherever found, and he could not help plunging in with unhesitating sympathy to right it. His temper would sometimes carry him too far, but the impulse came always from the heart. No one was more ready to acknowledge error when he was convinced that he was wrong. Such a mistake never left an angry feeling toward his oppo-

nent. He never harbored a grudge nor did he soon forget his contempt for a mean action.

Absolute honesty of purpose and courage in action, sometimes accompanied, perhaps, with disregard of consequences, made him a power wherever he took an interest. "He hated all pretence, made no professions; but what he believed, he believed, and acted accordingly."

Dr. Cabot married his cousin, Miss Jackson, a daughter of Mr. Patrick Jackson, of Boston, whom he survived several years. He leaves four sons and two daughters. One of his sons follows his profession, and is a member of the Massachusetts Medical Society.

## Correspondence.

### THE TREATMENT OF SCIATICA.

INDIA, ISUTURA, April 6, 1885.

*Mr. Editor.*—After reading of the cures by the newly suggested plan of Dr. Debove for the treatment of sciatica by congelation by chloride of methyl, I desire to make public a process adopted by myself for over fifteen years, as the process is given by no author that I know of, but was hit upon by myself after persevering attempts to deal with such cases, and I have found the method very successful.

I make issues with small pieces of solid caustic potash, so regulating the size that the slough will never exceed the size of a threepenny, or at most a sixpenny, piece. Such application gives a sharp gnawing or burning pain for about fifteen minutes, when it stops. The pain is not as great nor as continuous as that of actual cautery. The pain of the sciatica generally leaves after the effect of the application, or if the complaint is of very long standing invariably leaves by the time the scab comes off, which takes about a week or a fortnight, and sometimes has to be encouraged to separate by poultices.

This treatment was adopted by me as a last resort, when all the processes suggested as cures for sciatica had failed, even the application of actual cautery.

I explain its action as follows: The cautery by caustic potash takes a deeper effect than other cauteries on the skin and tissues underneath, stirs up by the inflammation it excites a deeper revulsive effect, which is necessary, as the sciatic nerve is deeply seated at its exit from the ischiatic foramen. The cause of the pain in sciatica, when not from actual pressure on the nerve, I ascribe to some irritation, as of syphilitic poison in the system or to a subacute inflammation of the neurilemma. A further stage is effusion into the nerve sheath from which results the insensibility of the part which the nerve supplies, and such effusions the caustic potash has removed, and with them the insensibility which they cause. These issues have also been of service in my hands in the treatment of anæsthetic leprosy.

Very respectfully yours,

J. O. PIERCE, M.R.C.S. Eng.

### COCAINE WITH Pilocarpine.

Boston, May 19, 1885.

*Mr. Editor.*—In connection with the newly awakened interest in the drug cocaine, it is worthy of note that its combination with pilocarpine removes the only drawback to its use in operating upon the eye, that is, the dilatation of the pupil and paralysis of accommodation.

A mixture of ten drops of four per cent. solution hydrochlorate of pilocarpine in a drachm of four per cent. solution hydrochlorate of cocaine secures the anæsthetic effect of the cocaine, leaving the pupil and

accommodation absolutely unaffected, as I have been able to demonstrate a sufficient number of times to assure myself that the neutralizing effect of the pilocarpine is constant and innocuous. Yours truly,

H. W. BRADFORD, M.D.

### PARIS LETTER.—MEDICAL MATTERS IN PARIS.

[FROM OUR SPECIAL CORRESPONDENT.]

PARIS, May 9, 1885.

*Mr. Editor.*—It is not the fashion to-day among Americans to go to Paris for medical instruction. In coming abroad for that purpose our men, whether they have just won their diplomas or have been years in practice, usually go straight to Germany, and after having concluded their allotted period in that country, or in Vienna, they take a look at the French and English schools. There is good reason for this. The German schools in many respects are in advance and they teach anatomy, diagnosis, pathology (which, perhaps, is the strongest attraction to foreigners), histology, and the specialties perfectly. Material is plenty, and teachers excellent. Probably no American physician is ever satisfied with German or French therapeutics. American travelers of experience, in case of need, choose an American physician if they can find him, an English doctor if not, having already discovered that the methods of the Germans and French are neither those to which they have been accustomed, nor do these methods so quickly relieve their symptoms. In American therapeutics there is a simplicity, a directness, and an insight which seem to be lacking in European modes of treatment. To discover reasons for this indisputable fact is unnecessary here, but parenthetically the matter is worthy of mention. A physician who means to practise in America should study his therapeutics in that country, but everything else which pertains to medicine, surgery, and obstetrics he may study abroad with benefit. In doing this he should not neglect Paris. Nevertheless he will find matters to criticize. Indeed, it is frequently of great use to study a wrong, in order to be clearer as to the right method. The old faults of lack of cleanliness of wards, patients, and bedding, lack of ventilation, lack of hygienic conditions, which we should consider a *sine qua non* of success, are painfully evident in certain of the hospitals of Paris. This is said not to be the fault of the medical men who serve these hospitals, but that of the lay boards of administration, to whom the physicians and surgeons apply in vain for relief. It is a surprise to be told that this neglect of the administration arises from their absorption in politics.

The newer hospitals are freed from this objection, though it is difficult to see why a hospital centuries old cannot be kept sweet and clean. The medical teachers in Paris are almost without exception thoroughly capable of instructing their classes. They are ready, fluent, fertile in illustration, and very clear in statement. About French surgery still clings the glamour of its old renown, and French surgeons have lost none of the grace, boldness, and skill which have always been characteristic of them. They are devoted to Listerism and the antiseptic dressing, but there is a great difference in the outcome of their after-treatment. The percentage of erysipelas in their cases differs widely in different hospitals. Polakoff, after five years' observation in *La Pitié*, finds that there are as many cases of erysipelas as before the introduction of the antiseptic treatment, but that the cases are less virulent, while other surgeons have reduced their percentage to a very low figure. This has given rise to a discussion in the *Académie de Médecine*, in the course of which Verneuil (*La Pitié*) complained of the frequency of erysipelas, and French medical journals speak of the results published by Polakoff as astonishing, remarking that Le Fort (*Hôpital Necker*)

confesses to only a few cases, and that Guérin, since the introduction of the aseptic dressing of cotton wadding, has seen none at all. Trélat (*Hôpital de la Charité*) in this discussion consequently affirmed that surgeons did not follow the same manner of using the antiseptic procedures, some having open dressings and frequently wash suppurating wounds; others using closed dressings, washing rarely, and adopting the other method only when forced. The former, according to Trélat, voluntarily expose their wounds to perilous contacts. To-day, in grave operations, a dressing is made at the end of twenty-four hours, a second eight days later, and at the third the patient is well. To renew the dressings as rarely as possible is Trélat's formula. This would mean that many surgeons apply their dressings negligently.

*L'Union Médicale* thinks that some of the old hospitals are infected and that in these antiseptic defence is difficult, and instances wounds of the mouth, anus, and rectum which it is not easy to dress aseptically. "Nevertheless," it adds, "it is doubtless true that the surgeon who has the least erysipelas is he who most thoroughly protects his wounds." Requier read a paper to the effect that in Phillipsville, Algeria, erysipelas, in the mean, since 1874 has been reduced in military wards from 11 per cent. to 3.6 per cent.; in civilian wards from 8.9 per cent. to 2.2 per cent. At Batna results differ. There, within the same period, the percentage has risen from nine to ten in military wards; from six to seven in civilian wards. His explanation was that in Batna the men, fatigued by sojourn and labor in heated Southern districts, present to the germs of erysipelas a culture-surface favorably prepared. It is not easy to say why, during the discussion, no surgeon alluded to the mal-hygienic conditions of some of the old hospitals of Paris as a reason for increase or continuance of erysipelas in spite of antiseptic treatment. It is not worth while to give details, but some of these hospitals would startle and amaze one who was accustomed only to the sweetness, airiness, and cleanliness of our hospitals, of their patients, the bedding, etc.

The spray is largely used in certain quarters. Even in some medical wards the atmosphere is kept saturated with carbolic acid, and in the corresponding surgical wards whenever a wound is opened the atomizer, following the surgeon upon the ward wagon, keeps the spray flying upon the patient, to the great annoyance of students who wish to examine. This shows, however, that antisepticism is not neglected. In these cases the wounds were sopped with cotton wadding dipped in a solution of phenic acid and syringed with a solution of boracic acid, by means of the Potain bottle in connection with an air-bulb of rubber. The temperature of the latter solution was invariably many degrees below that which we should use. In a case of empyema, which had been treated by the radical operation, the chest was washed out with boracic fluid far below the temperature of the blood and the wound was sopped in the manner indicated. The dressing was reapplied very carelessly.

I saw a very neat and careful dressing applied by Trélat after the removal of a tumor above the eye. Next the wound isolemformized pledgets of gauze covered by a dry compress, a bandage of cotton wadding, another over this of gauze, and finally a roller bandage of thin rubber tissue, all having been made antiseptic. The entire head was enveloped and the dressing very handsome. In his operations Trélat uses bits of carbolized cotton-wool, previously dried, often rather than sponges, the pledgets being brought in closed jars. Trélat is a very steady, quick, and neat operator, and an unusually excellent lecturer, sharp, clear, and dramatic. He takes his students through the wards on a surgical visit, afterward adjoining to the lecture and operating room (a small, dingy amphitheatre with far too little space, in which he asserts he

dares not do certain operations for fear of contagion), and here he describes the cases upon which he is to operate, gives carefully the diagnosis by exclusion, the pathology, the macroscopic and probable microscopic appearance of tumors, if any, and then does the operations in the order of the schedule. The anamnesis of each case is read from the records. This is the plan followed in most of the Paris hospitals. Medical visitors should not fail to see Trélat at *La Charité*.

In the opening lecture of the summer course he bitterly inveighed against the manner in which the hospitals of the French capital are conducted, and compared them unfavorably in this respect with hospitals of England and Germany. In Paris it seems that "the service," that is, the surgeon and his assistants, of whom Trélat has at least a round dozen, are fettered by the outside daily engagements (microscopic, laboratory, pathological, anatomical, etc.) of the various staffs; so that he confesses himself not only unable to follow with the proper care any special line of treatment, but likewise embarrassed by the exposure of the members of his staff, in their daily callings, to atmospheres which endanger the success of his operations. Moreover, in a most amusingly scornful manner, he satirically alluded to the "insupportable" lack of cleanliness about him, though he had far, far less cause than the surgeons of other hospitals. In Paris there are twenty-four surgical services similar to his own and the same difficulty holds good with all of them. But the administrators of hospitals evidently do not give their surgeons the power which properly belongs to them. Even the hygienic condition of the hospitals is rather at the negligent mercy of the administrative boards than under control of the surgeons and physicians. In England and Germany the continuous service of *internes* of years in duration gives the surgeon a greater dependence upon his assistants, as well as greater certainty of success in operation, than if the staff were interested in outside matters and changed their service as soon as they became accustomed to their chief and he to them. The latter difficulty is another cause of Trélat's complaint.

Péan, at the *Hôpital St. Louis*, has the name of being the most graceful surgeon of Paris. At *Hôtel Dieu*, Richet, picturesque, calm, and courageous in operation, is a very attractive old man, a most excellent expounder of the principles of surgery, and draws together a goodly number of students, who, of course, may choose their own man. Verneuil, at *La Pitié*, has a grace, *bonhomie*, and *verve* which recall the elder Pancoast, but his hospital is against him. It is very old and unsavory. Of the medical clinicians Jaccoud, Potain, and Sée are easily first. Jaccoud's published lectures are voted, by the students, heavy, extended, and pedantic, but as a lecturer and diagnostician he is highly prized and is a valuable member of the Faculty. His prompt, soldierly manner is carried into his diagnosis, which is very decided, distinct, and clear. It is a satisfaction to examine a patient after Jaccoud has delineated the symptoms. He is at *La Pitié*, where, unfortunately, he labors against a complete lack of ventilation. At *Hôtel Dieu*, with its imposing quadrangle of granite and six hundred beds, one finds modern methods of keeping air, floors, *latrines*, and apartments cleanly. Here Sée, of course, attracts a large class and his word is law. Potain, at *Hôpital Necker*, has a tiny lecture-room, which is well occupied after the morning visit. He is a small, quiet-looking man, lectures in a monotone, but is full of suggestion, and makes one feel that he thoroughly comprehends the presentation of his cases. At *La Salpêtrière* (a town in itself of upward of four thousand souls) Charcot is the attraction, and his specialty—nervous diseases—being the notable cult of the day, he is never forgotten by the medical visitor. Fournier, at the *St. Louis*, has a good clinic for syphilitic and skin diseases.

In giving their clinical lectures after the ward visit, the chiefs of the clinic are invariably accompanied by their assistants and are fenced off from the audience. The chief always wears his long white apron (and white jacket besides, if a surgeon) and black skull-cap of silk or velvet, as do several of the assistants, all of whom take careful notes of the lectures. The caps are never removed. These occasions are very interesting. The utmost quiet and closest attention are the rule.

Laboratory work of every description is well developed in Paris, and although our great respect for

German thoroughness and culture in histology, normal and pathological, in chemical analysis, and other laboratory science leads us to gravitate to that country for study, the present condition of scientific work in Paris renders that city worthy of comparison with German University towns. Indeed, one meets students from our side of the sea who have followed the medical courses in Paris three or four years. Undoubtedly a previous familiarity with the German or French language influences men in their choice of schools.

[To be continued.]

II. O.

# REPORTED MORTALITY FOR THE WEEK ENDING MAY 16, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrheal Diseases.	Diphtheria and Croup.	Measles.
New York	1,340,114	657	263	17.10	19.05	2.70	5.85	3.00
Philadelphia	327,955	414	123	13.68	12.24	1.20	5.04	1.92
Brooklyn	644,526	280	119	15.48	22.32	4.32	5.04	3.24
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	196	65	13.26	19.89	—	5.61	—
Baltimore	408,520	126	32	7.11	9.48	1.58	1.58	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	145	63	24.15	4.14	15.18	.69	.69
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,510	98	36	11.22	12.24	—	6.12	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	29	5	12.80	25.60	—	6.90	3.45
New Haven	62,882	29	9	—	24.15	—	—	—
Nashville	54,400	17	8	11.66	5.88	—	—	—
Charleston	52,586	24	6	4.16	8.32	—	—	—
Lowell	71,447	30	11	13.33	5.53	—	3.93	3.33
Worcester	60,142	24	8	25.00	12.48	—	16.54	—
Fall River	62,674	17	4	11.66	23.55	—	—	—
Cambridge	60,985	26	3	7.70	23.10	—	3.85	—
Lawrence	45,516	7	5	14.28	—	—	—	14.28
Lynn	44,895	19	3	21.04	5.26	—	10.52	5.26
Springfield	38,090	9	2	11.11	11.11	—	—	—
Somerville	31,550	11	—	—	9.09	—	—	—
Holyoke	30,515	13	6	7.69	36.36	—	—	—
New Bedford	29,144	13	3	7.69	30.76	—	—	7.69
Salem	29,503	9	3	11.11	—	—	—	—
Chelsea	24,247	8	2	25.00	37.50	—	—	—
Taunton	22,633	7	3	14.28	14.28	—	14.28	—
Gloucester	21,400	7	4	14.28	—	—	—	—
Haverhill	20,905	10	2	—	—	—	—	—
Newton	19,421	5	1	—	—	—	—	—
Brookton	18,323	7	2	14.28	28.56	—	—	—
Malden	15,273	7	0	—	—	—	—	—
Newburyport	13,917	4	1	—	—	—	—	—
Fitchburg	13,433	6	1	—	—	—	—	—
Waltham	13,568	0	0	—	—	—	—	—
Northampton	13,165	0	0	—	—	—	—	—
89 Massachusetts towns	—	61	12	—	—	—	—	—

Deaths reported 2,297; under five years of age 815; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, fevers, and diarrheal diseases) 338, lung diseases 375, consumption 337, diphtheria and croup 105, diarrheal diseases 67, measles 13, scarlet fever 41, cerebrospinal meningitis 19, typhoid fever 17, malarial fevers 16, whooping-cough 14, erysipelas 11, puerperal fever three, smallpox two. From scarlet fever, New York 16, Boston seven, Philadelphia five, Baltimore, New Orleans, and New Bedford two each, Brooklyn, Lynn, Springfield, Holyoke, Salem, Gloucester, and Haverhill one each. From cerebrospinal meningitis, New York seven, Nashville and Fall River two each. From typhoid fever, Philadelphia seven, New York, Brooklyn, and Boston two each, Baltimore, District of Columbia, Providence, and Cambridge one each. From malarial fevers, New York and New Orleans six each, Philadelphia, Brooklyn, Baltimore, and Charleston one each. From whooping-cough, New York and Philadelphia four each, Brooklyn three, Boston, Baltimore, and District of Columbia, one each. From erysipelas, Philadelphia three, New York, Boston, and District of Columbia one each. From puerperal fever, Philadelphia, Boston, and District of Columbia one each. From smallpox, Philadelphia and Boston one each.

Cases reported in Boston: measles 63, scarlet fever 38, diphtheria 24, typhoid fever five.

In 108 cities and towns of Massachusetts, with an estimated population of 1,347,334 (estimated population of the State 1,955,104), the total death-rate for the week was 17.52, against 17.93 and 19.73 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,900,446, for the week ending May 2d, the death-rate was 21.1. Deaths reported 3,601; infants under one year of age 878; acute diseases of the respiratory organs (London) 337, measles 176, whooping-cough 127, diarrhoea 30, scarlet fever 33, diphtheria 25, fever 22, smallpox (London 32, Manchester two, Liverpool, and Halifax one each) 36. The death-rates ranged from 15.1 in Derby to 31.1 in Newcastle-on-Tyne; Birkenhead 20.2; Birmingham 21.8; Bradford 23.1; Leeds 23.0; Leicester 20.3; Liverpool 21.3; London 19.8; Manchester 30.6; Nottingham 17.5; Sheffield 22.0; Sunderland 23.7. In Edinburgh 19.1; Glasgow 27.6; Dublin 33.5.

For the week ending May 2d in the Swiss towns there were 26 deaths from consumption, lung diseases 29, diarrheal diseases 14, diphtheria and croup 10, smallpox four, scarlet fever and puerperal fever each three, erysipelas and measles each two, whooping-cough and typhoid fever each one.

The death-rates were: at Geneva 9.1; Zurich 21.2; Basle 21.2; Berne 31.7.

The meteorological record for the week ending May 16th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, May 16, 1885.	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, 10	29.755	51.0	62.5	42.6	66	31	56	51.0	W	W	W	10	24	14	C	C	C	—	—
Monday, 11	30.011	47.8	55.1	40.9	65	38	60	54.3	W	W	N W	10	15	5	O	F	C	—	—
Tuesday, 12	30.166	50.5	62.0	40.3	44	51	53	56.0	W	E	S	9	17	7	C	C	C	—	—
Wednesday, 13	30.180	52.9	63.3	43.5	56	42	82	50.0	S W	E	N E	7	13	7	C	O	C	—	—
Thurs., 14	29.929	46.2	47.3	44.3	87	100	93	36.3	N E	N S	N	16	30	32	R	R	R	—	—
Friday, 15	29.971	61.8	72.7	46.5	58	43	52	51.0	E	E	S W	12	7	3	F	F	C	—	—
Saturday, 16	30.206	50.4	65.2	46.3	53	91	86	76.7	E	E	E	16	16	2	C	F	C	—	—
Mean, the Week.	30.041	51.5	61.1	43.7				63.2										22.0	0.93

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

# OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 16, 1885, TO MAY 22, 1885.

VOLLUM, EDWARD P., lieutenant-colonel and surgeon. Granted leave of absence for three months, to take effect when his services can be spared by his department commander. S. O. 110, A. G. O., May 14, 1885.

DELOFFRE, A. A., captain and assistant surgeon. Relieved from duty at Fort Sill, Kan., by T. T., and ordered to Fort Totten, D. T. S. O. 52, Department of Dakota, May 14, 1885.

MUNDAY, BENJAMIN, first lieutenant and assistant surgeon. Relieved from duty at Fort Klamath, Oregon, and ordered to Fort Walla Walla, W. T. S. O. 72, Department of Columbia, May 12, 1885.

## SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, June 1st, at 8 P. M. Readers: Dr. E. Cowles, "Insanity of Doubting, or of Fixed Ideas, and its Frequency." Dr. J. H. Denny, "Toxic Paralysis and the Industrial Use of Poisons." H. L. BURKELL, *Secretary*.

STEEPLE DISTRICT MEDICAL SOCIETY.—The *Section for Clinical Medicine, Pathology, and Hygiene* will meet in the hall of the Harvard Medical School, on Tuesday, June 9th, at 8 o'clock. Papers: Dr. W. N. Ballard, of Boston, "A Case of Progressive Muscular Atrophy," with presentation of the patient. Dr. W. Everett Smith, of Framingham, "Hereditary Ataxia, with six new cases." Microscopic Demonstration of Spinal Cord and exhibition of patient. Dr. E. C. Seguin, of New York, Drs. S. G. Webber, G. F. Jelly, J. J. Putnam, C. F. Folsom, J. H. Denny, H. P. Quincy, and others are expected to take part in the discussions. Members of the profession are cordially invited to attend.

ALBERT N. BLODGETT, *Secretary*.

## OBITUARIES.

DR. J. W. D. OSGOOD.—Dr. Jonathan Walter Dandolo Osgood died at Greenfield, Mass., May 15th, aged eighty-two years and ten months. He was born in Gardner, Mass., where his father was both preacher and physician. He was a graduate of Dartmouth College in the class of 1823. He studied medicine at the University of Pennsylvania and at Dartmouth, receiving the degree of M.D. at the latter place in 1826. He first practiced in Templeton, moving to Greenfield in 1828, where he had an extensive and lucrative practice. The autopsy showed obliteration of the coronary arteries. Dr. Osgood was Vice-president of the Massachusetts Medical Society in 1876.

PROFESSOR HENLE.—Dr. Frederic Gustave Jacob Henle, one of the most distinguished workers in the field of anatomical science, has just died at a ripe age. He was born at Enn, Bavaria, July 9, 1809. Having had the advantage of a good education, he subsequently began the study of medicine. He entered upon his studies at Heidelberg and completed them at Bonn. At the latter place he received his degree of Doctor in 1832, and from there went to Berlin, where he became an assistant in the anatomical museum. Two years later he was appointed professor to the medical faculty of the university, but soon after

fell into disfavor on account of having affiliated with the secret societies of the students called the "Burschenschaften." For this he was cast into prison, and, although he received a full pardon and was released soon after his incarceration, he was unable to again establish himself in favor in the university until 1837, when he returned as a private tutor. During the three succeeding years he gave instructions in pathology and in microscopic anatomy, then an unexplored field. During this period he was a contributor to the *Annual Reports of Canstatt*, and published "Ueber Schlein und Eiterbildung," which was first brought out at Berlin in 1838. The following year he published at Leipzig "Vergleichende Anatomie des Kehlkopfs," a work descriptive of the development of the larynx in animals, from man down to the very lowest types of creation. In 1840 he was made professor of anatomy, and later of physiology, in the University of Zürich. The same year he produced another valuable work, "Pathologische Untersuchungen," published at Berlin. This work was a series of observations on the nervous system, the periodical nature of certain maladies, and many other nervous affections. In 1844 he was called to the professorship chair at Heidelberg, having the departments of anatomy, physiology, pathology, and anthropology, and this position he held eight consecutive years. It was during this period that his most important work, "Handbuch der Rationellen Pathologie," appeared, which was the crowning effort of his life. In 1852 he became professor of anatomy and director of the Anatomical Institute at Göttingen. It was here that he opened a new field to science by the adaptation of the achromatic microscope for anatomical purposes. Among others of his many important works are "Handbuch der allgemeinen Anatomie," given to the public in 1841 at Berlin, and "Handbuch der systematischen Anatomie des Menschen," which was published at Brunswick in 1855. The second volume of this last work was issued in 1864, and was followed by the third and last four years later.

PROFESSOR PANUM.—Professor Panum, the incumbent of the chair of Physiology at Copenhagen, and perhaps better known as the President of the last International Medical Congress, has recently died. Professor Panum has for many years been known as one of the ablest workers in the field of medical and physiological science. His observations have been made largely in the field of scientific pathology, and he has left behind him a mark in one of the most difficult fields of medical research. Panum exhaustively treated the subject of transudation by physiological experiment, making also an elaborate series of experiments on artificial embolism of the various vessels of the body. He showed that fibrin is not necessary for resorption by transudation, and that even with the greatest care it may act injuriously by clotting. His work on "Embolism" ranks with the classic writings of Virchow and H. Weber. His observations on the nature of the virus of septicaemia, made many years ago, convinced him that it was independent of the agency of living organisms. His address on "Food Rations for Man in States of Health and Disease," delivered at the International Medical Congress last year, contains valuable suggestions on the physiology of diet. Of late years he experimented largely on the formation of "physiological islands" in the small intestine with a view of studying the nature and properties of the intestinal juice uncontaminated with other secretions.

## DEATH.

DR. D.—In Greenfield, Mass., May 16, 1885, Jonathan Walter Dandolo Osgood, M.D., M.M.S.S., aged eighty-three years.



Plate 2.



Plate 1.



Plate 4.



Plate 8.

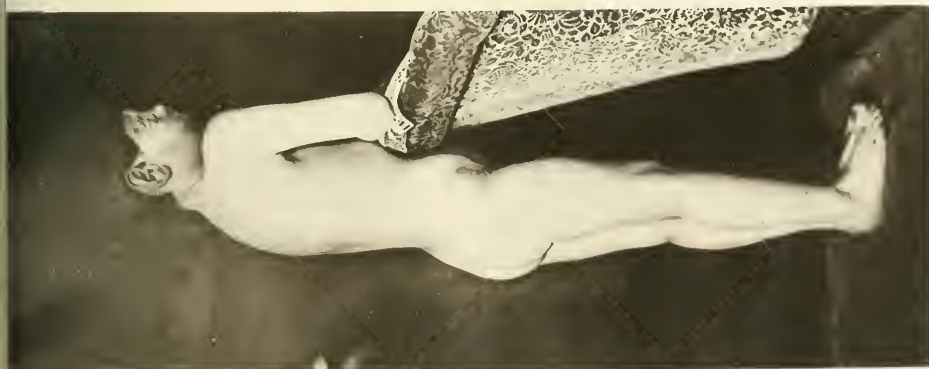


Plate 7.



Plate 6. June, 1884.

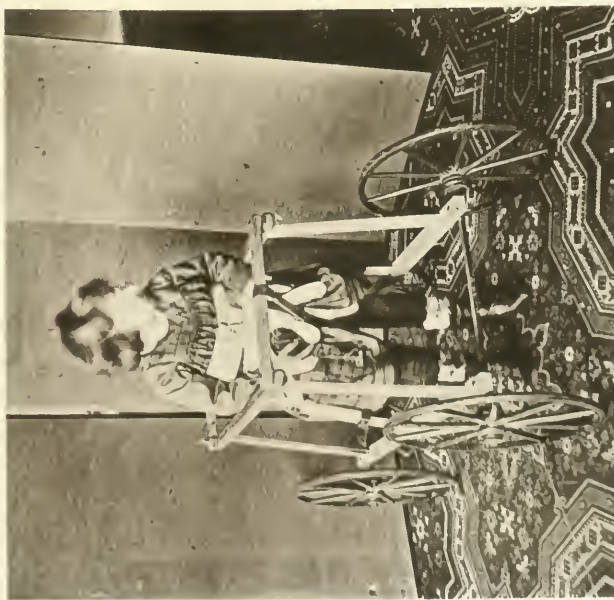


Plate 5.



## Original Articles.

## DOUBLE CONGENITAL DISPLACEMENT OF THE HIP; DESCRIPTION OF A CASE WITH TREATMENT RESULTING IN CURE.

(With Plates.)

BY BUCKMINSTER BROWN, M.D.,

Consulting Surgeon of the House of the Good Samaritan, etc.

WHEN in Paris during the winter of 1845 and 1846 I was much interested in observing, among the cases in the wards of M. Guérin at the *Hôpital des Enfants Malades*, three or four of congenital dislocation or displacement of the hip. I was not able to follow them a sufficient length of time to learn the degree of success attending the treatment. M. Guérin was sanguine that the result would be favorable.

In 1843 "l'ancien conseil général des hôpitaux et hospices civils de Paris" appointed a commission to follow, for a time not less than one year, the treatment pursued by M. le docteur Jules Guérin in the Children's Hospital of Paris in cases classed under the head of Orthopedic Surgery. The commission was instructed to report upon the cases so followed and examined. It was composed of MM. Rayer, Serres, Louis, Breschet, Jobert, and Blandin. The council also appointed M. Orfila as president.

In 1848 the report of this committee was published.<sup>1</sup> The fourth class of cases reported upon was congenital luxations of the femur. Of this description of cases there were five submitted to the commission for observation and examination. Of these five, four were examples of single, and one of double, dislocation. The first two patients presented were girls, one six and the other seven years of age. In each, one joint only was affected. These cases were under the notice of the reporters from December 3, 1843, to December 28, 1845. The result was not a permanent replacement of the head of the femur in either of the cases. But, much to the surprise of the committee, there was found in each case an elongation of the long bones of the leg to the extent of two centimeters. In this way compensation was established for the shortening produced by the luxation.

Such was the result of the examination of the committee and testified to in their report.

Upon the point above referred to I will quote a personal observation made about the same period that this committee was pursuing its investigations:—

"There is yet another class of cases. In certain children the resistance to the means employed for producing a descent of the head of the femur is so great as to render these efforts wholly ineffectual. What is very curious in these cases is that there is an elongation of the bone itself. Thus we have still the signs of dislocation on examining the hip-joint, but on comparing the two limbs we find them of the same length."<sup>2</sup>

The third case reported upon, after fourteen

months' treatment promised success. Most unfortunately, however, the patient had typhoid fever attended by severe cerebral symptoms, and by general convulsions and contraction of the muscles of the trunk and limbs. The displacement returned worse than it was originally. After extension, the trochanter was again brought into position, and hopes were entertained of a cure. Without known cause the luxation returned, and at the date of the report the case was still under treatment. Of the two other cases one was not treated, on account of the occurrence of some other malady.

The fifth subject, being the double displacement, was under treatment at the time of the report.

Thus we have five cases of this malformation presented by M. Guérin on an especially appointed commission. In two of these, as I have stated, the treatment was terminated at the end of two years. In neither of them was the malposition remedied. The third and fifth were still under treatment, and in the fourth, as before mentioned, no attempt was made at restoration.

Contributions have been made from English, French, and Italian writers to elucidate the pathology and etiology of this class of cases.

Dr. Carnochan, of New York, has written a valuable monograph upon this subject, in which he describes and exemplifies, with plates, the anatomical relations of the displaced bones and the changes which occur in the pelvis after a lapse of years. He likewise gives plates, copied from a report of M. Pravaz, representing apparatus for extension and for exercising the joint, which, judging from the diagrams, must be extremely complicated, unwieldy, and expensive. These, however, Dr. Carnochan has not put into any practical use so far as can be gathered from his work. No case illustrative of treatment and cure is related by him.

Brodhurst has had a number of these cases under his care. He advises in all cases, except in children under two years of age, the division of "all the muscles" which are inserted into and about the trochanters, especially the glutei and the rotators.

This author relates a case of single displacement in which he did this operation, and the patient, with the assistance of a thickened sole, walked well. Similar operations were performed by M. Guérin in the cases to which I have previously referred.

Dr. Sayre recommends his instrument for extension of the hip during locomotion and also Darrach's wheel-crutch.

"M. Pravaz, Jr., has put on record the case of a girl, aged seven years and a half, in which he claims complete success in the reduction of a dislocation of this nature by a prolonged treatment."<sup>3</sup>

In this instance there was unquestionably a well-defined acetabulum, as, when the head was reduced, it went in with a "distinct snap." In this respect the case of M. Pravaz essentially differs from the one hereafter to be described in this paper. So important a fact as the existence of a pronounced socket places the parts to be acted upon in an entirely dissimilar condition. Dr. Carnochan likewise alludes to the report upon this case of M. Pravaz.

<sup>1</sup>Rapport Adressé à Monsieur le Délégué du Gouvernement Provisoire sur les Traitements Orthopédiques de M. le docteur Jules Guérin à l'Hôpital des Enfants Pendant les Années 1843, 1844, et 1845, par une commission composée de MM. Blandin, P. Dubois, Jobert, Louis, Rayer, et Serres; President, M. Orfila. Paris, 1848.

<sup>2</sup>Orthopedic Surgery in Europe. Letter dated Paris, May 19, 1846. Buckminster Brown, M.D. Boston Medical and Surgical Journal, July 1, 1846.

<sup>3</sup>The Surgical Treatment of the Diseases of Infancy and Childhood, p. 239. T. Holmes.

Mr. H. A. Reeves, of London, in a work just published (1885) says: "My opinion is that in a large majority of cases anything other than palliative measures, such as the use of appropriate apparatus for grasping the trochanters and keeping them as far as possible in place, is of little use. Pravaz claimed to have made cures by the use of his special apparatus, but Bouvier and others have fairly shown that these were not permanent cures."<sup>4</sup>

Dr. James Knight, in his recent work on Orthopaedia, relates a case where "after two years' treatment the patient was enabled to walk independently of support to body or limbs." Further particulars are not given; as whether after treatment the position of the femoral head was normal or otherwise, or if there was a cotyloid cavity before or after treatment. So far as my knowledge extends these patients are usually able to walk.

Dupuytren wrote a memoir on this subject and expressed his opinion that there was no remedy, and not even a palliative for these displacements.<sup>5</sup>

Mr. Thomas Bryant, in his standard work on Surgery, in writing on the treatment of cases of this malformation, says: "Nothing can be recommended with the view of cure, for art cannot supply a natural deficiency or make up for a defect of structure in the bones of the joint. . . . Mechanical appliances are to be condemned as useless, if not worse. They have been employed on a wrong principle, or rather on a want of due appreciation of the conditions of parts, and therefore with only a vague hope that they may do good. These observations apply as much to the use of an extension apparatus as to operative interference, although with more force to the latter."<sup>6</sup>

Coxectomy has been performed for relief in this affection.

I quote from the *Medical News* for October, 1884: "Congenital dislocations of the head of the femur, especially when they have existed for some time, are notoriously unamenable to permanent relief, the means resorted to for this purpose being as a rule directed to limiting the tendency of the bone to further displacement by wearing a strap of webbing around the hips.

"At the recent *Versammlung der Deutscher Naturforscher und Aerzte*, in Magdeburg, Dr. Heusner, of Burmen, demonstrated that such cases are open to more radical measures, and placed on record the first excision of the hip for congenital dislocation. The operation was done for excessive suffering in the left joint of a girl twenty years of age. The ligamentum teres was absent, the head of the femur was about as large as that of a child of six years, ovoidal in shape, and much flattened, and its surface was uneven and the neck of the bone formed an obtuse angle with the shaft. The acetabulum was fully developed and of normal size, although its rim was somewhat flattened and polished above and below.

"The head, neck, and nearly an inch of the shaft of the femur having been excised, the acetabulum

was made deeper with the chisel and the parts brought into apposition. At the expiration of eleven weeks, with the aid of a cane the patient was able to walk without fatigue for half an hour, the pain was relieved, and there was every prospect of future good use of the limb.

"The case briefly narrated shows that the theoretical objection to operative interference in congenital dislocations of the hip, based upon the absence of a well-formed cotyloid cavity, is not well founded. Even if the acetabulum were superficial or deficient a cavity of sufficient size to accommodate the divided shaft of the femur could be chiseled out of the ilium." Operations similar to the one above described have been performed by Margary, of Turin, E. Rose, and C. Reyher.

The behavior of the hip-joint in other circumstances, as in traumatic unreduced dislocations, etc., would unquestionably lead to the belief that a cure could be effected by following the teachings, and taking advantage of the hints thus obtained, and by the combination of physiological and mechanical means, without having recourse to the heroic measures above described. My confidence, however, in the success of treatment has been so slight, and the circumstances of the patients who have presented themselves have been such, as not to warrant me in testing a course of procedure tedious and wearing at the best, whether operative or mechanical, and of which the history of cases, where any minute record has been given, has not been for the most part encouraging.

Connate malposition of the head of the thigh-bone is comparatively a rare affection and occurs most frequently double. Dupuytren says: "Simultaneous displacement of both femurs is observed in most individuals affected." Carnochan also states, as the result of his researches, that dislocations on both sides are the most frequent.

The prominent symptoms in these cases where both hips are displaced are, first, the peculiar waddling walk, and second, the extreme spinal incurvation.

The swaying walk is due mainly to the extent of surface traversed by the heads of the femurs. The acetabula being absent or deficient, the capsular and round ligaments, if present,<sup>7</sup> are so stretched as to have no influence in limiting the motion of the femoral heads, which are held alone by the muscles and fascia.

Thus, in raising the foot in walking, the weight of the limb extends the muscles connected with the neck of the femur and trochanter, and the head of the thigh-bone sinks one or more inches. In placing the foot upon the floor the weight of the body causes it (the head) to slide upward again as far as the insertion of the muscles will permit. In this way a smooth sac is formed either by the capsular ligament, or if this has been ruptured, as sometimes occurs, immediately beneath the muscles on the external surface of the ilium. This is probably bursal-lined, and from the difficulty of producing adhesion between its sides is an additional impediment to permanent restoration.

<sup>7</sup> According to Travelsider, this latter ligament is often undeveloped and sometimes wanting. <sup>8</sup> *Mechanism of Dislocation and Fracture of the Hip*, p. 21. By Henry J. Bigelow, M.D. It may be that in some cases of congenital displacement of the hip such a state of things exists.

<sup>4</sup> *Bodily Deformities and their Treatment*, p. 308. By Henry Albert Reeves, F.R.C.S.E. Philadelphia: P. Blunkston, Son & Co. 1885.

<sup>5</sup> *Mémoire sur le déplacement originaire congénital de la tête du fémur*.

<sup>6</sup> *A Manual for the Practice of Surgery*, p. 769. By Thomas Bryant, F.R.C.S. Second American Edition.

The lordosis is simply the natural attempt to gain an equilibrium. The upper part of the body being thrown from the median line by the displacement backward and upward of the femoral heads, a counterpoise is necessitated where only it can take place, and an unavoidable anterior lumbar curve is the result.

The following records of an interesting and rare case are written in the hope of their being of service to members of the profession, who, in undertaking a similar case, may be glad to have the narration of such an experience to turn to, to aid them in their labors. With this in view the apparatus, which was found fully to answer its purpose, has been accurately photographed and described, and every important step toward restoration carefully noted. The apparatus used was designed as the objects to be accomplished and the exigencies of the treatment presented themselves.

On the fourth of April, 1882, a little girl four years of age was brought to me to be treated for what was thought to be an unusual example of spinal curvature. On examination, I found a double hip displacement.

As on former similar occasions and for reasons already mentioned, I decided against active treatment. The state of the case was clearly placed before the parents, accompanied by the statement that an attempt at restoration would involve a course of treatment not unattended with risk, at least in some of its phases, necessarily prolonged, and so extremely uncertain in its results that I did not feel justified in advising its adoption.

The parents of this child, however, were not to be dissuaded from making an attempt to relieve their daughter from so distressing a condition.

The thought of its continuance with its blighting influence through life was unbearable. After weeks for mature deliberation they decided that the trial should be made, if I were willing to undertake the treatment. The condition of the hips at this time was as follows: No trace of a cotyloid cavity could be discovered. When the patient was recumbent, if the shoulders were firmly held by an assistant, traction on the legs would readily bring the heads of the femurs into their normal position, and they could as easily be pushed back again, or they would slip upward by the natural contraction of the muscles. There was no spasmodic or spastic contraction. The muscles acted powerfully, but not abnormally. There was no such action of a muscle or group of muscles as would demand or warrant the use of the knife. I have said there was strong muscular action, and after prolonged extension, if the hand was laid upon the nates or pelvis, it was curious to feel the fibrous, fascicular, wormlike movement by which the limb was slowly drawn upward over the ilium. This was the simple, natural, muscular contractility brought into play after resistance had been removed. The head glided upward over a smooth surface. The walk was the extreme of that sideward movement which is expressed by the term waddle. It was a much exaggerated waddle. Plate 1 represents the displacement viewed laterally. The great trochanter is seen as a rounded prominence high up on the ilium, bordering on the crest. The muscles are stretched

and bagged up by the pressure of the weight of the body on their tissues. The excessive lordosis is conspicuous, showing the obtuse angle at the junction of the lumbar vertebrae and sacrum.

The consequent prominent, overhanging abdomen and compensatory bend of the knees are well seen in this side view. Likewise the shortening of the stature is evident. Plate 2 represents the appearance of the child seen anteriorly. It depicts the height of the trochanters on a level with the upper rims of the ilia, and the projection in front. The splayfoot, or valgoid tendency, the usual accompaniment of this condition, is also well marked.<sup>2</sup>

The child was brought to Boston, and on the thirtieth day of December, 1882, she was placed upon the bed. I will here premise that for many of the dates and for much of the minute history of the case I am indebted to a diary kept by the mother of the patient.

Obviously my treatment must be divided into distinct stages. First, it was requisite to relax and extend the large mass of glutei and other pelvic muscles.

It has been thought by some surgeons, and perhaps with justice, that continuous, warm, moist applications have an effect in relaxing and weakening the muscular fibre. How deep the influence of such applications extends from the surface may be a question. In order to omit no measure, however apparently trifling, which might be supposed to assist to the end in view, I commenced with warm poultices. These enveloped the pelvis and hips, and were renewed twice a day for one week.

January 6, 1883, a firm leather belt three inches wide, padded and lined with chamois-skin, was buckled round the hips. To the upper edge of this belt four long straps were attached, extending from just above the anterior superior spinous process of the ilium on each side in front and from just above the sacro-iliac synchondrosis on each side at the back. These long straps were buckled to the rail at the head of the iron bedstead. Two perineal straps were fastened by four buckles to the lower edge of this belt, in such a manner as to bring the soft, padded portion into the groove of the groin. This gave a perfectly firm, unyielding counter-extension.

Direct extension was made by means of stiff leather bands, three and a half inches wide, padded and lined, encircling the legs above the knees and above the ankles, accurately fitted. To the lower edge of the bands leather loops three or four inches long were fastened, one on each side. A cord to which weights were suspended passed over parallel pulleys at the foot and on a level with the bed, and were tied to the loops. See *a, a*, plate 3, and *a, a*, plate 4. The use of the bands alternated: sometimes those above the knees, and sometimes those above the ankles, were employed. In this way the pressure around the limbs could be frequently varied, thereby affording great relief.

It is important to be thus minute in relation to  
<sup>1</sup> Plates Nos. 1 and 2 are from photographs of a former patient, a complete facsimile of the one I am now describing. On comparing these photographs with the subject of this paper, at my first examination, April 1, 1883, they were deemed, both by the parents and myself, to be exact representations of the case before us and no others were considered necessary.

the various appliances, as all expectation of success depends upon their being rendered as little painful and irksome as possible.

The knee-bands were preferably employed. By them the extension drew directly upon the pelvic muscles. The object here being to tire out and to permanently stretch these organs, and thereby remove one important obstacle to restoration. Weights weighing three pounds were used at first. These were afterward increased. After a few days the head of the bedstead was raised by means of wooden blocks, eight inches high. The child was thus, to a certain extent, suspended by the perineal straps.

In the course of ten or twelve days sufficient relaxation of the muscles was produced to allow of easy manipulation of the bones, and each morning they were placed in their natural position, where they were maintained by the weights for some hours. On the following morning, however, they were invariably found displaced. About this time, on two or three occasions when drawing upon and rotating the left femur, a sensation was communicated to the hand as if the head of the bone was passing over an inequality. Whether this sensation was due to its slipping over a segment of the rim of an undeveloped acetabulum, or whether it arose from its passing over a portion of an elongated round ligament was a question which was difficult to decide. I was disposed to think that the former supposition was correct. Dr. H. H. A. Beach, when examining the patient at this time, also detected this slight jar on rotating the left femur, previous to the upward movement by which it passed on to the dorsum ilii, and was inclined to the opinion that such a segment as above suggested did exist.<sup>9</sup>

This inequality was at no time observed on the other side, and even here could not always be discovered.

If a detached remnant of the eotyloid ligament did exist, it was so imperfect as to offer no resistance to the free movements of the head of the femur, and escaped detection at the earlier examinations.

About the middle of February it was found that the tendency to slip upward was greatly diminished, and that days elapsed without this occurrence taking place.

Accurate measurements, together with the hint derived from the slight section of a ridge on the left side just referred to, were the guides for placing the heads of the femurs and electing the spot for the formation of the hoped-for sockets.

As an assistance to this end I resorted to a position of the limb which I had seen employed by Dr. H. J. Bigelow in a case of acquired hip dislocation which in facility of displacement resembled the one we are now considering. This position was likewise resorted to in a case which is narrated in his work on "The Hip," and is described on page 56.

The case was one of traumatic dislocation of the hip of eight months' standing. The limb was reduced by flexion, abduction, and eversion, but was readily displaced. Dr. Bigelow says:—

"A very slight inversion sufficed to reproduce the dislocation: in fact, the limb could not be

trusted to itself. After the bone had thus repeatedly slipped out, the patient was placed in bed on her back, and the dislocation again reduced by flexion, abduction, and eversion, which brought the flexed thigh and knee down to the mattress on their outer side. The knee was then tied to the bedstead in this position by a towel, and the foot secured to the knee of the sound side until the socket should be excavated by absorption."<sup>10</sup>

To return to my patient. The femoral heads now being in normal position the thighs were flexed to nearly right angles with the body and then spread in the manner described by Dr. Bigelow, and the knees tied to the edge of the bedstead on each side and the feet secured to the opposite side. The heads of both thigh-bones were thus brought to bear forcibly on the pelvis at the points selected, trusting that absorption might be produced as a commencement of the desired depression.

This position was painful and could be borne but two or three hours in the course of the day. The strain on the anterior crural and other nerves in the neighborhood affected the whole nervous system. After the ties were removed from the knees the legs were weighted as before and so remained the rest of the twenty-four hours. The traction bands were alternated, as previously mentioned, from those that encircled above the knees and those encircling the ankles.

Two long narrow strips of wood were now attached to the foot of the bedstead a few inches from the corners. (See *b, b*, plate 3, and *b, b*, plate 4.) Near the top of each a pulley was inserted twenty-seven inches from the mattress. Cords were tied to the loops of the encircling knee-bands and run through these pulleys, to each of which was suspended a three-pound weight. This was traction on a line opposed to the dislocation, namely, forward and downward, and was alternated with the parallel extension, one or the other being used day and night. At no time were the limbs allowed, even for a moment, without extension. When the bands were changed from knees to ankles, and *vice versa*, an assistant always held the limbs firmly extended until the weights were reappplied. This manual traction was likewise maintained when the patient was temporarily moved to another bed. The three-inch wide pelvic belt, previously described, was constantly worn, and beneath it, on each side, narrow, firm, graduated compresses, made of soft linen, were placed across the dorsum ilii, immediately above the trochanter major. One of the compresses was nine inches long, four and a half wide, and a quarter of an inch thick; the other, five and a half inches long, five inches wide, and a quarter of an inch thick.

By means of this belt and compresses pressure was maintained with the object of obliterating the sacs in which the bones had played.

The limbs were now rarely displaced. All the unavoidable movements attendant on change of apparatus, etc., were borne without injury, indicating that the heads of the thigh-bones were to a very considerable extent secured in their new position.

Thus much having been gained, the next object was by passive flexion and extension, in imitation

<sup>9</sup> I will here mention that Drs. J. C. Warren and H. H. A. Beach saw this patient at intervals during the course of the treatment, and later Dr. D. W. Cheever also examined her from time to time.

<sup>10</sup> The Hip, p. 50.

of the natural motions of the joints, to still further promote absorption, and perhaps cause some degree of irritation in the immediate neighborhood, and consequent effusion of adhesive matter.

To accomplish this three sets of pulleys were employed, namely, the parallel at the foot of the bed (*a, a*, plate 3, *a, a*, plate 4), the high ones at the foot of the bed (*b, b*, plate 3, *b, b*, plate 4), and two additional pulleys at the head of the bed (*c, c*, plate 3, *c, c*, plate 4). The high pulleys (*b, b*, *b, b*) were used, as before, for oblique traction from the knee-bands. The cords from the high pulleys (*c, c, c, c*) were likewise attached to the knee-bands in front. To this a light weight was suspended, which served as a handle, and when drawn upon raised the thigh to an angle with the body. The cords over the parallel pulleys (*a, a, a, a*) were tied posteriorly to a soft roll of padded linen, which passed round the upper extremity of the thigh. When the joint was flexed to an obtuse, or right, angle by drawing down the weight on pulley *c, c, c, c*, it is evident that the weight on *a, a, a, a* acted upon the femur as upon the extremity of a lever, preventing the head from rising when the upper pulleys (*c, c, c, c*) were in action. It will be seen that by this arrangement we have flexion and extension of the articulation, with every safeguard against displacement. An attendant stood, or was seated, at the head of the bed and drew the small weight downward, by which action the knee was raised toward the abdomen. The weights at the foot then pulled it back again. At the same time the pelvic leather belt buckled over the summits of the trochanters caused strong pressure against the pelvis. Four hours a day this passive exercise was continued, two hours for each limb. This may properly be termed the stage of excavation. The blocks from beneath the legs at the head of the bed were placed under the foot. The trunk then served as counter-extension. The long straps were removed from the head-rail. As an additional security a belt eight inches wide, made of soft, pliable leather lined with thin leather, and cut going to fit the hips, was used outside of the narrow belt. This wide belt had five small buckles and straps or billets of webbing, each one and a half inch wide, and round, padded perineal straps. The wide belt encroached somewhat on the upper part of the thighs, and a slit was required for the passage of the perineal straps to buckles in front. During the passive exercise the outer belt was removed. The course I have here indicated was pursued, with slight variations, until July 20, 1883. The time allotted for exercise had been gradually lessened. The high pulleys at the foot were used one day and night. The next day and night the patient wore the wide belt, thus alternating from one to the other.

The hips remained in position. The last time either had been displaced was on March 28, 1883.

June 2, 1883. The patient was removed to the seaside to a hotel in the neighborhood of my summer residence. Every precaution was observed in the removal. She wore the narrow belt, with the compresses above the trochanters, and the wide belt over it. She was placed in a hospital basket. The long straps from the narrow belt were secured to the head end of the basket. The perineal straps

were buckled in place. The straps from the knee-bands were fastened to the lower end of the basket.

In this way the patient was made a solid fixture to the basket, and could be moved in any way without disturbing her position. She arrived safely at her destination. This same arrangement was used through the summer. By it she was enabled to be upon the piazza or beneath the shade of the trees almost daily.

As an indication of the firmness with which the bones were held in their new position, I will mention that on one occasion much alarm was caused by the child rolling out of bed in the night. When reached, her head and hands were upon the floor, and her body was suspended obliquely by the foot-weights, which brought up against the bed-rail. No injury arose from this accident.

July 20, 1883. The first attempt was made to test the strength of the tissues by which the heads of the femurs were retained in their sockets. I pushed the limbs upward, and then upward and backward, with considerable force. There was firm resistance in each direction. From this date this experiment was frequently renewed, more and more forcibly, until finally the body was moved by pushing against the rim of the acetabulum, which was now unquestionably formed.

Dr. Beach saw the patient again in October, 1883, after her return to Boston. He judged that the upward pressure thus employed would amount, calculated by pounds, to more than the weight of the child. The patient now used active movements of the limbs in imitation of the previous passive exercise with weights. In order to avoid the friction of the foot upon the bed the heel rested in the hand of an attendant in its to-and-fro movement. This was done with a weight of two pounds attached to the ankle, for five minutes, twice a day.

Dr. D. W. Cheever, at my request, examined the patient at this time and freely manipulated the limbs.

The fourteenth day of January, 1884, the little girl sat up in bed, for the first time for thirteen months.

The period had now arrived for an initiation into the so long forbidden and forgotten faculty of locomotion.

A cart was constructed, of which plate 5 is a representation. It is very simple in its make, and perfectly answered its purpose. The plate requires but little explanation.

The heavy leather strap with the saddle in the centre is the important feature. The patient sat astride upon the saddle, which when first used was buckled upon the cross-bars, at such a height as only to allow the extremity of the toes to touch the floor. The crutches, as is plainly seen, were made to slide up and down and fixed by thumb-screws. They were of elastic wood and were sprung into and fitted the axillæ, where they were secured by a webbing belt. They relieved the perineum of a portion of the weight. From time to time the saddle and the crutches were let down until she walked squarely upon her feet.

At first she only imitated walking, but soon was able to propel herself through two large rooms and a hall with ease. The hip-joints worked perfectly.

As a safeguard against accidents the narrow leather belt was still worn. In April the patient bore her own weight for a few moments at a time, and on the 11th took her first drive sitting up. May 14th she began to walk in her carriage, without the saddle, and on the 16th without either saddle or crutches, taking hold of the side-bars. On the 18th she walked, supported on each side by a person holding a towel which was passed through a loop in a belt around her waist, steadying herself by grasping a cane held above and in front. I will here quote a few minutes from a journal kept by the patient's mother, of which I have availed myself for many of the data in the previous pages.

It is right to add that to her faithful, unwearied, and determined perseverance the success which has attended the case may to a great extent be attributed.

Note for June 9, 1884. "While sitting in her chair, got off the chair, turned round, and stood up; turned round, then turning back again, sat down.

"June 11th. Walked by herself without support a distance of three feet. Did this six times.

"June 12th. Walked twelve times without support, the distance being a little greater.

"June 19th. Having more confidence in herself she walked about the room alone.

"June 24th. Light corsets with steel ribs instead of whalebone were put on to support the spine, which seemed weak.

"June 28th. Commenced to use canes, which gave her confidence in walking."

On the thirtieth of June, 1884, the patient left Boston for her home in the southern part of the State.

It is worthy of remark that the patient, with slight exceptions, remained in excellent health throughout the long confinement, was always in good spirits, retaining her flesh and a healthy color in her cheeks. On account of her appreciation of the importance to herself of the course pursued, she much facilitated the treatment.

Plate 6 is from a photograph taken just before leaving the city. It is a back view. The child is reclining on her left side to show the hip and the symmetrical outline of the body at this period.

My later notes of the case are as follows:—

January 20, 1885. The child walks well without canes. There is some lateral movement of the shoulders due to spinal debility which is probably the result of long continuance in the horizontal position. The left knee obliques slightly inward, causing the limb to appear somewhat shorter than the right and producing some inequality in her gait.

February 18, 1885. The walk has much improved, partly in consequence of shoes being worn, which support the weak ankles. There is some degree of muscular atrophy between the trochanter and the crest of the ilium, on each side, where formerly rested the femoral-heads. This depression is also due in part to the pressure of the belt and compresses. The limbs can be pushed upward, and upward and backward, against the lips of the newly formed acetabula with a force which rolls the pelvis, and moves the body without the slightest displacement.

March 23, 1885. The lateral movement of the

shoulders disappeared some weeks since. As strength has increased the left knee has become nearly straight. The tread is firmer and more even.

Nélaton's line, passing over the summits of the trochanters, indicates that the heads of the femurs are in their normal position. They have not been displaced since March 28, 1883.

May 25, 1885. The child's walk is normal, and she enjoys walking; she steps with natural firmness and vigor. Like other children she takes especial pleasure in running.

The photographs from which the two pictures composing plates 7 and 8 were reproduced were taken March 23, 1885, about two years and three months from the commencement of treatment. The first figure, plate 7, is standing in a position to correspond with the figure in plate 1, which latter gives a side view previous to treatment. Plate 8 is a front view to correspond with the second figure of the series seen in plate 2.<sup>11</sup>

## THE SELECTION OF A SUITABLE CLIMATE FOR THE VARIOUS FORMS OF PULMONARY CONSUMPTION.<sup>1</sup>

BY J. HILGARD TYNDALE, M.D., OF NEW YORK.

The law of the beneficial influence of climate in pulmonary consumption may be remembered by this adaptation of a biblical phrase: *There abideth equality, dryness, and elevation, these three; but the greatest of these is dryness.*

The following tables will serve as a guide to the various degrees and qualities of climatic constituents. The humidity table is R. v. Vucierot's; the rest are my own.

### TABLES OF THE CONSTITUENTS OF CLIMATE:

Humidity, equality, elevation, and degrees of warmth.

#### (1) Humidity.

Excessively dry: 1 to 55 % of relative humidity.  
Moderately dry: 56 to 70 % of relative humidity.  
Moderately moist: 71 to 85 % of relative humidity.

Excessively moist: 86 to 100 % of relative humidity.

#### (2) Equality.

Very equable: 15° to 35° of monthly range.  
Moderately equable: 36° to 50° of monthly range.  
Unequable: 51° to 65° of monthly range.  
Very unequable: 66° to 85° of monthly range.

#### (3) Elevation.

Low altitude: 500 to 1,000 feet above sea-level.  
Moderate altitude: 1,100 to 2,000 feet above sea-level.  
Medium altitude: 2,100 to 4,000 feet above sea-level.  
High altitude: 4,100 to 7,000 feet above sea-level.

#### (1) Temperature.

Hot: 80° to 100° of monthly mean.  
Warm: 55° to 79° of monthly mean.

<sup>11</sup> The illustrations which accompany this paper are exact reproductions of the original photographs by a new application of the gelatine process, which preserves great delicacy of detail and outline.

<sup>1</sup> Concluded from p. 517.

Cool: 54° to 30° of monthly mean.

Cold: 29° to 0° of monthly mean.

The annexed tables of meteorological data of various stations throughout the United States have been kindly furnished me by the Chief Signal Officer. The localities named are not the best health stations, as comparatively few of the latter are supplied with signal stations. The list is intended to illustrate the various climates of this country, where equability with various degrees of temperature, from hot to cold, exist, as well as dryness with various degrees of altitude.

(1) *Equability.*

Stations along the coast of the Atlantic and Pacific Oceans and the Gulf of Mexico.

(a) COLD: SUMMER AND WINTER.

*Unalaksha, Alaska.*

1878, 1879, 1880.		1878, 1879, 1880.	
Range.	Mean.	Range.	Mean.
January . . . . .	16° 34°	July . . . . .	— —
February . . . . .	16 30	August . . . . .	— —
March . . . . .	22 32	September . . . . .	— — 48°
April . . . . .	22 33	October . . . . .	— — 40
May . . . . .	13 —	November . . . . .	27° 33
June . . . . .	1 —	December . . . . .	26° 35

Mean relative humidity: 924, excessively moist.

(b) WARM: SUMMER AND WINTER.

*San Diego, California.*

1879-80.		1879-80.	
Range.	Mean.	Range.	Mean.
July . . . . .	47° 63°	January . . . . .	41° 51°
August . . . . .	48 62	February . . . . .	38 50
September . . . . .	38 66	March . . . . .	31 53
October . . . . .	46 62	April . . . . .	38 57
November . . . . .	39 55	May . . . . .	38 61
December . . . . .	39 53	June . . . . .	41 63

Mean relative humidity: 72.45, moist.

(c) HOT: SUMMER AND WINTER.

*Key West, Florida.*

1879-80.		1879-80.	
Range.	Mean.	Range.	Mean.
July . . . . .	19° 84°	January . . . . .	18° 53°
August . . . . .	19 84	February . . . . .	19 73
September . . . . .	18 82	March . . . . .	24 76
October . . . . .	15 79	April . . . . .	24 76
November . . . . .	24 71	May . . . . .	30 79
December . . . . .	15 74	June . . . . .	32 83

Mean relative humidity: 74.45, moist.

(d) HOT IN SUMMER. WARM IN WINTER.

*Punta Rosa, Florida.*

1879-80.		1879-80.	
Range.	Mean.	Range.	Mean.
July . . . . .	22° 81°	January . . . . .	27° 68°
August . . . . .	20 81	February . . . . .	27 68
September . . . . .	19 79	March . . . . .	35 73
October . . . . .	26 77	April . . . . .	33 71
November . . . . .	38 69	May . . . . .	35 70
December . . . . .	24 70	June . . . . .	26 80

Mean relative humidity: 74.44, moist.

(e) WARM IN SUMMER. COOL IN WINTER.

*Cape Lookout, North Carolina.*

1879-80.		1879-80.	
Range.	Mean.	Range.	Mean.
July . . . . .	32° 78°	January . . . . .	33° 54°
August . . . . .	24 77	February . . . . .	34 53
September . . . . .	25 72	March . . . . .	34 55
October . . . . .	37 69	April . . . . .	37 60
November . . . . .	47 55	May . . . . .	30 70
December . . . . .	36 56	June . . . . .	26 75

Mean relative humidity: 78.56, moist.

(f) COOL IN SUMMER. COLD IN WINTER.

*Thatcher's Island, Mass.*

1878-79.		1878-79.	
Range.	Mean.	Range.	Mean.
July . . . . .	31° 67°	January . . . . .	41° 26°
August . . . . .	24 65	February . . . . .	40 26
September . . . . .	31 61	March . . . . .	38 24
October . . . . .	31 54	April . . . . .	41 41
November . . . . .	34 41	May . . . . .	33 53
December . . . . .	38 31	June . . . . .	34 60

Mean relative humidity: 76.85, moist.

(2) *Dryness.*

(a) COOL IN SUMMER. COLD IN WINTER.

*Cheyenne, Wyoming Territory.*

Elevation: 6,089 feet (High altitude).

1879-80.		1879-80.	
Relative Humidity.	Mean.	Relative Humidity.	Mean.
July . . . . .	41.44 69°	January . . . . .	38.78 30°
August . . . . .	39.5 65	February . . . . .	30.7 24
September . . . . .	29.5 58	March . . . . .	42 34
October . . . . .	33.3 46	April . . . . .	33.3 41
November . . . . .	39.7 35	May . . . . .	28.4 53
December . . . . .	47.9 25	June . . . . .	37.5 62

Annual range (max. 91°, min. 24°) 118°. Very unequal.

*Virginia City, Montana Territory.*

Elevation: 5,810 feet (High altitude).

1879-80.		1879-80.	
Relative Humidity.	Mean.	Relative Humidity.	Mean.
July . . . . .	31% 66°	January . . . . .	53% 24°
August . . . . .	32 68	February . . . . .	57 17
September . . . . .	36 58	March . . . . .	67 21
October . . . . .	48 42	April . . . . .	74 35
November . . . . .	56 28	May . . . . .	62 52
December . . . . .	62 14	June . . . . .	43 54

Annual range (max. 86°, min. 28°) 114°. Very unequal.

(b) WARM IN SUMMER. COLD IN WINTER.

*Dodge City, Kansas.*

Elevation: 2,512 feet (Medium altitude).

1879-80.		1879-80.	
Relative Humidity.	Mean Temp.	Relative Humidity.	Mean Temp.
July . . . . .	58.4 80°	January . . . . .	52.4 38°
August . . . . .	57 75	February . . . . .	48 31
September . . . . .	45 66	March . . . . .	45 40
October . . . . .	43 59	April . . . . .	39 54
November . . . . .	51 40	May . . . . .	48 68
December . . . . .	52 25	June . . . . .	49 74

Annual range (max. 102°, min. 33°) 115°. Very unequal.

*Denver, Colorado.*  
Elevation: 5,271 feet (High altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	45°	74°	January . . . . .	38°	36°
August . . . . .	41°	70°	February . . . . .	50°	32°
September . . . . .	34°	63°	March . . . . .	40°	34°
October . . . . .	33°	53°	April . . . . .	37°	42°
November . . . . .	49°	33°	May . . . . .	34°	52°
December . . . . .	58°	28°	June . . . . .	36°	62°

Annual range (max. 98°, min. 17°) 115°. Not equable.

*Prescott, Arizona.*  
Elevation: 5,339 feet (High altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	32°	76°	January . . . . .	59°	34°
August . . . . .	36°	75°	February . . . . .	60°	23°
September . . . . .	27°	71°	March . . . . .	42°	42°
October . . . . .	45°	52°	April . . . . .	51°	51°
November . . . . .	45°	42°	May . . . . .	19°	62°
December . . . . .	59°	35°	June . . . . .	16°	70°

Annual range (max. 100°, min. 18°) 118°. Very unequable.

(c) WARM IN SUMMER. COOL IN WINTER.

*Santa Fe, New Mexico.*  
Elevation: 6,970 feet (High altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	38°	69°	January . . . . .	44°	30°
August . . . . .	35°	63°	February . . . . .	47°	26°
September . . . . .	27°	62°	March . . . . .	41°	34°
October . . . . .	41°	49°	April . . . . .	40°	45°
November . . . . .	46°	37°	May . . . . .	21°	52°
December . . . . .	49°	24°	June . . . . .	20°	67°

Annual range (max. 95°, min. 13°) 108°. Very unequable.

*Silver City, New Mexico.*  
Elevation: 5,880 feet (Medium altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	51°	71°	January . . . . .	56°	—
August . . . . .	55°	67°	February . . . . .	50°	—
September . . . . .	41°	62°	March . . . . .	49°	—
October . . . . .	54°	—	April . . . . .	33°	—
November . . . . .	53°	—	May . . . . .	32°	—
December . . . . .	56°	—	June . . . . .	32°	70°

Annual range (max. 92°, min. 13°) 79°. Not equable.

*Salt Lake City, Utah.*  
Elevation: 4,341 feet (Medium altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	20%	78°	January . . . . .	45%	28°
August . . . . .	21°	76°	February . . . . .	49°	20°
September . . . . .	17°	69°	March . . . . .	42°	31°
October . . . . .	39°	51°	April . . . . .	41°	47°
November . . . . .	47°	30°	May . . . . .	37°	55°
December . . . . .	56°	29°	June . . . . .	24°	67°

Annual range (max. 97°, min. 10°) 107°. Not equable.

*Pioche, Nevada.*  
Elevation: 6,220 feet (High altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	13%	75°	January . . . . .	55%	30°
August . . . . .	17°	74°	February . . . . .	55°	27°
September . . . . .	13°	69°	March . . . . .	45°	34°
October . . . . .	30°	51°	April . . . . .	41°	45°
November . . . . .	40°	38°	May . . . . .	16°	57°
December . . . . .	58°	30°	June . . . . .	15°	68°

Annual range (max. 95°, min. 13°) 168°. Not equable.

(d) HOT IN SUMMER. COOL IN WINTER.

*La Mesilla, New Mexico.*  
Elevation: 4,124 feet (Medium altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	46%	75°	January . . . . .	44%	47°
August . . . . .	38°	72°	February . . . . .	45°	42°
September . . . . .	34°	74°	March . . . . .	33°	54°
October . . . . .	48°	61°	April . . . . .	19°	61°
November . . . . .	36°	48°	May . . . . .	23°	71°
December . . . . .	38°	44°	June . . . . .	28°	79°

Annual range (max. 104°, min. 16°) 88°. Not equable.

*Red Bluff, California.*

Elevation: 338 feet (Low altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	31%	82°	January . . . . .	67%	44°
August . . . . .	31°	81°	February . . . . .	47°	46°
September . . . . .	34°	77°	March . . . . .	46°	50°
October . . . . .	48°	63°	April . . . . .	67°	56°
November . . . . .	63°	50°	May . . . . .	54°	65°
December . . . . .	73°	44°	June . . . . .	37°	76°

Annual range (max. 110°, min. 26°) 84°. Not equable.

*Umatilla, Oregon.*

Elevation: 3-4 feet (Low altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	44%	73°	January . . . . .	68%	34°
August . . . . .	35°	75°	February . . . . .	69°	41°
September . . . . .	40°	68°	March . . . . .	55°	52°
October . . . . .	47°	51°	April . . . . .	52°	67°
November . . . . .	74°	37°	May . . . . .	48°	67°
December . . . . .	73°	30°	June . . . . .	39°	67°

Annual range (max. 104°, min. 22°) 126°. Very unequable.

(3) Dryness and Equability.

WARM IN SUMMER. COLD IN WINTER.

*Winnemucca, Nevada.*  
Elevation: 4,345 feet (Medium altitude).

1879-80.	Relative Humidity.	Range.	1879-80.	Relative Humidity.	Range.
July . . . . .	18%	34°	January . . . . .	58%	20°
August . . . . .	19°	36°	February . . . . .	64°	22°
September . . . . .	17°	39°	March . . . . .	55°	24°
October . . . . .	43°	31°	April . . . . .	52°	28°
November . . . . .	60°	26°	May . . . . .	33°	28°
December . . . . .	70°	17°	June . . . . .	17°	35°

Mean summer temperature: 63°. Mean winter temperature: 33°.

(4) *Equability and Moderate Dryness.*

WARM IN SUMMER, COOL IN WINTER.

*Los Angeles, California.*

1879-80.	Range.	Relative Humidity.	1879-80.	Range.	Relative Humidity.
July . . . . .	32°	69%	January . . . . .	46°	70%
August . . . . .	44	77	February . . . . .	37	65
September . . . . .	54	74	March . . . . .	37	71
October . . . . .	54	71	April . . . . .	43	63
November . . . . .	48	59	May . . . . .	58	70
December . . . . .	46	74	June . . . . .	33	73

Mean summer temperature: 65°. Mean winter temperature: 43°.

(5) *Moderate Dryness and Moderate Equability.*

(a) WARM IN SUMMER, COOL IN WINTER.

*Morgantown, W. Virginia.*

Elevation: 902 feet (Low altitude).

1879-80.	Relative Humidity.	Range.	1879-80.	Relative Humidity.	Range.
July . . . . .	68%	32°	January . . . . .	67%	58°
August . . . . .	76	44	February . . . . .	62	68
September . . . . .	69	45	March . . . . .	65	51
October . . . . .	67	57	April . . . . .	57	53
November . . . . .	61	63	May . . . . .	60	50
December . . . . .	66	48	June . . . . .	71	43

Mean summer temperature: 68°. Mean winter temperature: 46°.

*Knoxville, Tennessee.*

Elevation: 980 (Low altitude).

1879-80.	Relative Humidity.	Range.	1879-80.	Relative Humidity.	Range.
July . . . . .	63%	36°	January . . . . .	73%	46°
August . . . . .	71	43	February . . . . .	64	57
September . . . . .	61	44	March . . . . .	64	43
October . . . . .	66	59	April . . . . .	53	57
November . . . . .	61	61	May . . . . .	50	51
December . . . . .	77	60	June . . . . .	62	44

Mean summer temperature: 71°. Mean winter temperature: 51°.

*Atlanta, Georgia.*

Elevation: 1,131 feet (Medium altitude).

1879-80.	Relative Humidity.	Range.	1879-80.	Relative Humidity.	Range.
July . . . . .	62%	32°	January . . . . .	76%	41°
August . . . . .	75	34	February . . . . .	58	43
September . . . . .	64	42	March . . . . .	62	43
October . . . . .	71	47	April . . . . .	63	50
November . . . . .	68	52	May . . . . .	64	12
December . . . . .	70	54	June . . . . .	60	31

Mean summer temperature: 70°. Mean winter temperature: 54°.

(b) HOT IN SUMMER, COOL IN WINTER.

*Corpuscular, Texas.*

Elevation: 445 feet (Low altitude).

1879-80.	Relative Humidity.	Range.	1879-80.	Relative Humidity.	Range.
July . . . . .	55%	33°	January . . . . .	67%	46°
August . . . . .	57	39	February . . . . .	62	53
September . . . . .	51	41	March . . . . .	60	61
October . . . . .	57	52	April . . . . .	59	56
November . . . . .	58	58	May . . . . .	68	43
December . . . . .	62	66	June . . . . .	67	33

Mean summer temperature: 79°. Mean winter temperature: 58°.

(c) HOT IN SUMMER, WARM IN WINTER.

*San Antonio, Texas.*

Elevation: 676 feet (Low altitude).

1879-80.	Relative Humidity.	Range.	1879-80.	Relative Humidity.	Range.
July . . . . .	51%	30°	January . . . . .	75%	42°
August . . . . .	60	34	February . . . . .	69	50
September . . . . .	59	40	March . . . . .	74	62
October . . . . .	59	50	April . . . . .	64	56
November . . . . .	59	56	May . . . . .	69	48
December . . . . .	66	62	June . . . . .	62	31

Mean summer temperature: 80°. Mean winter temperature: 62°.

(6) *Moderate Dryness — No Equability.*

(a) WARM IN SUMMER, COOL IN WINTER.

*Lynchburg, Virginia.*

Elevation: 646 feet (Low altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	66%	80°	January . . . . .	74%	43°
August . . . . .	71	75	February . . . . .	60	44
September . . . . .	70	63	March . . . . .	60	47
October . . . . .	69	62	April . . . . .	47	60
November . . . . .	65	47	May . . . . .	63	72
December . . . . .	72	45	June . . . . .	63	75

Annual range (max. 98°, min. 18°) 80°. Not equable.

(b) WARM IN SUMMER, COLD IN WINTER.

*Saint Paul, Minnesota.*

Elevation: 810 feet (Low altitude).

1879-80.	Relative Humidity.	Mean Temp.	1879-80.	Relative Humidity.	Mean Temp.
July . . . . .	68%	73°	January . . . . .	71%	26°
August . . . . .	67	70	February . . . . .	63	20
September . . . . .	65	57	March . . . . .	63	29
October . . . . .	61	57	April . . . . .	59	45
November . . . . .	66	32	May . . . . .	61	63
December . . . . .	66	11	June . . . . .	67	68

Annual range (max. 92°, min. 18°) 1.0°. Very unequable.

THE NECESSITY OF ADMITTING A VITAL PRINCIPLE.<sup>1</sup>

BY THOMAS DWIGHT, M.D.,

*Parkman Professor of Anatomy at Harvard University.*

To the student whose ideas of philosophy have been gained, not only from so-called popular science, but from the teaching of many men eminent for their knowledge, a vital principle seems useless, even absurd. In fact there is something comical in the surprise with which young men whose teaching has been solely materialistic learn that any one of any scientific attainment should presume to defend it.

I propose to show that it is reasonable and even inevitable to admit a vital principle, and this by three distinct arguments, each based upon observation.

The first is that in every living organism, vegetable or animal, something non-material is necessary to give the matter unity.

In a plant or animal we see a process of growth

<sup>1</sup> Read before the Boston Society of the Medical Sciences, April 28, 1888.

that is essentially different from mere increase of bulk. The organism does not increase as a whole, but each part increases at a different rate, depending on the needs of the individual and undergoing waste in some cases, while the whole is still growing. Not to spend time in giving examples, which are easily found, I would mention only the reproductive functions by which animals of the same kind as the parent are reproduced. Now it is evident that the living organism is one in a very different sense from that in which a heap of sand is one or a wave is one. You can add and subtract sand or water and the accumulation becomes larger or smaller, and in the same way the living organism can take in or give out matter without its oneness being disturbed. But what makes the animal one? It is clearly that principle which so regulates its nutrition that each part grows at its proper rate, aids the others, dwindles when its work is over, and, in short, forms a harmonious whole. Now there is absolutely nothing that we know of in matter that can bring this about.

The force of the spring that keeps a watch in motion has no power similar to that by which growth is determined, which in some animals leads to the perfect reproduction of lost parts and in all tends to repair injuries so as to maintain function. A recent example of this is the observation of Roux that the ankylosed bones of a knee had a new spongy formation suited to their new demands.

There certainly is some such power. It is found only in living organisms, and therefore has been named the vital principle.

The second argument is the theory of sensation. It seems from what we know of matter that it is impossible for it to feel. Let us suppose that an impression being made on each of a group of nerve cells each one enters into the impressed condition and feels the impression made upon it. Let it be said in parenthesis that it is entirely an assumption that the impression is tantamount to feeling, but supposing that to be the case it is evident each cell can feel only the impression made upon itself and can know nothing of the impressions made on its neighbors. It is as if each member of an audience heard one note of an air, or as if each element of the retina saw what came in the ray of light falling on it, and that alone. To say that the impressions are concentrated on a smaller group of cells does not help us out of the difficulty, for even if we finally brought the nerves to a single cell, even that cell, being extended, has parts, and each can perceive only the impression made on itself. Evidently, then, there must be a non-material unextended element which, governed by other laws, can feel the impression as a whole.

The third argument consists in the freedom of the will. We shall consider this solely in man, because the argument is based on our own consciousness. All we know of the laws of matter tends to show that a given cause, acting under similar circumstances, produces inevitably the same results. Were it otherwise, there would be no physical law. It has been asserted that man in the same way unconsciously follows the strongest impulse, but all that is needed to refute this is unprejudiced introspection. If we suddenly touch what hurts us we

instinctively withdraw the hand, but we know that by strength of will the shrinking can be overcome. A very striking example of the freedom of the will is the ability to choose to which of two sounds the attention shall be given. It is of daily observation that it is possible for us to direct the attention to a lecture while a band is playing or to neglect the lecture to listen to the band. We may even, by force of attention, become unconscious of distracting noises, even loud ones. Clearly we could not do so were material forces the only ones at work. Those who deny this maintain a proposition that every action of their daily lives contradicts. What sane man doubts that it is in his power to go up or down the street as he sees fit? If we deny the truth of our consciousness in this matter what possible criterion of certainty can we have? On what premises can we base any argument whatever?

I will now present a short extract from an address by Dr. Hammond, on the "Relations of the mind and the nervous system," published in the *Popular Science Monthly* of November, 1884. I do so because it is a typical specimen of much that unfortunately passes for science. He is at particular pains to state that by mind he does not mean soul: "With it (the soul), however, I conceive we have nothing to do, as far as science goes. Its very existence is a matter of faith in which, probably, most of us believe, but which is altogether beyond the limits of proof or even of investigation. There is nothing tangible about it. We should not know how to proceed to ascertain the existence of the soul." Dr. Hammond would do well to speak for himself; I submit that the preceding observations establish it perfectly. He states a little later that one "could not say that life is the soul, for if he did he would have to accord souls to all living beings, vegetable as well as animal. And if he declare that the mind and soul are identical, he would be obliged to admit that the 'beasts that perish,' and even the vine that creeps up the side of his house and finds out where the supports are situated around which it sends its tendrils, have souls which, if not as perfect as his own, are none the less real." Even so. There can be no doubt of it; but by using the word "soul" Professor Hammond makes what is perfectly true appear absurd to those of the modern school. I have purposely avoided the word and limited myself to showing that there must be a non-material principle. I do not intend to discuss in this paper the nature of the vital principle in the different orders of living beings, but merely to show that there is one.

Dr. Hammond commits here the error of assuming that he has made a *reductio ad absurdum* when he has done nothing of the kind; but we now come to a grosser blunder: "If the mind and the soul are identical, all these predisposing causes, if inherent in the parents, and which are capable of causing imbecility and idiocy in the offspring, are also capable of damaging the immortal soul that we believe God has given to every human being. The little piece of bone of a fractured skull that, pressing upon the brain, stupifies the mind, at the same time damages the soul; the congestion or inflammation of the brain that converts a man of giant intellect

into a maniac or a dement beyond a hope of cure, also irreparably ruins the soul, which, we are told, never dies; and which, if it exists, is doubtless far removed from the influence of bodily diseases or injuries."

One would be inclined to think that overmuch popular science had undermined the author's respect for his audience, for how else could he have ventured to commit such reasoning to the permanent keeping of type? If a wheel in the machinery is broken and, instead of producing, it destroys, we are then to infer that the steam is at fault. Or if bad butter is put into the cake, that the other ingredients are bad because the result is so. And this is what is palmed off upon us as science! The soul works through the body. If the instrument is diseased or imperfect it cannot work well; but what right has any one to say that the soul is injured? If dust is in the eye vision is disturbed, but it is the organ and not the sentient power that suffers.

## Reports of Societies.

### AMERICAN CLIMATOLOGICAL ASSOCIATION.

SECOND annual session, May 27 and 28, 1885. Held at the Academy of Medicine, New York.

Afternoon session, May 28th. The President, A. L. Loomis, M.D., in the chair.

#### THE PRESIDENT'S ADDRESS.

After briefly referring to the general purposes for which the Association was formed, the President said that he advocated a broader scope of work, and would include observations as to the influence of climate upon the vascular system and the therapeutic value of our mineral springs. It was hardly necessary for him to review the attention which had been given to the therapeutic value of mineral springs in Europe; it was evident from the benefit derived from them that they were either superior to those of our own country or that the profession there knew better where to send their patients. Dr. Loomis felt convinced from a careful study of the subject that neither the climate nor the mineral waters at these health resorts in Europe were superior, as a rule, to those of our own, and that the greater benefit which patients derived from them was due to a better knowledge on the part of the medical profession of their therapeutic effects. It was only within a few years that we had made any systematic attempt to determine the value of our mineral springs and the influence of their climate.

Dr. Loomis advocated the building of sanatoria at mineral springs and other health resorts where the poor might experience their advantages without undue expense. The practicability and value of this suggestion was illustrated in the sanitarium built in the Adirondacks where many consumptive patients resorted for their health. The cottage form had there been adopted, and so arranged that additions could be made from time to time to meet increased demands. The buildings were situated in a suitable locality where there was sunshine, a sandy soil, and other conditions promoting a dry atmosphere. It was not difficult to get a number of benevolent

people in the neighborhood to take an active interest in the undertaking, and there were those who would give medical aid. The cost at present at the sanitarium in the Adirondacks was five dollars a week. Dr. Loomis asked if we were not justified in hoping that in the near future this Association would become the centre of information concerning the therapeutics of the respiratory organs, and with this object in view he suggested that medical politics and extraneous matters be excluded, and that it be made a truly scientific society.

A few words with regard to the aetiology and morbid anatomy of pulmonary phthisis, and its climatic treatment. Whatever conclusions might finally be reached concerning the exact cause of the different varieties of phthisis, he thought that clinically we might speak of the disease as acute or chronic. Tubercle might, or it might not, be the primary lesion, but it was usually present in the advanced stage; he was not prepared to say that tubercle was the primary lesion in all or in very many cases; when it was not the primary lesion there was a preceding condition which prepared the ground for the development of tubercle. If it should be shown that phthisis had its origin in infection, clinical observation still showed, he thought, that there must be a preparatory change in the lung tissue before the infective element could be received. Both experiment and observation seemed to show that bacilli, whether developed inside or outside of the body, could not thrive unless certain favorable conditions were present. The crucial test regarding the aetiology must be a clinical one. By this standard there were three factors which might be regarded as preparatory to the phthisical infection, if an infection should be found to exist: First, a stage of constitutional feebleness which diminished the resisting power of the individual and rendered him abnormally susceptible to diseased process; second, a condition of the upper portion of the lungs marked by feebleness and slowing of the circulation; third, the establishment of a localized inflammatory process in the bronchi, lung substance, or pleura.

Dr. Loomis thought that no one would question that the treatment of phthisis which was attended by the best result was that which had for its object the invigorating by every means possible the general health, and avoiding those conditions which favored local pulmonary induration. A suitable climate acted therapeutically to arrest the phthisical process in two ways: First, by its invigorating effect on the general system and improving nutrition; and second, by its effect on the diseased lung in a way to prevent or arrest the diseased process. Dr. Loomis then asked the question: What are we to understand by the term "climate"? and said that to assume that any particular climate exercised a specific influence upon phthisis was absurd. That certain climates, however, were better for the phthisical than others was beyond doubt, but as to what climatic constituents made the difference there was great diversity of opinion, a fact which constituted one of the fundamental difficulties in the climate problem. Purity of the atmosphere and consequent freedom from germs seemed to Dr. Loomis the most satisfactory solution of the vexed problem of climatic influence. Purity of atmosphere had the thera-

peutic value of elevated regions, but all elevated regions did not have purity of atmosphere. Moisture favored phthisis, and a moist atmosphere was laden with germs; dampness was due largely to the peculiarity and formation of the soil; it existed in all clay regions. Frequent showers undoubtedly purified the atmosphere where the soil favored free drainage. The air of a locality might not be impure if ozone were absent, yet the presence of ozone was presumable evidence that the air was optically pure.

Dr. Loomis was convinced from many observations that the tubercle bacillus was always present in the sputa of patients in whom the phthisical process had advanced to a recognizable stage, and the question would naturally arise, if they were promotive of the phthisical process, how might their entrance into the lungs be avoided, or, if inspired, how might their increase be best prevented. But clinical observation had not shown that inhalations diminished their number; if inhalations were beneficial, the effect was wrought upon the mucous membrane of the upper air-passages, and not upon the diseased lung substance. But that there was some intimate connection between the development of phthisis and atmospheric impurities clinical observation seemed to have proved, but as yet bacteriology had not determined what one of the many minute organisms which had been described, or which existed, was the cause of the trouble. Dr. Loomis mentioned some cases which went to prove that the tubercle bacillus disappeared from the sputa of the phthisical patient because of a change to an atmosphere unfavorable to the bacillus and where the patient's condition improved.

Dr. Loomis advised the trial of a station near the patient's home, before going a long distance in search of a climate favorable for the consumptive, especially so in the active stage, and he would never send a patient with advanced phthisis far from home in search of health. If a given place were found advantageous, let the patient remain there until well advanced toward recovery or until recovery was complete.

"The Climate of Mexico," by H. D. Didama, M.D., was read by title.

#### ANTISEPTIC INHALATIONS.

Dr. BEVERLEY ROBINSON, of New York, read the paper, which he said was based upon clinical observations. He believed that inhalations were useful, notwithstanding any theories to the contrary. He would not limit his remarks solely to the value of inhalations in phthisis. The facts in favor of the practice were as follows: (1) The inhaling apparatus costs but little; (2) it might be used where hot or cold sprays were impracticable; (3) there was no risk of future exposure to colds attending its employment; (4) the relief afforded by dry inhalations was frequently greater than that afforded by other methods of inhalation; (5) it was adapted to all forms of disease of the respiratory tract. There was but one serious objection to its use, namely, it was claimed that the vapors of volatile and antiseptic substances did not penetrate far enough to reach the pulmonary cells. A sufficient answer to this objection was the fact that patients after using the

inhalations for some days or weeks say that their subjective symptoms have been relieved, that the sputa has been diminished in quantity and at times notably changed in appearance. Again, Dr. Robinson said that dry inhalations did penetrate farther than the spray for which they were substituted, and he thought they permeated to some extent the air-cells. Besides, from his observations he was led to believe that the chief lung area from which cough proceeded was the apex.

Proceeding to his clinical experience, Dr. Robinson had employed inhalations altogether in seventy-six cases, twenty-two of which were cases of phthisis; the others were divided among bronchitis, laryngitis, laryngeal phthisis, nasal catarrh, etc. The substances employed for inhalation were, alcohol, creasote, compound tincture of benzoin, firwood oil, chloroform, turpentine, the volatile oils, carbonate of magnesium, etc., either singly or in combination. The most useful inhalation in beginning phthisis was creasote and alcohol in equal parts, from ten to twenty drops being employed two or three times in the twenty-four hours. Ten minutes was the usual length of time of inhalation, although half an hour might be occupied. The best and cheapest inhaler was made of perforated zinc.

The results which he had observed were, that the patients experienced less difficulty in breathing, their cough was improved, the sputa diminished in quantity, they were better able to sleep, and their general condition was likely to improve; one patient gained in weight. As to the influence of the inhalation upon the tubercle bacillus, he had not made special observations. In one instance his house physician noticed an equal number of the bacilli before and after the use of the inhalation. Notwithstanding the patient's rational symptoms were improved, taking all of the cases into consideration, firwood oil had proved of greatest benefit.

Dr. F. C. SHATTUCK, of Boston, said that some years ago he employed carbolic acid in some of these cases, but the patients found its inhalation to be extremely disagreeable. Perhaps he used it too strong, and under other circumstances the patients may have taken more kindly to it. Certainly it was very desirable to give something which would allay cough, for cough constituted hard work even for a healthy person. It would be of special advantage if it would enable us to dispense with opium. The observations which had been made with this method of inhalation which showed that two thirds of the substance employed could afterward be found still remaining in the sponge, gave reason to suppose that very little of it reached the lung tissue, and would tend to throw distrust upon the treatment.

Dr. REED asked whether ether and cocaine had been employed by Dr. Robinson. Cocaine applied to the larynx would tend to relieve cough.

Dr. KRETZSCHMAR, of Brooklyn, thought from Dr. Robinson's own conclusions that it could not be claimed that the air-cells had been affected by the substance inhaled.

Dr. WESTBROOK thought the benefit observed could be referred to two influences: first, the favorable influence upon the upper respiratory mucous membrane of an atmosphere kept constantly at an

equable temperature. Besides, the balsamic vapors which were usually employed, if used for a time, had a soothing effect upon the mucous membrane and tended to allay irritation of the upper air-tract where cough generally had its seat of excitement. Allaying cough, the patient got more rest, slept better, and gained in bodily condition. Again, cod-liver oil, malt, etc. had been administered. He did not think that irritation at the apex of the lung was more likely to produce cough than irritation of any other portion of the lung.

The PRESIDENT remarked that the violent paroxysms of coughing in phthisis were very commonly the result of pleuritic adhesions, both in stages where but few physical signs might be present and in the advanced stage. His experience with inhalations led him to believe that they did good so far as they acted as anodynes to the upper air-passages, and no farther. He perhaps was prejudiced against them, for his experience had been unfortunate; they had in several instances been followed by profuse hæmoptysis.

DR. ROBINSON, in closing the discussion, said he had on one or two occasions employed ether, but it seemed to be irritative. He had not employed cocaine in this manner because he could not see how it could be of any benefit.

#### CATARRHAL AFFECTIONS OF THE NASAL CAVITIES AS A CAUSE OF PULMONARY PHTHISIS.

DR. W. C. JARVIS, of New York, read the paper, and said he might add to the title, "With special reference to heredity." He first directed attention to the views of Koch and others who had pointed out the conditions which most favored the development of the tubercle bacillus, and said that, in his opinion, that state of the upper air-passages which existed in catarrhal affections, and was brought about by conditions which he would proceed to mention, best fulfilled the conditions indicated. Dr. Jarvis then referred at considerable length to views which he had previously published, concerning the effect of the nasal mucus in disease upon the laryngeal mucous membrane, to the causes of nasal catarrh, and especially to the influence exerted in its production by deflection of the nasal septum, and to heredity as a cause of said deflection. His opinion, in short, was that marked abrupt elevation of the central portion of the arch of the palate, which was likely to be hereditary, was a frequent cause of deflection of the nasal septum.

DR. REED had been interested in the paper, but he could not regard it as demonstrated that there was any marked causative relation of nasal catarrh to pulmonary phthisis.

DR. ROBINSON did not wish to criticize the paper, but he thought the title was hardly a suitable one. He would leave off the latter portion of it, "as a cause of pulmonary phthisis." He had not been able to trace pulmonary phthisis to catarrhal affections of the nose.

DR. GOODWILLIE, of New York, had seen and modeled a great many mouths, but, as to the height of the palate, it might be only apparent; the alveolar regions might be fuller, making the palate seem very high.

DR. JARVIS closed the discussion, and said he

thought it was unnecessary for him to offer proof of the connection between nasal catarrh and pulmonary phthisis. It was spoken of by Niemeyer and Billroth, and he supposed it was generally conceded. As to the form of the palate referred to, he directed Dr. Goodwillie's attention to the fact that it was the abrupt elevation of the central portion which caused displacement of the nasal septum.

DR. ROBINSON remarked that he was not aware that either Niemeyer or Billroth were much in the habit of looking into nostrils.

(To be concluded.)

#### CHICAGO MEDICAL SOCIETY.

REGULAR stated meeting, February 2, 1885; Dr. STEELE in the chair.

A paper upon

PEROXIDE OF HYDROGEN AS A MEDICINE: ITS USE IN AURAL AND OPHTHALMIC PRACTICE

was read by DR. BOREUS BETTMAN.

He stated that the antiseptic measures introduced by Lister had been applied in aural therapeutics and marked the era of rational medication. Carbolic acid, although highly satisfactory as a cleansing agent, could not be applied as a germicide. A five per cent. solution could not be tolerated by the sensitive mucous membrane. The boracic-acid treatment was alluded to as finding many advocates and it had well sustained the severe tests to which it had been subjected.

Bichloride of mercury and iodoform were next dwelt upon, and the happy results achieved by their use. He then spoke of peroxide of hydrogen as a remedy efficient and useful in cases where a number of other antiseptic remedies had failed to perform their work. This article was discovered by Thenard in 1818, and introduced into medical literature by Dr. B. W. Richardson, of London, in 1855. It soon fell into disuse and had apparently become entirely forgotten, but lately it had been reclaimed to the medical world by the unceasing labors of Dr. Collin, of various Parisian surgeons, and of Dr. A. W. Harlan, of this city. The remedy has been principally employed by dentists in the treatment of alveolar abscess.

Few allusions have been made to it in ophthalmic and aural literature. The usual method of preparing pure peroxide of hydrogen is by decomposing peroxide of barium with hydrochloric acid. In its pure state it is a colorless, syrupy liquid of a slightly bitter taste, and possesses a faint odor of chlorine. Its specific gravity is 1.455. It is a highly unstable compound and rapidly decomposes when exposed to air by liberating its oxygen. Regarding its value as a therapeutic agent it is due to this property substantially. M. Mignel, of the *Observatoire de Montsouris*, in his comparative table presenting the relative value of the various antiseptics, places peroxide of hydrogen at the head. The reader then gave some observations he had made with the microscope of its action on pus. The pus corpuscles and bacteria are put into lively motion, when a drop of the "peroxide" is allowed to flow under the cover of the glass. Small gas-bubbles, with the liberated nascent oxygen, are now evolved. The pus corpus-

cles lose their spherical form, shrink, assume a crescentic shape, and become "heaped" as a mass of detritus. The bacilli are affected in a similar manner. In a few seconds they are transformed into a dead mass, intermixed with the decomposed pus corpuscles, and surrounded by seething bubbles of gas.

**Therapeutical action.** The therapeutical action of peroxide of hydrogen has been explained as follows: When it comes in contact with pus, the extra oxygen it contains is liberated so rapidly that the hydrogen and sulphur of the tissues immediately combine, resulting in  $H_2 SO_4$  in small quantities, sufficient to glaze the pus-producing area, thus affording an opportunity for the exuding protoplasmic material to organize into new tissue. The remaining unsatisfied atoms of oxygen quickly distend the pus sack and force out the contents. The writer has used the remedy in more than thirty cases of otitis media purulenta, by employing a preparation containing twelve volumes of the gas according to the following method: The parts are thoroughly cleansed with tepid water, then dried with absorbent cotton, after which eight to twelve drops of the remedy are instilled into the ear; contact with pus and diseased tissues sets free the oxygen as visible bubbles, which, united with the expelled pus, forms a seething, frothy mass. Patients rarely complain of pain. After cleansing the parts the mucous membrane is seen to have assumed a milky-white appearance. The liberated gas enters the most hidden and remote recesses of the middle ear, forcibly dislodging the decomposing material, and destroying bacteria embedded in the tissue. If the perforation is small, the remedy can be injected directly into the middle ear. It has also been successfully used in the treatment of dacryocystitis and in one case of chronic trachoma which had run its course, but where there still remained a mucoid discharge.

Five cases of dacryocystitis yielded to the peroxide of hydrogen, after having been subjected to the routine medication of carbolic acid, astringents, introduction of Bowman's probes, gelatine bougies, etc. etc.

In the discussion, DR. R. TILLEY stated that he had seen the peroxide of hydrogen solution used by Pagné, of Paris, as a spray in ovariectomy, and also by Landolt in dacryocystitis, but saw no manifest advantage from its use that should entitle it to preference over certain well-known and well-tried remedies, such as the solution of permanganate of potassa. In observations with the preparation it was of considerable importance to ascertain to what factor of the peroxide solution the alleged virtue was attributable; the peroxide of hydrogen solution is rendered more permanent by virtue of an acid, and the acid used is sometimes hydrochloric, and sometimes sulphuric acid; the former being more generally used. The quantity of acid is very small, but small as it is, it may have considerable influence. Minute quantities of sulphuric acid may have very deleterious effects in certain cases. The best test for the presence of the peroxide in solution is a crystal or two of permanganate of potassium.

DR. W. W. ALLVOIR had used the remedy in treating alveolar abscesses and pulpless teeth, by

filling the cavity of a tooth with the solution; effervescence occurs and assists the cleansing of the cavity.

DR. J. S. MARSHALL has treated burrowing abscesses, when for obvious reasons he did not wish to make an external opening, by injecting a solution freely into such a cavity; the relief was, in his experience, much more rapid and satisfactory than with other agents.

DR. G. NEWKIRK had used it in cases which were not blind abscesses and obtained satisfaction. He found it difficult to obtain reliable specimens of the substance and to keep it perfect.

DR. BETTMAN acknowledged that it does not keep well, and that it is of importance to obtain a reliable article. He felt sure that the effect on the pus was due to the liberation of oxygen when it came in contact with the pus and its associated products.

#### MISSED ABORTION.

DR. P. O'CONNELL reported a case that he had treated, and then exhibited the pathological specimen, which consisted of a placenta and two foeti enclosed in the membranes, and having the appearance of a mummified-looking mass. It was about the size of a man's closed fist, and when expelled had a most sickening stench.

The patient was aged twenty-six, and had one child two years old. Three months after her last confinement the catamenia reappeared and continued regularly for some months, when this function ceased. In addition, the other usual symptoms of pregnancy were present. Three months from the commencement of pregnancy the patient fell, striking rather heavily on her hands and knees. A slight sanguineous vaginal discharge lasting a few hours followed. After this the abdomen, which had become considerably enlarged, slowly diminished to normal size, and her health slowly but steadily deteriorated. She had almost constant aching with occasionally severe pain, and a sensation of "going to sleep" in her left leg was experienced. Nor could she lie on her left side.

Careful palpation of the hypogastrium gave no evidence of uterine enlargement. The left inguinal region was tender on deep pressure. Upon making digital examination, *per vaginam*, the finger met the uterus fully an inch lower than normal with the os and cervical canal so patent as readily to admit the index finger. The anterior segment of the cervix was thickened. On bimanual examination the uterus was found a little enlarged but in no wise sensitive.

The sound penetrated to a depth of two and one-half inches and to the left. There was no hyperæsthesia of the vagina, although its mucous membrane was congested. The cervix was congested and bled readily and freely. She had but a slight leucorrhæal discharge, which had no odor. Ergot and strychnia were prescribed. Soon after the first dose had been taken uterine contractions set in, ending in the expulsion of the mass, which had doubtless lain free *in utero* for three months. On close questioning the patient said that during August, which was extremely hot, she felt very cold during the night, so much so as to require heavy bedcoverings to keep warm. That she had frequent chills, and

once she had a well-marked rigor. These symptoms, with itching, an erratic rash on the the skin of the lower abdomen and back, general *malaise*, and slowly increasing debility, clearly point to the absorption of septic matter from the cavity of the uterus. The pain in the left lower extremity was due, of course, to the dead weight of the uterus on the branches of the sacral plexus of nerves.

A paper on the

#### TREATMENT OF CHRONIC BRONCHITIS AND ASTHMA WITH APOMORPHIA

was next read by DR. G. W. WEBSTER, who reported two cases he had treated with this remedy with much satisfaction, that did not yield to any other form of treatment:—

CASE I. MR. G., a native of England, thirty-four years old, married, and by occupation a carpenter. Had been in the United States about two years and three months. During the past summer, and especially at night, he suffered severely from spasmodic coughing. In December last, after trying many remedies, he had a severe cough with aggravated symptoms of asthma, and he had been for some days confined to the house and most of the time he was in bed. Apomorphia, in one-twentieth grain doses every three hours, was given him. After one day's treatment he passed a comfortable night. The remedy was then increased to one tenth of a grain three times a day, and the second night he rested well. The remedy was continued for two days longer, when he ceased taking it. The attacks recurred again but with much less severity; the drug was renewed three times a day for two weeks. He was able to be out and resumed his work most of this time, and the remedy was discontinued about four weeks ago, since which time there has been no return of the spasmodic coughing spells nor of the asthma.

CASE II. B., aged fifty-eight; laborer; has had chronic bronchitis with asthma every winter for many years. When called to see him a few weeks ago, found him suffering greatly from dyspnea; there were present râles over his entire chest. His face and hands presented a cyanotic appearance and he was gasping for breath. Gave the patient apomorphia, one twentieth of a grain every three hours. The subsequent day the patient was considerably relieved, and in another twenty-four hours he could breathe freely. The drug was continued a few days longer, in one-tenth grain doses *ter in die*; after which it was discontinued, and the patient has remained much better than for a long time.

DR. C. T. FENN reported an interesting case of "frostbite," and referred to the mismanagement of the case when first discovered, in which those who attempted to render assistance by rubbing with very cold snow and ice were also in danger. This portion of his paper related more particularly to errors committed by the laity in often using a valuable remedy injudiciously before the arrival of a physician.

The last three papers were briefly discussed mostly in the form of general remarks and conversation.

DR. R. E. STARKWEATHER presented to the members present a number of bound volumes of the Sixth Annual Report of the Illinois State Board of Health.

The Society then adjourned.

#### NEW YORK STATE MEDICAL ASSOCIATION.

##### FIFTH DISTRICT BRANCH.

SCIENTIFIC meeting, held at Poughkeepsie, May 19, 1885.

The President, DR. J. C. HUTCHINSON, of Brooklyn, not being able to be present, DR. J. G. PORTER, of Poughkeepsie, was called to the chair.

DR. JOSEPH D. BRYANT, of New York, read the first paper, on

#### THREE CASES OF LIGATION OF THE EXTERNAL CAROTID, IN TWO OF WHICH BOTH VESSELS WERE TIED SIMULTANEOUSLY.

The first of these ligations was in a case of aneurismal tumor situated in front of the left ear, of traumatic origin, but the relief was only temporary, and other measures had to be subsequently adopted for its cure. The other two operations, in which both the external carotids were tied simultaneously, were undertaken for the starvation of malignant growths. In the first of these cases there was an anomalous arrangement of the external carotid and its branches, the importance of which was not appreciated by Dr. Bryant at the time, and the patient, through the carelessness of the attendant, who did not discover the accident until too late, lost his life from hæmorrhage from the facial artery by reason of a slough at the seat of disease. In the other instance the operation had the effect of satisfactorily arresting the rapidity of the growth of the carcinoma.

The conclusions arrived at by Dr. Bryant were as follows:—

(1) That ligation of the external carotid artery, with independent ligation of its branches arising from the first inch of its trunk, is a safe and commendable operation.

(2) That when the facial and lingual arteries do not arise singly or by a common trunk from the first inch of its course, the branches arising at the bifurcation should be tied.

(3) That a simultaneous ligation of the external carotids is a rational preparatory measure to operations involving the parts supplied by their branches, when dangerous hæmorrhage is feared.

(4) That simultaneous ligation is advisable to diminish the rapidity of the development of extensive malignant growths when nourished by the branches of the external carotid.

(5) That the ligation of one or both external carotids for the cure of aneurismal formations of the branches of the same is not warranted as an independent measure.

(6) That ligation of the common carotid should not be done for the cure or for the arrest of morbid conditions involving the external carotid with its branches, except as a final resort.

DR. S. J. MURRAY, of Brooklyn, read a paper on

#### DIPHTHERIA AND ITS TREATMENT BY CALOMEL.

In 1857 diphtheria made its appearance almost simultaneously in England and in the extreme western part of the United States, and from that time had continued to appear in the form of epidemics of greater or less extent and severity, in the most varied climates and seasons, in almost all known parts of the globe. In regard to the epidemic, and

occasionally endemic, nature of the disease, he said, the evidence was plain; but it was still an open question as to how far it possessed contagious and infectious properties. That it was transmitted directly by contact with the morbid products generated by the local disorder he did not himself doubt. Its prevalence, and especially its virulence, was favored by defective drainage and contaminated air, and by the drinking of impure water. It was certain, however, that occasionally diphtheria appeared in a sporadic form, and that isolated cases sometimes occur which could be traced to no known cause whatever.

The large mortality in this disease, the death-rate sometimes running as high as fifty per cent., he thought, indicated that the best plan of treatment had not yet been adopted for it. He considered that the diphtheritic poisoning was effected in some way long before the disease was recognized by its local manifestations, and that it destroyed life, not by its local, but by its constitutional, effects. The remedy to which he wished to call special attention in connection with diphtheria was calomel. He was aware that it had already been employed to some extent in the disease, but it had been pretty generally condemned, he thought, as a dangerous agent. It was not, however, the legitimate use, but the abuse, of it, he believed, which had been followed by unpleasant effects. Dr. Thallon, in the paper read before the King's County Medical Society, in which he advocated the bichloride of mercury treatment, said that when the patient's bowels were constipated he gave the mild chloride. Might it not be that the success which he had reported was in part due to the latter? While others had used calomel for diphtheria, he knew of none that had used it in the same quantities that he had done. He did not adopt this plan of giving calomel in large doses, he said, until he had exhausted all, or nearly all, of the remedies prescribed by various authors, and when he commenced with it he resolved that he would give it a thorough trial.

Dr. Murray then reported in detail a number of cases in which he employed it, to show his plan of treatment. Thus, to a girl of ten years he gave ten grains of calomel, and to a boy of eight, eight grains of calomel, every four hours. He said that he always gave it dry, since when thus administered more or less of it lodged upon and around the membrane, acting as a solvent, and preventing its extension. He had never seen hemorrhage after the removal of the membrane, or the formation of a second membrane. Although the calomel acted as a sedative, it did not produce mercurialization or leave any unpleasant after-effects.

In the discussion which followed the reading of the paper, Dr. ALFRED L. CARROLL, Secretary of the State Board of Health, said that unquestionably the cases reported by Dr. Murray recovered after the administration of calomel, but in listening to the paper a doubt had arisen in his mind as to whether the calomel was in reality the efficient agent in their cure. In the first cases described the sanitary condition of the premises was very bad, and the first thing that the speaker did was to remedy this. Now diphtheria was generally recognized as a

filth disease, and it was a fact that a large number of cases would recover without any medicinal treatment whatever if they were placed under good hygienic surroundings. Again, with the calomel, stimulus and nourishment were very freely given, and he had personally seen cases which recovered very rapidly under the use of stimulus and nourishment alone, without anything more in the way of drugs than an occasional dose of quinine. Fresh air, stimulus, and plenty of food were very potent factors in the successful treatment of diphtheria, and when these are all made use of it was not quite clear, he thought, how far the calomel had assisted in securing the good results noted. There were two other things which he had especially noticed in regard to diphtheria. The first was that the amount of exudation bore no positive relation to the severity of the disease in any given case; and the second that, in his own experience, at all events, the most rapidly fatal cases were those in which the temperature never rose above the normal, or, if it did so, soon became reduced.

Among the others who took part in the discussion was Dr. Greene, of Buffalo, a delegate from the Fourth District Branch Association, who spoke in terms of the highest recommendation of the local use of a solution of persulphate of iron, applied in the form of a spray, in addition to appropriate constitutional measures.

Dr. R. C. VAN WYCK, of Hopewell Junction, Dutchess County, read a paper on the

#### TREATMENT OF CEREBRAL HÆMORRHAGE AND EMBOLISM BY THE INTERNAL USE OF CARBONATE OF AMMONIA.

He first gave a detailed history of two cases in his practice illustrating the method of treatment which he had adopted, after which he stated that the advantages which he claimed for it were the following:—

(1) As a diffusible stimulant to the general circulation, relieving the anæmia which is present in the brain, increasing the cutaneous circulation, and inducing perspiration, in this way relieving intracranial pressure.

(2) By its direct action in dissolving the clot. The only agents which possess this property are the alkalis, and the most efficient of these is ammonia.

(3) In the œdema and congestion of the lungs so often seen in apoplexy the use of this salt will frequently relieve the condition, partly by its stimulating action on the terminal capillaries, and also by its expectorant action on the bronchial mucous membrane.

(4) By keeping up the alkalinity of the blood and preventing further thrombosis.

He said that he did not claim for this drug a specific action, but only that it was of service as an efficient auxiliary to the use of other measures. The following he suggested as the proper order of treatment in cases of cerebral hemorrhage:—

(1) To endeavor to control the prodromal symptoms, which threaten an attack of apoplexy, by prompt venesection and catharsis.

(2) To relieve the period of reaction after paralysis has taken place by arterial sedatives, preferably aconite.

(3) To remove the exudation, relieve cerebral anæmia and pulmonary congestion, and prevent further thrombosis by the use of carbonate of ammonia.

(4) To support the system by nourishing, but unstimulating diet, and by remedies which specially nourish the brain tissue, such as lacto-phosphate of lime, cod-liver oil, and phosphide of zinc.

(5) To increase the muscular development by massage, frictions, electricity, and strychnia.

The carbonate of ammonia, he said, should never be given in cerebral hæmorrhage until the period of reaction had fully set in, say in from ten days to two weeks. It should then be given continuously for at least a month, or until the retrograde changes in the clot were accomplished. In thrombosis and embolism, if the diagnosis could be clearly made, it was to be given at once. The dose employed by him was five grains, three or four times a day, and it was given in half an ounce of liquor ammoniac acetatis. He said there was one class of cases of cerebral hæmorrhage in which the carbonate of ammonia had not acted well in his hands, namely, when the condition was associated with interstitial nephritis and hepatitis. Here he had had good results from the use of sodium phosphate, in doses of from twenty to thirty grains, given, in the infusion of dandelion, three times a day after meals, and of bichloride of mercury in doses of one twenty-fourth of a grain, given (sometimes combined in a pill with digitalis and squill) before meals. At the end of the paper Dr. Van Wyck read a letter from Prof. Roberts Bartholow in regard to the utility of the carbonate-of-ammonia plan of treatment, in which he stated that there was a class of cases in which he had seen the most admirable results, namely, cases of thrombosis of cerebral vessels due to chronic arteritis. Embolism of the brain secondary to lesions of the cardiac valves, he said, was another condition in which the same treatment was very effective.

Dr. C. S. Wood, of New York, read the

REPORT OF A CASE OF METASTASIS OF ACUTE RHEUMATISM FROM THE SHOULDER AND ARM TO THE MENINGES OF THE BRAIN, RESULTING FATALY.

The rheumatic attack referred to was in a patient thirty-eight years of age, who had inherited a strong rheumatic tendency, and was treated first with salicylate of soda, and afterward with alkalies in full doses, morphia being also administered from time to time, as occasion required. Eight days from the commencement of the illness the metastasis took place, and the fatal result rapidly ensued. Toward the last the temperature went steadily up, until it finally reached 106° F. It was impossible to obtain an autopsy in the case. Dr. Wood said that in his professional career he had met with a number of similar cases, though the most of them occurred while he was serving as a surgeon in the army. In conclusion, he quoted the opinions of various standard authorities upon this subject.

The last paper was read by Dr. J. G. PORTEOUS, of Poughkeepsie, and was on

HYPERTROPHY OF THE PROSTATE GLAND.

Personally, he said, he had had but little experience except with the senile variety of the trouble,

which was by far the most common. The administration of drugs had no effect in reducing the size of the enlarged prostate, and he believed that the best treatment was the early use of the soft catheter, which should be passed at least once in every three or four days. By this means it was possible to avert or greatly postpone the distressing symptoms so often met with in this condition; but if a case were left too long without treatment there would almost inevitably be great difficulty in its management. There was one important lesson which he had learned in connection with this affection, and that was the great danger of completely emptying the bladder. Formerly he used to do this, but the results had more than once been so disastrous that for a long time he had employed the plan of gradual evacuation. When this was practised there was seldom any blood, and the quantity of pus was much less, while the patient lived longer, and got along with less suffering than he would otherwise. When there was very great irritation present it was advisable to resort to the aspirator until this had been sufficiently allayed to permit the use of the catheter. While this was not necessary in ordinary cases, he believed that the aspirator would in the future be more often used in connection with hypertrophied prostate than it was at present.

Dr. J. W. S. GUTLEY said that the idea of gradual evacuation of the bladder in these cases had been first suggested by Sir Benjamin Brodie, and Dr. Porteous, by careful observation, had arrived at the same conclusions as that great master. Young practitioners are always anxious to see the last drop of urine, and he said he could relate a dozen cases that he knew of in which death had resulted from the complete emptying of the bladder. Caution in this regard was, then, the principal practical point that was impressed in the paper of Dr. Porteous. Another point to which he should like to call attention was the existence of incontinence of urine in connection with enlarged prostate. Hypertrophy of the prostate was not a single entity, but consisted of a number of entities. At the present day we could determine what form of hypertrophy was present, and this knowledge guided us in the selection of the proper instrument to be used. He said he agreed with the author of the paper that, as a rule, the vulcanized rubber catheter was the best, particularly for patients to pass themselves; but cases were met with from time to time in which it was not possible to enter the bladder with it, namely, those with intra-urethral hypertrophy, with a zigzag course of the urethra, and perhaps a bar at the neck of the bladder. Here the metallic flexible elbow catheter of Mercier was required.

When there was a false route, Mercier's invaginated catheter was invaluable. With this instrument Dr. Gutley said he had never failed to get into the bladder, and since he had been in possession of it he had entirely discarded the use of the aspirator. Every man who had enlarged prostate, he went on to say, did not have retention. On the contrary, the patient might have incontinence, which was not to be confounded with the dripping of an overflowing bladder. He next spoke of the importance of the surgeon's being on his guard against the possible stoppage of the orifice of the catheter

by a blood clot, and, finally, he condemned the use of cocaine, which was recommended by Dr. Newman in painful cases. It was highly desirable, he thought, that the surgeon should have the sensations of the patient to guide him,—otherwise there was danger of making a false passage,—and the skilful catheterist, having made a careful diagnosis and selected the proper instrument, would not be at all likely to give pain.

### Recent Literature.

*The Invalid's Tea Tray.* By SUSAN ANNA BROWN. Author of *Forty Puddings*. Boston: James R. Osgood & Co. 1885. Pp. 67.

When the doctor is asked what *shall* we give our invalid to eat he is often at his wit's ends to supplement the efforts which have been already made by the nurse and family. This little book contains suggestions which will make many an anxious watcher bless the author for her thoughtfulness, and will relieve the doctor from the puzzling question. The book is dedicated to the family physician "whose genial visit in itself combines the best of cordials, tonics, anodynes."

A sort of preface consists of hints which are well worth repeating, if space permitted; though, doubtless, many an individual, who would never carry them into practice, would say: "Why, of course, everybody knows that."

The recipes themselves seem praiseworthy, but we prefer the formula for limewater of the U. S. Pharmacopœia to that of the "Tea Tray." The latter directs that it shall stand over night to settle, but does not refer to the effects of long exposure of limewater to air laden with the products of respiration.

*The Refraction of the Eye. A Manual for Students.*

By Gustavus Hartridge, F.R.C.S. With eighty-seven illustrations. 12mo. London: J. & A. Churchill. 1884. Pp. 199.

We have read this little book with interest. It seems adapted to be of very considerable advantage to the student in the study of the principal facts regarding the refraction of the eye and the means of determining and correcting its errors. Facility in accurate estimation of errors of refraction can, as the author justly observes, only be acquired by the practical working out of a large number of cases, and, we may add, by a more thorough study of the theory than the scope of the manual affords. As an introduction it will prove of much value. The first chapter (fifteen pages) is given to the statement of certain elementary principles of optics. Only great haste or carelessness can account for the statement made on page 5 under the head of "Reflection from convex mirrors": "The principal and conjugate foci are always on the same side of the mirror as the luminous point, while the visual focus is always on the other side of the mirror," in direct contradiction as it is to sentences immediately preceding. At the beginning of the next chapter we are surprised to learn that "the refracting system of the eye is so

beautifully arranged that but little, if any, spherical or chromatic aberration takes place, as is the case with ordinary optical instruments." But these examples are by no means to be taken as a sample of the whole. There are occasional inaccuracies or looseness of expression which we shall hope to see corrected in another edition, and we should have been glad to find a more accurate definition of presbyopia, a term which, in our experience, is not always exactly comprehended by the student. According to the definition given on page 22 and repeated on page 148, "When the near point has receded beyond twenty-two centimeters (which usually occurs in the emmetropic eye about the age of forty-five), the eye is said to be *presbyopic*,"—a hypermetrope of high degree might be said to be presbyopic before he was out of his teens. The merits of the book, however, far outweigh its defects. The chapter on retinoscopy appears to us the best, and to have excited the warmest interest of the author. Mr. Hartridge, in common with several younger English ophthalmologists, has a preference for this method of measuring errors of refraction. In our opinion it is not, even on the showing of its advocates, equal to the direct examination with the ophthalmoscope, although it is probable that by many skill in its employment is more easily acquired. We commend the book to our readers.

*A Guide to the Diseases of Children.* By JAMES FREDERICK GOODHART, M.D., F.R.C.P., Assistant Physician to Guy's Hospital, and Lecturer on Pathology in its Medical School; Physician to the Eriehna Hospital for Sick Children. Revised and edited by LOUIS STARR, M.D., Clinical Professor of Diseases of Children in the Hospital of the University of Pennsylvania; Physician to the Children's Hospital, Philadelphia. With Formulae. Philadelphia: P. Blakiston, Son & Co. 1885.

This work is written in a very agreeable style, carrying weight from its simplicity and clearness and the evidently large and matured experience of the author. It is especially adapted to the needs of the practising physician rather than for the medical student, as with rare discernment it takes up important points in the details of the disease and deals with them practically, leaving the general typical course of the case to the other numerous writers who have already covered the ground in this class of cases.

The type and paper are especially to be commended, and the editor, Dr. Starr, can be said to have offered a very attractive book to the medical profession.

—Dr. Sturge, a medical missionary to Siam, relates how a native doctor administered an emetic to a lovesick lady who had swallowed a quantity of opium with suicidal intent. The scientist of Siam took a live eel, clipped off a part of his tail to make him squirm in a lively manner, and then pushed him, tail first, down the romantic damsel's throat. When the eel returned to the stream of running water, near which the girl was made to recline, the opium quickly followed him.

## Medical and Surgical Journal.

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## METAPHYSICS AND MIND-HEALING.

THE belief in the antithesis of subject and object and the reality of matter is the very earliest and firmest of human beliefs, as has been recently shown by McCosh in his philosophical essays; nowhere, however, more clearly than by Herbert Spencer in the second volume of his "Principles of Psychology." The latter, replying to the metaphysical postulate, "that we are primarily conscious only of our sensations; that we certainly know that we have these, and that if there be anything beyond these, serving as a cause for them, it can be known only as an inference from them," an argument stated with great force by Berkeley, and which has more or less swayed the acutest thinkers (including both Mills) since Berkeley's time—demonstrates that the thing primarily known "is not that a sensation has been experienced, but that there exists an outer object." Instead of admitting that the primordial and unquestionable knowledge is the existence of a sensation, he makes it plain that "the existence of a sensation is an hypothesis that cannot be framed until external existence is known." This is proved, first, by the argument of priority, *realism* being, in the history of the race as well as in the history of every mind, the primary conception, without which it is not possible even to frame the idealistic conception; second, by the argument from simplicity, the mental process which yields realism being simple and direct, while the idealistic or sceptical belief is an inference from a long-involved and indirect train of reasoning; third, by the argument from distinctness, the realistic belief being founded on deliverances of consciousness given in the vivid terms we call sensations, "which excite a confidence immeasurably exceeding the confidence excited by deliverances given in the faint terms we distinguish as ideas." In short, the realistic philosophy is shown to have the sanction of commonsense and of consciousness, "which is to be presumed trustworthy until proved mendacious."

The great work of Bishop Berkeley, which first affirmed in intelligible language the proposition that

matter is unreal, being on rigid analysis resolvable into "sensations of the percipient mind," appeared in 1710. There was nothing so very bad about it, considered as a whole, and as a piece of clever thinking. Berkeley's reasoning was directed against the materialists and atheists, and he believed that he had dealt the deathblow to the systems of philosophy represented by these names. If there be no external world, he argued, the phenomena of sense can be explained only by supposing a Deity in whose mind exists all that we refer to objective existence, and who necessitates perception in us. It is doubtful if Berkeley ever made a convert from the false belief against which his philosophy was aimed; at least, however, to his credit be it said, he never undertook to overturn men's faiths in the practical realities of life. He did not venture into the domain of medicine, except to proclaim his unquestioning faith in the virtues of his panacea—*tar water*! He never asserted disbelief in the reality of disease, and in this and all other respects his actions were based on principles which his philosophy denied.

It is one of the singular phenomena of our day that Berkeleyism should have been made the basis of a system of *therapeutics* (?) which dignifies itself with the name of *science* and imposes itself on hosts of the unwary and gullible. According to this system "body" is unreal, and disease is unreal, and "mind" is the only reality and is potent over all ailments, which are only incidents of false beliefs.

The true way to get well is resolutely to disbelieve that you are sick, and to act accordingly.

"Our Monday Lectureship" received a notable reinforcement when lately the leading exponent of the new evangel of mind *vs.* matter was in solemn state ushered upon the platform "consecrated to the investigation and elucidation of the deepest questions of science, philosophy, and religion," and given an opportunity to instruct "the most cultured of New England audiences" in the mysteries of metaphysical moonshine.

A correspondent who prefaces his demand by the undeniable proposition that "the ignorance and credulity of this nineteenth century are most disheartening and appalling" asks us to review a certain "textbook" of metaphysical "meditation." We beg to be excused—life is too short; a page or two would be too much of a task! We content ourselves with presenting our correspondent's opinion, which certainly sounds like those primary diets of consciousness "one cannot suppress without mental suicide," and which we therefore shall not dispute: that "the system is the wildest chimera that ever entered the human brain, and the exposition most dreamy, dreary, and inconsequential, an insult to commonsense and an outrage on reason."

One striking evil resulting from such misleading teachings is that many excellent, though somewhat weak-minded, credulous, and confiding, people, who

may be suffering from real organic ailments, are induced to follow these professional *ignes fatui* to their own detriment and destruction. Instances of this kind it would not be difficult to find in many New England communities.

#### ANDROLOGISTS: A PLEA FOR MAN.

THE cultivation of the specialties has given rise to a set of terms indicative of the special organs to which the practitioners designated by these terms specially devote themselves. So far as a nomenclature can go these terms are definite enough to have even raised the study of the different organs to the rank of separate sciences. Gynecologist and gynæcology were two of the earliest of these new terms. Physician, surgeon, and accoucheur were the only divisions known previously in later times though many other terms had been in use at an earlier period. It is somewhat singular that separate names should be so widely applied to practitioners who devote themselves to the diseases of women, while the gentlemen whose practice lies wholly among their own sex should still be without a name. Every city of any size contains men who are almost exclusively devoted to the diseases of the male sex, but as yet they are without a name.

We are far from desiring to add unnecessarily to the fast-increasing number of new terms in the profession, but the name at the head of this article would seem to be a proper one, if such a name were needed. We call attention to it rather to express our wonder that it has never been used than to suggest its adoption. Genito-urinary diseases covers well enough the class of work, but the practitioners themselves can only be designated, without such a term, as gentlemen devoted to genito-urinary diseases. In these days, when the elevation of woman occupies so great a share of the attention of mankind, a feeble claim for the rights of man to an equal place with woman in medical nomenclature may not be entirely out of place.

#### THE AMOUNT OF ALBUMINOIDS IN HUMAN MILK.

At a late meeting of the College of Physicians of Philadelphia, Drs. A. R. Leeds and A. V. Meigs discussed at length the relative merits, or rather the demerits, of their respective methods of milk analysis, and especially the correctness of their results in regard to the percentage of albuminoids contained in human milk.

Dr. Leeds claimed that by his method he, as the result of the analysis of eighty samples of human milk, showed the average amount to be 1.99 per cent. of albuminoids, the range being from 0.85 to 1.86 per cent., while Dr. Meigs claimed that by his

method forty-three samples showed an average of 1.046 per cent., having already stated in a published paper, to which he referred, that it never contained more than 0.70 to 1.50 per cent. In this same paper Dr. Meigs claims for his method many advantages, especially mentioning rapid determinations, and says that a full analysis takes from three to five days, while if the casein and sugar are not separated it can be done in from three to four hours. These, however, are the two factors which he seems to consider of the greatest importance.

The method advocated by each of these gentlemen is much more complicated than that employed by the late milk inspector of this city, and they each showed good valid objections to the method of the other. Such a proximate analysis as Dr. Meigs's would take three to four hours to arrive at results which the inspector, in his late milk report to the city of Boston, shows may be reached in about as many minutes. The same method permits some twenty full analyses in a single day, whilst Dr. Meigs's method would require three to five days to complete a single one. The other method advocated by Dr. Leeds is a modification of the so-called Ritthausen's. When this last was proposed at a late meeting of the American Society of Public Analysts for their general adoption, as the official method, it obtained but little support, being generally considered so complicated as to easily admit of grave errors. As far as the different results obtained by the two methods for the percentage of albuminoids present in human milk are concerned, those of Dr. Leeds would generally be accepted as the more accurate.

#### MEDICAL NOTES.

—We are quite accustomed to seeing the names of our medical countrymen, so many of whom are quoted in the French and German journals, masquerading in strange orthographical habiliments. Specially one among them

"But doth suffer a sea change  
Into something rich and strange."

But for richness and strangeness, few metamorphoses equal that performed by the *Lyons Médicale* upon the name of an eminent English writer, who but for the Christian name would have fallen quite into oblivion as *Milner Saterkell*.

—Attention has lately been called to an injurious effect produced upon men by the handling of dynamite (independently, be it said, of the injurious effect produced by the explosion of the dynamite). It is manifested by headache, tinnitus, and palpitation. One recent writer believes it to be due to small amounts of nitroglycerin swallowed, saying that a man who had formerly had the habit of tasting his fingers to see if the dynamite was washed off recovered from his symptoms on discontinuing his habit and wearing gloves. Others claim that the

"dynamite headache" is due to inhalation, and is similar to that caused by nitrite of amyl; that it is insupportable from the use of the explosive, at least until immunity is caused by either prolonged use or idiosyncrasy.

—In consequence of the increase of shortsightedness, and the theories current as to its cause, a new departure in book-printing has been made in Holland, the letters being printed in dark blue on a pale-green page. Messrs. Issleib, of Berlin, have also printed one of their latest publications, "Die naturgeschichte der Berlinerinnen," in this manner, but the result, as we learn from *Science*, is not wholly satisfactory.

—The penny-dinner movement in England has run against a snag, which snag, as might be expected, is the difficulty on the part of the would-be partakers of securing the requisite penny. The difficulty is sought to be met in two ways: first, by the establishment of halfpenny-dinners, of which eight dépôts are now in operation. This device is threatened with the same danger that has overtaken its more ambitious predecessor. For in the most hopeless slums of London and Birmingham, where hundreds of unnamed and unclaimed children roam the streets with no other dependence than what they can pick up, how is it to be much easier to pick up two farthings than four? The second measure suggested is to disburse to the proletariat the tickets, that is, the pennies, to pay for the dinner, and here the line between the new *quid pro quo* system and the old-fashioned, downright pauperization becomes too fine for the unpractised eye to follow it.

—Mr. Berkeley Hill, in the *British Medical Journal*, January 1885, page 226, expresses his agreement with the writer of an article in the *Journal*, November 8, 1884, in stating that circumcision is rarely necessary for simple phimosis; but thinks that he has assumed too hastily that surgeons overlook the facility with which expansion of the free border may be obtained. Mr. Hill uses the prepucial-dilator, invented by Mr. Carver, of Cambridge, and finds it to answer perfectly well. The author further states that he generally applies the dilator for the first time, and allows the patient to do it himself afterward. Few cases require more than six or eight applications to widen the narrow free border to the necessary extent. If the two blades of the dilator be slowly screwed apart, the skin is not split, and the operation is painless.

#### NEW YORK.

—A number of cases of typhus fever have been reported during the last week or two in different parts of the city. Six of them were in two tenement-houses in Mott Street, not far from the quarters of the Board of Health, the origin of which does not seem as yet to have been satisfactorily traced.

—The new Carnegie Laboratory, with all its admirable appointments, was thrown open to the inspection of the profession on the evening of May 14th, when the Koch culture-apparatus, together with the different varieties of bacillus cultures and a number of interesting pathological specimens, were exhibited by Professors Janeway and Dennis and their assistants.

—The second annual report of the New York Skin and Cancer Hospital shows that 1,010 new out-patients had been treated, and sixty-two have occupied beds in the Skin Department during the past year. In the Cancer Department 100 patients have been treated and fifty-five operations performed. Besides the building in East 34th Street the institution has a country branch at Fordham Heights.

—Dr. Alexander B. Mott has been appointed consulting surgeon to Charity Hospital, and Dr. Charles E. Simmons one of the Commissioners of Charities and Correction.

—The *Rochester Union* tells of a physician in that city who has, among the poorer families under his care, one wherein an infant has been left to the care of a tender and affectionate father, the mother having been taken to an insane asylum. On a recent visit the doctor inquired how the child was getting along, and what food he was giving it. "First-rate," replied the paternal nurse; "I buy impaired food and condemned milk for the baby, and it thrives well upon them."

—The cornerstone of the new Manhattan Hospital, at 131st Street and 10th Avenue, was laid May 23d. The hospital is being built by the Manhattan Dispensary Association, which has maintained a free dispensary in Harlem since 1862, but has never as yet had a hospital under its charge. The lot purchased by it is 190 feet square, and the building now in course of erection will be forty by forty-five, and will constitute one wing of the hospital as finally completed. It will be ready for occupancy by the first of October next. Among those who made addresses on this occasion was Dr. L. A. Rodenstein.

#### PHILADELPHIA.

—The State Medical Society of Pennsylvania held its thirty-sixth annual session at Scranton, May 27th, 28th, and 29th.

—The University of Pennsylvania and the Jefferson College have each discontinued their Post-Graduate course.

—The Pennsylvania Legislature on Tuesday last, May 19th, finally passed the *State Board of Health Bill*, which only awaits the signature of the Governor. The State Medical Society passed resolutions in favor of a State Board of Examiners independent of the Colleges.

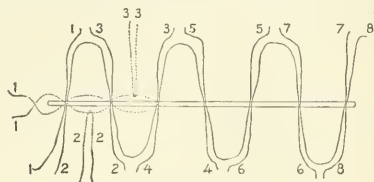
## Correspondence.

## A USEFUL FORM OF LIGATION.

LOWELL, 15 First Street, April 20, 1885.

Mr. Editor,—I enclose a drawing which illustrates a method of ligation. It has been suggested to me that it might be useful in ligating the broad ligament in ovariectomy. I have found it valuable, though not in that operation.

An ordinary double thread with a single needle is passed loosely back and forth through the whole extent of the part to be ligated. Each alternate loop of each thread is then cut. This leaves a loop and two free ends for each section. (The ends to be tied have corresponding numbers in the drawings.) The ends being then tied the ligation is completed.



This is very quickly done, and in certain cases seems to be expedient and successful.

By coloring one of the threads (that is, the thread on one side of the needle) an obvious advantage will be gained; the danger of confusion in hastily taking up the alternate threads will be avoided. The substance used should not, of course, weaken the thread or poison the tissues. For this purpose iron tannate is suggested.

WM. H. LATHROP.

## PARIS LETTER.—MEDICAL MATTERS IN PARIS.

[FROM OUR SPECIAL CORRESPONDENT.]

PARIS, May 12, 1885.

Mr. Editor,—For didactic and experimental courses the students meet in the old *Ecole de Médecine*. There are two amphitheatres ("the large" and "the small"), the former being used for general, the latter for special, courses. The larger one was described in my letter on the Congress of French Surgeons. It is lighted wholly from above, a good arrangement for both lecturer and students. The manner of giving lectures with blackboard, plates, etc. is much the same as with us.

Vulpian gives a most interesting course, during the spring *semestre*, on brain irritation, illustrating his subjects largely with dogs, rabbits, and frogs. It was very striking to see a rabbit thrown into an epileptic convulsion by a subcutaneous injection of absinthie. Probably a moral lesson to certain of the audience.

Vulpian, with rough sandy hair and beard, and seedy dress, looks rather like one of our country clergymen than a Parisian *savant* of brilliant reputation. His utterance is rapid and indistinct, but he attracts a large class. Of course, his statements and statistics are impressive and he receives eager attention. He is followed by Damascino, decidedly his opposite in look and manner,—a bright, quick, eloquent young man of small stature. His subject is the nervous system and its diseases. He illustrates constantly and very beautifully by means of a stereopticon, the room being darkened and the pictures thrown upon a white curtain drawn down behind him. He thus shows microscopic preparations of brain, spinal cord, nerve-cells, and nerves,

in normal and pathological conditions, exquisitely mounted; likewise photographs of patients who naturally thus became of life size. This use of photographs is a very clever idea. The attitudes and expressions resulting from various nervous affections were exhibited in a very intelligible manner. Probably a student would more quickly detect abnormalities of this nature in a large picture than in the patient himself.

Damascino's is one of the most interesting of the didactic courses. Tarnier lectures here on obstetrics. Of course, a strong man in this department. By the by, Lusk's book on obstetrics has been translated into French, and was presented the other day at the *Académie de Médecine*, in translation, with warm encomium.

Brouardel holds a course on matters connected with legal medicine: death by drowning, asphyxia, infanticide, and the like. An accomplished lecturer and a man of influence. He it is who makes the autopsies in criminal cases of note. In the journals one constantly sees his name in connection with violent deaths. He is professor at the morgue, of which more shortly. In the smaller amphitheatre are given lectures on special topics: fractures, orthopedy, gynecology, throat and chest affections, etc. Clinical medicine, surgery, and practical midwifery are confined to the hospitals, where, in the amphitheatre of each, as already remarked in a former letter, the principles of these branches are expounded after the morning visit; so that the didactic course at the school rarely begins before noon, the hospital visits commencing at 8 or 9 A. M., according to the hospital.

Anatomy and physiology are taught in the Paris school with thoroughness and care. There are many minor courses, including practical laboratory work of every description. The students impress one as being much in earnest. They are soberly attentive, take copious notes, and their general bearing is very respectful. Excitable on occasions they are, it is true, as all history of *émules* in Paris clearly indicates, but when at work they are in earnest. Their average age is perhaps five years beyond that of our students in medicine. Most of them are bearded and nearly all wear the regulation silk hat. They are good readers too. The library of the *Ecole de Médecine* contains 100,000 volumes and receives two or three score of medical journals, French, German, English, and Italian. I found only one American publication—Munde's *Journal of Obstetrics*. The room is very capacious and is open from eleven to five during the day, seven to ten in the evening. There are two-faced reading-desks, a dozen or more, which extend across the room. Usually nearly every chair is occupied by men—women as well—who are reading or taking notes. What this free access to unlimited books and journals is to the student need not be made more apparent. Even a stranger may read and study here without question.

Opening from the same floor is the celebrated Orfila Museum, which contains thousands of exquisite and classified anatomical preparations of every possible nature. You may study here the entire structure of both human beings and animals from the first week of fetal life to maturity. Near by, but in another building, is the superb Dupuytren collection, in which pathological anatomy, skin and syphilitic diseases may be studied, and where also are beautiful and numerous wet and dry normal anatomical preparations.

Women are constantly met at lectures. I have seen seven in one audience. They do not appear to attract any attention, take notes exceptionally, but are good listeners. I never saw one at a medical or surgical clinic, but they attend the obstetric courses very faithfully. Meeting women thus day after day one naturally becomes accustomed to their presence among male students, but the queerness of it cannot be argued out of existence, especially when one meets a woman at an autopsy. Of this, more in another place.

The new and handsome medical school building of white sandstone, in process of erection in the *Rue de l'Ecole de Médecine*, and immediately opposite the old structure, grows apace, but apparently will require another year for completion. It will be very well lighted and far superior to the old building. The same horde of new and second-hand medical book-shops cluster about, and the familiar signs of makers of surgical instruments and orthopedic appliances are still to the fore. It is curious to observe how many French medical pens gravitate to diseases of the organs of generation, to prostitution, *et id genus omne*, quite needlessly, one would think. In the windows even of the first-class bookshops here is a proportion of these productions which in England or at home would have an absurdly quackish look. This, however, quite tallies with the photograph and picture-shops in the Rue Rivoli and elsewhere, not forgetting the Salon. Even under the Empire, never was there such a awkward display of female anatomy undraped and in such impossible postures.

The people of Paris have had a hard time during the

past winter, for the city has been nearly empty of visitors, but they make light of cholera, and I did not meet a native who failed to pool-pool at the epidemic and any fear of its recurrence. The feeling that "respectable people cannot have cholera" is very strong in Paris. The quality of the material which suffered in the late epidemic largely bears out the truth of this axiom. Moreover, many believe that the number of cases of actual cholera was far smaller than was reported. This endeavor to belittle the epidemic naturally brings to mind the fact that "Paris lives on strangers," and at present strangers in general do not allow themselves to remain long in the city. There is an undercurrent of belief that cholera will reappear by-and-by, and if it be a mistake to leave Paris before warm weather appears, it is the proper kind of mistake, namely, upon the safe side. There is no evidence that the authorities are especially forearmed against reappearance of the disease, and when I said to a physician with whom I spoke of the condition of the dirtier hospitals: "And cholera?" he shrugged his shoulders and made no other reply.

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 23, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	654	251	19.65	19.05	2.55	6.30	3.15
Philadelphia . . . . .	927,995	399	155	18.00	10.00	2.00	7.00	2.50
Brooklyn . . . . .	644,526	258	97	18.40	21.60	3.20	2.40	3.60
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	218	80	11.96	20.70	2.76	1.84	2.76
Baltimore . . . . .	408,520	130	45	14.63	9.24	2.31	2.31	2.31
St. Louis . . . . .	400,000	123	—	19.44	14.58	1.61	2.43	2.43
Cincinnati . . . . .	372,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	127	48	17.32	3.15	7.87	2.36	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	89	26	10.08	14.56	1.12	1.12	3.36
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	35	9	2.86	17.16	2.86	—	—
New Haven . . . . .	62,882	27	7	3.70	18.50	—	—	—
Nashville . . . . .	54,400	21	6	14.28	9.52	4.76	—	—
Charleston . . . . .	52,286	31	3	16.15	9.69	—	4.76	—
Lowell . . . . .	71,447	22	10	13.65	18.22	4.55	—	4.55
Worcester . . . . .	69,442	18	—	22.22	—	5.55	16.66	—
Fall River . . . . .	62,674	17	7	16.66	16.66	—	—	—
Cambridge . . . . .	60,995	19	4	21.30	12.78	4.26	8.52	—
Lawrence . . . . .	45,516	13	3	7.69	—	—	—	—
Lynn . . . . .	44,895	15	5	13.33	26.66	—	—	—
Springfield . . . . .	38,690	10	7	20.00	10.00	10.00	—	10.00
Somerville . . . . .	31,350	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	6	2	—	—	—	—	—
New Bedford . . . . .	30,144	11	4	—	—	—	—	—
Salem . . . . .	29,563	17	4	5.88	—	—	—	5.88
Chelsea . . . . .	24,247	4	2	75.00	—	—	25.00	50.00
Taunton . . . . .	22,693	10	—	10.00	—	—	—	—
Gloucester . . . . .	21,400	7	2	14.28	—	—	—	—
Haverhill . . . . .	20,965	—	—	—	—	—	—	—
Newton . . . . .	19,421	7	—	14.28	—	—	—	—
Brookton . . . . .	18,323	6	0	16.66	16.66	—	—	—
Malden . . . . .	15,273	5	0	—	20.00	—	—	—
Newburyport . . . . .	13,947	2	0	—	—	—	—	—
Fitchburg . . . . .	13,433	7	1	14.28	14.28	—	—	—
Waltham . . . . .	13,568	7	1	28.56	28.56	—	—	—
Northampton . . . . .	13,165	5	0	—	20.00	—	—	—
96 Massachusetts towns . . . . .	—	80	18	6.65	15.00	2.50	2.50	1.25

Deaths reported 2,400; under five years of age 807; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 392, lung diseases 361, consumption 234, diphtheria and croup 160, diarrhoeal diseases 65, scarlet fever 61, measles 43, malarial fevers 48, typhoid fever 22, whooping-cough 23, erysipelas 15, cerebro-spinal meningitis 14, purpural fever 10, smallpox one. From measles, New York and Brooklyn 13 each, Philadelphia and Boston six each, St. Louis and Cambridge two each, District of Columbia one. From malarial fevers, New York 12, Brooklyn and St. Louis six each, Baltimore and — five each,

Philadelphia two, District of Columbia and Charleston one each. From whooping-cough, New York nine, Philadelphia five, Brooklyn and Baltimore two each, St. Louis, District of Columbia, Nashville, Lawrence, and Lynn one each. From erysipelas, Philadelphia six, New York five, Brooklyn two, New Orleans and Fall River one each. From cerebro-spinal meningitis, New York four, Philadelphia and Baltimore two each, St. Louis, New Orleans, New Haven, Charleston, Lowell, and Fall River one each. From purpural fever, New York four, Boston and St. Louis two each, Philadelphia and Fitchburg one each.

One case of smallpox was reported in St. Louis. Measles 92, scarlet fever 44, diphtheria and croup 22, typhoid fever three, in Boston.

In 115 cities and towns of Massachusetts, with an estimated population of 1,432,125 (estimated population of the State 1,455,104), the total death-rate for the week was 18.19, against 17.52 and 17.93 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending May 9th, the death-rate was 20.2. Deaths reported 3,440; infants under one year of age 772; acute diseases of the respiratory organs (London) 287, measles 181, whooping-cough 116, fever 37, scarlet fever 36, diphtheria 33, diarrhoea 30, smallpox (Liv-

erpool and Sunderland one each, Manchester two, London 44) 48. The death-rates ranged from 14.1 in Brighton to 36.8 in Newcastle-on-Tyne; Birmingham 19.4; Bradford 19.0; Hull 17.9; Leeds 20.4; Leicester 15.3; Liverpool 23.5; London 18.7; Manchester 36.0; Nottingham 18.0; Sheffield 19.4. In Edinburgh 18.1; Glasgow 24.1; Dublin 28.5.

For the week ending May 9th in the Swiss towns there were 46 deaths from consumption, diarrhoeal diseases 22, lung diseases 19, diphtheria and croup six, smallpox and measles each five, puerperal fever four, whooping-cough two, erysipelas one.

The death-rates were: at Geneva 16.2; Zurich 13.6; Basle 15.9; Berne 26.2.

The meteorological record for the week ending May 23d, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
Week ending	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Saturday, May 23, 1885.																				
Sunday, 17	30.130	49.5	55.8	45.1	81	53	89	74.5	S E	E	E	5	12	3	F	O	C	R	—	
Monday, 18	29.883	50.2	56.3	43.6	81	86	98	88.3	E	N E	N E	6	6	9	O	R	R	—	—	
Tuesday, 19	29.536	71.6	84.4	48.8	76	30	42	49.3	N W	W	W	5	6	9	H	C	O	H	—	
Wednesday, 20	30.156	55.8	71.9	51.4	71	71	81	74.3	E	S E	S E	10	7	4	H	C	O	H	—	
Thurs., 21	30.285	53.3	57.0	48.3	80	74	75	76.3	E	E	S	8	13	2	C	C	C	C	—	
Friday, 22	30.215	55.7	70.3	50.9	75	72	67	71.3	S W	E	S W	11	11	7	H	F	C	C	—	
Saturday, 23	30.133	54.2	57.1	50.6	90	100	91	93.7	S W	E	E	12	12	4	R	R	O		—	
Mean, the Week.	30.091	55.8	64.7	48.4				75.4											27.5	1.46

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 23, 1885, TO MAY 29, 1885.

BRECHEMIN, LOUIS, captain and assistant surgeon. Ordered for temporary duty at Fort Omaha, Neb. S. O. 44, Department of the Platte, May 18, 1885.

BROWN, JUSTIN M., major and surgeon. From Department of the East to Department of the Platte.

DEWITT, CALVIN, captain and assistant surgeon. Ordered to Department of the East. S. O. 105, A. G. O., May 8, 1885.

COISON, JOSEPH K., captain and assistant surgeon. Leave of absence extended ten days. S. O. 109, A. G. O., May 13, 1885.

DELOFFRE, A. A., captain and assistant surgeon. Assigned to duty at Fort Sisseton, D. T. S. O. 46, Department of Dakota, May 4, 1885.

KANE, JOHN J., captain and assistant surgeon. Leave of absence for seven days extended one month. S. O. 109, A. G. O., May 13, 1885.

CARTEL, E. C., first lieutenant and assistant surgeon. Leave of absence extended one month. S. O. 106, A. G. O., May 9, 1885.

HARTSTEF, ALBERT, major and surgeon. Ordered from Department of Missouri to Department of the East.

BROWN, H. E., major and surgeon. Ordered from Department of the East to Department of Missouri. S. O. 121, A. G. O., May 27, 1885.

DEWITT, CALVIN, captain and assistant surgeon. Ordered for duty at Newport Barracks, Ky. S. O. 107, Department of the East, May 22, 1885.

HALL, WILLIAM R., captain and assistant surgeon (David's Island, New York Harbor). Ordered for temporary duty at Willett's Point, N. Y., during absence of post surgeon. S. O. 121, A. G. O., May 27, 1885.

SPENCER, WILLIAM G., captain and assistant surgeon. Ordered for duty at Fort Sisseton, D. T. S. O. 55, Department of Dakota, May 20, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE WEEK ENDED MAY 16, 1885.

PENNINGTON, C. S. D., surgeon. Granted leave of absence for thirty days. May 12, 1885.

GOLDSBOROUGH, O. B., passed assistant surgeon. To proceed to Moss Point, Miss., for special duty. May 16, 1885.

#### SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY.—The *Section for Clinical Medicine, Pathology, and Hygiene* will meet in the hall of the Harvard Medical School, on Tuesday, June 9th, at 8 o'clock. Papers: Dr. W. N. Bullard, of Boston, "A Case of Progressive Muscular Atrophy," with presentation of the patient. Dr. W. Everett Smith, of Framingham, "Hereditary Ataxia, with six new cases"; Microscopic Demonstration of Spinal Cord and exhibition of patient. Dr. E. C. Seguin, of New York, Drs. S. G. Webster, G. F. Jelly, J. J. Putnam, C. F. Folsom, J. H. Denny, H. P. Quincy, and others are expected to take part in the discussions. Members of the profession are cordially invited to attend.

ALBERT N. BLODGETT, Secretary.

GYNECOLOGICAL SOCIETY OF BOSTON.—The next regular meeting of the Society will be held at 19 Boylston Place, June 11th, at 4 o'clock P. M. The paper of the meeting will be, "A Report of Twelve Successful Cases of Ovariotomy," by Dr. L. S. Fox, of Lowell, Mass.

H. J. HARRIMAN, M.D., Secretary.

ANNUAL MEETING OF THE RHODE ISLAND MEDICAL SOCIETY.—The seventy-fourth annual meeting of the Rhode Island Medical Society will be held in Lyceum Hall, 62 Westminster Street, Providence, at 10 o'clock A. M., on Thursday, June 11, 1885. The Annual Address will be delivered by the President, Oliver C. Wiggins, M.D., at 1 o'clock P. M. Subject: "The Nature of Original Inquiry." The annual dinner in Blackstone Hall, Washington Street, at 2 o'clock P. M. Dr. Eugene Kingman, Anniversary Chairman. Candidates for admission to the Society are requested to meet the Board of Censors in the Medical Library, 54 North Main Street, Providence, at 10 o'clock A. M., on Tuesday, June 9th.

G. D. HENNEY, M.D., Recording Secretary.

ANNUAL MEETING OF THE NEW HAMPSHIRE MEDICAL SOCIETY.—The ninety-fifth annual meeting will convene in the Opera House, Concord, Tuesday, June 16, 1885, at 11 o'clock A. M. Annual Address by the President, John Wheeler, M.D., of Pittsford. The annual dinner will be served Tuesday, at the Phoenix Hotel, at 2 P. M. Tickets will be for sale by the Committee of Arrangements at the opening of the morning session. The Anniversary Chairman will preside.

G. P. CONN, M.D., Secretary, Concord, N. H.

MAINE MEDICAL ASSOCIATION.—The thirty-third annual meeting will be held in Common Council Chamber, City Building, Portland, Me., Tuesday, Wednesday, and Thursday, June 9, 10, and 11, 1885.

CHAS. D. SMITH, M.D., Secretary.

## Lecture.

## ANTISEPTIC SURGERY.

THE ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 10, 1885.

BY FRANKLIN K. PADDOCK, M.D., OF PITTSFIELD, MASS.

MR. PRESIDENT AND GENTLEMEN.—From the most remote period in the history of surgery there have been conflicting opinions among eminent surgeons regarding the proper method of treating wounds.

The attention which this subject has for centuries received is indicated by the numerous works that have been written from time to time explaining and describing the various views of many different surgeons.

None of the many plans of treatment recommended proved sufficiently successful in results when thoroughly tested to deserve permanent adoption by the profession.

All concurred in the opinion that the subject was of great importance in the art of surgery, although a satisfactory form of treatment had not been discovered.

There appears to have been no general recognition of the natural tendency of wounds to heal until within a recent period. If this tendency was observed its importance was unappreciated and ignored by the profession who, too often, by treatment, unwittingly retarded a process more essential than any method that could be devised.

I will not trespass upon your patience by asking you to listen to an account of the various treatments which, at different epochs in the history of surgery, have been in vogue, although the subject is far from being devoid of interest and fully demonstrates the natural ability of wounds to heal, even under conditions that would seem to render such a result impossible.

A review of the subject, however, as revealed in the history of wound treatment during the last twenty years, exhibits a greater degree of unanimity of opinion and practice among surgeons than previously existed during a similar period.

Within the two last decades the antiseptic treatment has proved far superior to other methods. Its importance is so generally recognized by the profession at large that it has received, by common consent, the distinctive title of "antiseptic surgery." The principles, merits, and methods of this treatment are more or less elaborately considered in all the recent works on surgery, besides which there are several volumes, each by a different author, devoted entirely to the discussion of the whole subject, including a description of its details and results. The study of its theoretical and practical application is required in the curriculum of all medical colleges of the present day. Since the introduction of the antiseptic treatment there has been signal increase in the success of surgical operations. Many wounds, which formerly were considered almost necessarily fatal, with this method of treatment heal kindly and rapidly. In consequence of this fact a large number of operations are rendered feasible and practicable that were previously undertaken by surgeons only as a last, if not hopeless,

resort. The present high attainment of the surgical art owes so much of its success to the virtues of the antiseptic treatment that its importance should be indelibly impressed upon the mind of every medical man.

There is a certain class in our profession consisting of a very respectable minority who are prone to cling to old ways and customs, and who are disinclined to leave the well-beaten paths that time and long experience have furrowed, although the course may be rugged and difficult and embellished with numerous evidences of unsuccessful results. This worthy class of medical men, forming, as they do, the important rear-guard of our profession, are slow to adopt new theories and modern practices. The merits of this method of treatment however are so great, perhaps I am justified in saying, so exclusively applicable in preference to other forms, that the time has arrived when this Society should exert a decided influence to establish it upon the firm foundation of public opinion. It is certainly far superior to any kind of wound treatment previously practised, and its value has been sufficiently attested to demand, not only a general recognition, but also universal adoption, by the profession. The impression which seems to prevail in certain medical circles that this method is adopted by the entire medical fraternity is incorrect; it is included mainly in the practice of the more prominent surgeons residing in the larger communities of this Commonwealth. But there are a large number of practitioners who are occupied the greater portion of their time in the practice of medicine and are only occasionally called upon to fulfil the duties of a surgeon. Many such, either for want of familiarity with the principles involved in the antiseptic treatment, or because of a lack of a knowledge of the details of the process of applying the dressings, fail to employ this method in their operations or in their management of accidental wounds. So far as I have observed, a similar condition prevails throughout the country.

In Germany the employment of the antiseptic treatment is demanded by public opinion.

A short time since a German surgeon performed an ordinary operation without using modern precautions, and the patient died of septicaemia. Public opinion was sufficiently enlightened, discriminating, and energetic to demand that the operator be prosecuted for malpractice.

A similar sentiment is needed in this country to insure a more general adoption of the antiseptic treatment of wounds, a sentiment like the one which exists regarding the value and the necessity of vaccination.

Were it not for the influence of public opinion Jenner's wonderful discovery would render comparatively very little service to mankind. The public demand the protection afforded by vaccination. So strong and general is this sentiment that the statute renders its neglect an offence incurring the penalty of a fine.

Notwithstanding these facts, there are to-day medical men who, having enjoyed opportunities furnished by education and observation such as to render their opinions upon most subjects valuable, profess to believe that vaccination is injurious rather than beneficial, and, if their views should

prevail, this invaluable boon would be denied the public. The influence of such men would be extremely pernicious and prejudicial to the general health were it not that public opinion is established and their views are discredited.

The principle involved in antiseptic surgery is of as much importance as vaccination, and public opinion must, sooner or later, sustain it with equal vigor.

Although this treatment has been practised twenty years, with results that have earned for it a specific title, still its complete degree of usefulness is not yet attained. Undoubtedly there is a better antiseptic remedy than has yet been discovered. Those already in the service have produced surprising results, which have steadily improved as better methods of application have been gradually developed.

It is not my purpose to proclaim to you the discovery of a new antiseptic agent. Nor have I any original ideas regarding the treatment of wounds to parade before you. I aim simply to present briefly the theory of the antiseptic treatment and its great importance in surgery. The discovery of the cause of putrefaction in wounds led to the development of this method. For years previous to this discovery contact with the air was known to cause, or, more correctly, to be followed by, decomposition of wound secretions. That the air was the cause of this tendency in open wounds to degeneration seemed to be proved by the well-known fact that subcutaneous wounds, exhibiting similar pathological and physiological conditions, healed, not only without putrefaction, but with little or no inclination to suppuration. Whether this effect was occasioned by the chemical or mechanical influence of the atmosphere was undecided. This question, however, was finally settled completely by the experiments of Pasteur. These determined the cause of the decomposition of dead animal tissue, as well as that of wound secretions, to be a substance foreign to, but floating in, the air in the form of a microscopic dust. This invisible material is composed of innumerable germs and spores, termed bacteria and micrococci, whose proportions are so infinitesimal that their detection had eluded the observation of the most careful students of pathology.

Following the announcement of Pasteur's discovery, experiments and investigations were made by Lister, Tyndal, Jeffries, Wyman, and a host of others, which fully demonstrated the harmless influence of pure air upon wounds, and at the same time illustrate the character and functions of putrefactive germs.

The history of these investigations and experiments, revealing, as it does, the pernicious effect of these germs upon the healing process, forms a most interesting and important chapter in the literature of antiseptic surgery, and deserves something more than the brief allusion which I can allow this branch of the topic.

I should do my subject as well as myself an injustice if I failed to allude to the fact that there are still some surgeons who doubt that these germs are the cause of putrefaction. They account for their presence in decomposing animal substances as accidental or, perhaps, as a consequence of finding a

soil in which they thrive. They consider that these organisms feed upon, and help to dispose of, decomposing substances, although they admit that, secondarily, the germs produce a detrimental influence by their excessive development.

Every open wound that is not treated antiseptically exhibits in its secretions, when they are examined with the microscope, certain organisms. These are developed from germs deposited by the air coming in contact with the wound itself or its discharges. These microorganisms vary more or less in form and appearance. The question of the identity of these different-shaped bodies is not yet definitely decided. That one form represents a more perfect development of the other is maintained by some, while the majority believe that they are distinct and separate structures. Their mode of increase is mainly by division. The rapidity of growth depends in a large degree upon the nature of the fluid in which they happen to be. When the conditions are the most favorable for their development they double their numbers once or twice every hour. Under certain circumstances the bacilli increase by the production of spores. The process of their development is almost identical with that of the yeast plant in the alcoholic fermentation. They find in the discharges from a wound every condition, the requisite warmth, moisture, and nutrient material, most favorable for their existence and growth. Planted in this favorable soil they thrive and multiply until every drop of the discharge in every part of the wound is invaded.

The healing process does not seem to be particularly interfered with by the mechanical irritation of these bodies. It is the result of their vital action in appropriating for their growth certain elements contained in the secretions. Decomposition of the organic compounds which constitute the substance of normal discharges naturally attends the functional activity of these organisms. Recombination of the elements thus set free results in the formation of material more or less septic in character and prejudicial to the process of healing.

A similar decomposition of organic compounds, followed by recombination of their elements into new and entirely different forms, characterizes all processes of fermentation. Putrefaction is, therefore, recognized as a kind of fermentation, which, by natural preference, thrives best in animal secretions and devitalized animal tissue.

The course pursued by an open wound during the process of healing is too familiar to need description. These organisms rapidly develop in its discharge. The tissues involved become more or less inflamed. The pus gradually loses its healthy, creamy character and exhibits a fetid odor. The normal secretions are replaced by a septic fluid which bathes its surface and which, to some extent, is absorbed, and impairs the health of the patient. Granulation and healing are rendered slow and tedious. The long-continued, profuse discharge exhausts the system, and the resulting eczema is unnecessarily large and unsightly. The introduction of these germs into wounds that are closed while fresh, and coaptation of the parts secured, so as to prevent the accumulation of secretions, is not always, nor perhaps generally, followed by fermen-

tation. The vigor of the healing process existing in the healthy tissues of two opposing surfaces brought into immediate contact is sufficient to destroy the vitality of these organisms.

It is the accumulated or exposed secretions and discharges that furnish conditions favorable for their development. And even these, if composed of normal serum and thick, healthy pus, appear to be able to resist, to a considerable extent, the pernicious influence of the germs, affording them insufficient nourishment to sustain their vitality.

These facts show that, under very favorable circumstances, the presence of organisms in a wound does not necessitate the occurrence of putrefactive fermentation, even when no effort is made by specific treatment to prevent such a result. The ability of wounds to heal, practically without discharge, by the process of scabbing, is a further illustration of this point. Notwithstanding these undoubted evidences of the ability of certain wounds to heal readily without antiseptic treatment, still the tendency of the majority to become the seat of fermentation and decomposition is too frequently demonstrated in practice to question the necessity of some protection.

The demand for some form of treatment that would obviate the detrimental effect of the organisms was apparent soon after the announcement of their discovery. The recognition of this demand, together with the application of measures fulfilling its requirements, by Sir Joseph Lister, twenty years since, is the first legitimate accomplishment in the history of antiseptic surgery. Other surgeons were conscious of the necessity of protecting wounds from germinal influence. Lemaire even used carbolic acid, with fair results, but he evidently failed to grasp a principle, the announcement of which has made Sir Joseph Lister famous.

Since the discovery of the fact that putrefaction can be prevented by the exclusion of germs, it has been determined that after fermentation has been established in a wound, the application of antiseptic agents, remedies which act as germicides, stops fermentation, destroys the organisms, and a normal condition of healing is resumed.

Therefore, in carrying out the principles of antiseptic surgery, one of two objects must be accomplished. Either living germs should be prevented from entering wounds, or accession being allowed they should be removed or destroyed before they have occasioned injury by their development. It is apparent that they can only be deterred from entering wounds that are made by the surgeon during an operation. To attain this it is necessary to saturate the air that is liable to contact with the exposed surface with antiseptic spray. For this purpose, a solution of carbolic acid is usually employed, of the strength of one part of the acid to twenty of water; this is applied with a steam atomizer.

The spray should be used before the first incision is made, and should continue without cessation until the operation is finished and the wound dressed. A thorough saturation of the atmosphere is aimed at without producing excessive moisture.

Every instrument used in the operation should be perfectly clean, and moistened in a solution of the

agent. The hands of both the operator and his assistants should be scrupulously clean and frequently moistened by the same fluid. The sponges should be carefully selected, and, together with the ligatures, sutures, and everything that comes in contact with the exposed surface, should be thoroughly disinfected in order to prevent the admission of vital particles possibly adherent to the articles used in the operation.

All bleeding vessels should be either ligated or their orifices occluded by tension.

The wound should be well sponged, laved, or drenched with a very mild solution of the antiseptic agent before closing it. When the surface is quite large, as is the case in an amputation of a limb or breast, a drainage-tube should be inserted to allow of the escape of any excess of secretions that otherwise might accumulate between the flaps. The latter should be brought into as perfect coaptation as possible by sutures that have been soaked in the germicide liquid.

The next step is the dressing of the wound. This is of no less importance than the other measures and consists in still surrounding the parts with an antiseptic atmosphere. To secure this, loose, porous material is employed for the compresses and bandages, which are thoroughly infiltrated or saturated with the antiseptic agent. Gauze, surgical cotton, jute, oakum, or any other substance that will retain the vapor of the germicide is suitable for protection, provided a sufficient quantity is used in covering and wrapping the parts to entirely absorb the discharge and prevent its coming in contact with the atmosphere at the surface of the dressing. In order to accomplish this the dressings should extend considerably beyond the wound in every direction.

The drainage should especially be provided for by an abundance of absorbent material.

If, at any time during the healing process, the discharge should extend beyond the limit of the dressing, and exhibit indications of putrefaction, the question of re-dressing the wound would need to be considered without delay. If, however, the secretions are not in excess and the proper measures are carried out with the success that almost invariably attends this sort of treatment, the wound practically assumes the condition of a subcutaneous lesion and, like it, tends to recovery without sufficient inflammation to produce suppuration.

The blood-clots, extravasated or effused between the flaps of such a wound, become disintegrated by the growth of cells extending from the tissues. These permeate the clots in every direction, and gradually they are absorbed in the same way that blood is disposed of, that is, extravasated subcutaneously. Wounds, the result of surgical operations, receiving this treatment, rarely require a second dressing in less than seven or eight days, when, as a rule, it will be found that union has taken place and the healing process well established. If entang ligatures were used then absorption is assured, while non-absorbent ligatures will occupy a small sinus, only of sufficient size to allow their easy removal when separated from their attachment. The disinfected sutures do not cause apparent irritation, although they are permitted to remain longer

than is necessary to induce union by first intention. The employment of a drainage-tube occasions little or no embarrassment to the rapid union of such wounds. Ordinarily they can be removed on the third day.

The dressings should be reapplied and maintained until the openings for the ligatures and drainage are perfectly closed.

The employment of drains composed of substances capable of absorption, like catgut and decalcified bone, simplifies the treatment, as the drains disappear at the end of a few days, when they have performed the duty expected of them.

Union by first intention is the result anticipated in most fresh wounds. This renders the first dressing of greater importance than subsequent ones, for, if the germs can be excluded and inflammation prevented during the first week, the healing is practically completed before the first is removed, and the succeeding treatment consists in the application of very simple dressings. If, however, it should become apparent from the general condition of the patient, the presence of fever, the existence of pain and tenderness locally, and the occurrence of a fetid discharge, that fermentation is established, then primary union should be despaired of and the second dressing applied without delay. The same fidelity should be observed in the application of the second dressing that characterized the first.

The interruption of the fermentative process which has become established in the wound should form an important feature of the subsequent treatment, and test the value of antiseptic agents in destroying the putrefactive organisms.

This leads to the consideration of the second method referred to, of antiseptic treatment. This is precisely the same in all its details as that already described, except that the spray is omitted, and no effort is made to destroy the germs in the air that come in contact with the wound during the operation.

The use of the spray is not absolutely necessary to secure antiseptic results, because of the ease and readiness with which the organisms can be devitalized and removed from the wound surface, after the completion of the operation but previous to the closure of the flaps.

This is accomplished by carefully and thoroughly sponging, laying, or douching with a solution of the reagent having sufficient strength to destroy the organisms without materially affecting the tissues.

In country practice, especially, the use of the spray, in many instances, is impracticable. A variety of circumstances combine to prevent its employment. Some of these are frequent absence of assistants, the isolation of the patient, and the difficulty of always having a proper atomizer in working order. It is therefore very fortunate that the spray is not essential, in the majority of cases, to the success of the method.

In the larger operations, however, like ovariectomy, its use is always advisable, because if it is not absolutely necessary, it certainly does no harm. And every possible safeguard should be employed in operations of such magnitude.<sup>1</sup>

(To be continued.)

<sup>1</sup>The reader is referred to the works on antiseptic surgery by Cheyne, MacCormac, and Hicker, also a volume entitled "The Treatment of Wounds," by Fisher, for verification of most of the statements made in the foregoing article.

## Original Articles.

### A CONTRIBUTION TO THE MECHANICAL TREATMENT OF DISEASES OF THE KNEE-JOINT.

BY CHARLES F. STILLMAN, M.S., M.D., OF NEW YORK.

*Clinical Professor of Orthopaedic Surgery in the Women's Medical College; Orthopaedic Surgeon to the New York Infant Asylum.*

At the meeting of the American Medical Association, in 1881, the writer exhibited to the Surgical Section a new joint splint and gave a short account of its development, and he also exhibited, before the Section, the Esmarch bracket, which was

Fig. 1.



Esmarch's joint bracket.

in general use by surgeons at the time. This, after being properly fastened to the limb with plaster of Paris, produced fixation of a joint, and yet allowed exposure of the surface, but did not produce traction.

In order to secure the joint firmly, and at the same time exert traction in the axes of the limb, the writer devised a bracket in which the bridge was

Fig. 2.

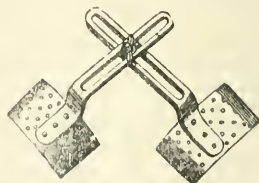


Stillman's joint bracket.

composed of two slotted flat strips, lying one over the other and connected together by two thumb-clamps, as in Fig. 2.

This bracket, after being fastened to the limb in the same manner as the Esmarch, gave traction and fixation when the limb was in a straight position, and also allowed motion of the joint if one of the clamps was removed; but if it was desired to hold the joint firmly, with the limb at an angle, one clamp did not exert sufficient power to effect this

Fig. 3.



Stillman's joint bracket with one clamp removed.

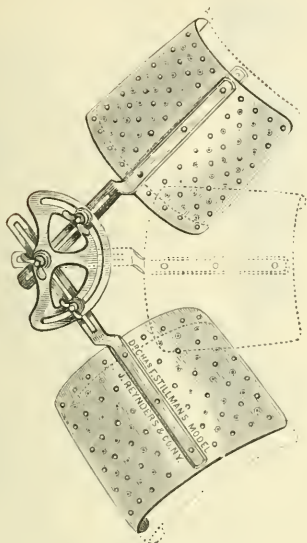
object, and therefore the sector of a circle slotted in its circumference to correspond to the slots in the flat strips of the bracket was added to the bracket, the centre of the arc being perforated and connected by a third clamp with both slotted strips.

In Fig. 1 this sector bracket is shown, and consists of two slotted strips connected to the sector

<sup>1</sup>Fig. 4 represents the brace which was presented to the American Medical Association by the writer.

by three clamps, and when applied to the limb makes a very useful and serviceable joint splint.

Fig. 4.



Stillman's sector joint bracket.

This has proved itself since that time of special service in the treatment of acute inflammatory conditions of the various joints. It has received warm commendation from many distinguished surgeons throughout the country, and as the same bracket or pair of brackets can be used for either of the larger joints, it possesses a wide range of usefulness.

When attached firmly and properly to a limb, extension of a joint can be produced and yet motion may be allowed or altogether prevented without interfering with the extension. Fixation may also be produced at any angle and yet exposure of the surface of the joint for local treatment allowed, and it is therefore a particularly valuable splint in acute conditions of the joints attended by flexion, effusion, and pain, and in general all acute inflammatory conditions requiring perfect rest.

Fig. 5 shows the appearance of this sector splint when applied to the knee with plaster of Paris in a manner similar to that used in securing the Esmarch, but it differs from the latter in usually requiring two brackets, one on each side, instead of one above or below the joint.

In chronic knee-joint disease, however, a plaster-of-Paris dressing is uncomfortable, and cannot be removed without more or less disturbance of the joint. Since the atrophic changes in the muscles render frequent change of dressing an absolute necessity, the writer has been compelled to devise, for cases of chronic joint disease, special forms of apparatus, and this paper will be devoted to a description of the form of brace (see Fig. 6) which he has found most useful in the various chronic inflammatory conditions of the knee.

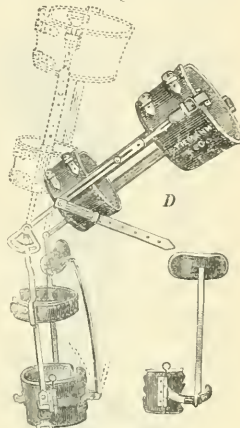
The treatment of diseases of the knee-joint as a class has, from a mechanical standpoint, been impeded by the difficulty in procuring apparatus which could be used advantageously through all stages of treatment and in every possible condition

Fig. 5.



Showing application of sector bracket to knee.

Fig. 6.



Stillman's knee splint.

which might arise during such treatment, and there has been no one splint which would meet all the different mechanical indications.

One of the most important of these indications is to incorporate in the brace, and to place on either side of the joint (in its transverse pivotal axis), a movement which will allow either fixation or motion.

In Fig. 7 such a one is shown,<sup>1</sup> and if the pivotal centre is placed in the transverse pivotal axis of the joint, its arc of motion will correspond closely to the arc of motion in the normal joint, and by means of the clamp in the slotted arc the joint may be fixed in any desired position, or by releasing the clamp slightly motion may be allowed.

Fig. 7.



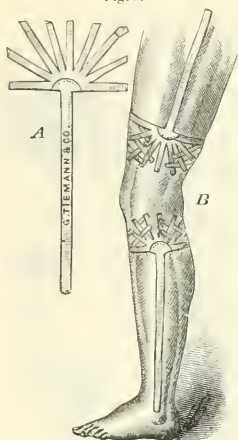
Stillman's joint movement for fixation or motion.

Another important indication is the occasional employment of traction, and a new feature in this splint consists in the method of obtaining it by having adhesive plaster grasp the knee just below and above the joint over a *very limited* area, and to effect this the plaster is cut in the fan shape, shown in Fig. 8 (A), and long strips of webbing are attached to each. It requires four of these fan-shaped pieces for each knee, and four long pieces of webbing, and these are to be placed as shown in Fig. 8 (B), interlaced for greater security from displacement, and then covered with roller bandage as in Fig. 9. Upon the superior and inferior extremities of the splint are provided rollers and buckles, to which the webbing is to be attached, and then, by means of an elastic ratchet, force may be applied upon the thigh portion of the instrument to effect the extension (see Fig. 10).

<sup>1</sup> For description of this movement see the Boston Medical and Surgical Journal, August 31, 1892, p. 201.

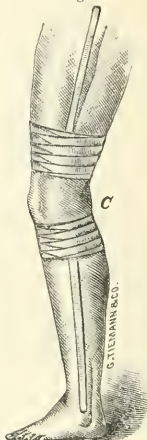
This arrangement differs from any attachment in ordinary use at the present time, in being limited to a small zone just above and below the joint, and consequently does not interfere with the muscular structure of the thigh or leg, as is the case when

Fig. 8.



(a) Fan-shaped pieces of adhesive plaster, with webbing attached, for traction.  
(b) The same applied to limb, interlaced.

Fig. 9.



(c) The same covered with roller bandage, ready for the splint.

the splints are applied by adhesive plaster over the whole extent as in other splints for this purpose, or in the former plaster-of-Paris attachment of the writer.

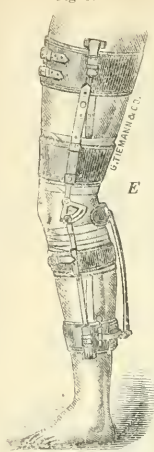
To exert the traction and produce extension of the joint, the ends of the webbing strips are to be passed over the rollers at each extremity of the splint, and, after being pulled upon as firmly as possible, are secured in the buckles provided for that purpose.

The upper thigh girth is then pushed away from the remainder of the apparatus either by elastic or rigid ratchets, as the surgeon prefers. The ratchet shown in Figs. 6 and 10 consists of two overlying slotted strips, which can be fastened together by a screw-clamp, when sufficient traction has been exerted by the elastic strap provided for that purpose.

This form of ratchet is a modification of the original Davis elastic ratchet, and in the hands of the writer is more effective than any other traction ratchet he has used, because by simply loosening or tightening the clamp (the elastic strap being on the stretch at the same time), the traction may be varied from the elastic to the fixed at the will of the surgeon, and I have found that if the elastic be kept up unvaryingly, as a result the adhesive plasters are apt to cut into the skin in very much the same manner and on somewhat the same principle characterizing the action of an elastic ligature.

This is obviated without impairment of the efficacy of the traction by simply tightening the clamp holding the slotted strips together, when the desired amount of extension of the joint is secured.

Fig. 10.



Stillman's knee splint applied.

Another indication, also, of the utmost importance in the treatment of knee-joint disease is the prevention of posterior luxation.

Most of the diseases of the knee-joint are accompanied by a tendency, even in the milder cases, to luxation of the tibia backward, and this is a feature which the mechanicians of orthopaedic surgery have tried to overcome with more or less success.

To meet this indication the author has devised a new and effective arrangement which brings to bear a spring lever power, which is distinct from anything heretofore used, and operates without interfering with the action of the remainder of the brace. It will be noticed that it is a long, flat steel bar, bent to conform to the back of the leg, and placed posteriorly (see Fig. 6). At its upper end is attached a semi-girth which presses on the back of the upper part of the leg, and below it is attached to a stirrup, which is itself fastened to the lower girth of the instrument.

This stirrup is provided with a hinge and a socket, so that it may be opened and shut when the rest of the brace is in position, and the forward pressure, which is dependent upon the angle which the posterior lever makes with the rest of the brace, can thus be adjusted by means of a ratchet at the intersection of the lever with the stirrup, without the necessity of removing the brace from the limb. One of the features of this arrangement consists in its availability for all classes of cases in which the least tendency to this subluxation exists, for it can be adjusted to any desired angle, thereby giving any degree of forward power, and this power is brought to bear precisely where it is wanted, and without causing impingement of the brace upon the limb at any point.

There are very few cases of joint disease, even of the simplest form and of the most recent date, in which the comfort of the patient is not increased by having a certain amount of forward pressure just below the popliteal space.

How many of these patients say to the surgeon that they feel they could walk if they "had something that would press the leg forward just below the knee, as it seems weak at that point"; and by the arrangement shown, this power can be supplied without interfering with the main portion of the brace or with the motion of the joint. There is no form of knee-joint disease in which this forward pressure, either in a lesser or greater degree, is not of advantage, and there is an anatomical reason for this, since in these diseases, relaxation of the quadriceps femoris is accompanied by a contraction of the biceps, semi-membranosus, and semi-tendinosus muscles, thus interfering with the possibility, in many cases, of producing linear trac-

tion in the proper axes of the thigh and leg; while if the tibia is held forward in the position it would be if the anterior muscles were exerting their normal power, the extension of the joint is effected without pain to the patient, and the traction is exerted in the proper axes.

By means of a ratchet at the intersection of the inferior extremity of the posterior lever and the stirrup to which it is attached, this power, as has been stated, can be adjusted so that the lever can be varied from a mere upright support to a spring lever of tremendous force, and in every case in which it is applied (provided, of course, that the power exerted is not beyond the proper amount necessary for the particular case) the patient's usual comment is to the effect that the comfort of the apparatus is thereby much increased; and from the surgical standpoint the joint is placed in much better condition for curative treatment, because this tendency to backward luxation is thereby greatly overcome. This is but another application of the V-shaped lever which the writer is using in the treatment of diseases and deformities of the back and other portions of the body.

In conclusion, after the traction has accomplished its purpose and extension of the joint is no longer necessary, the splint is so arranged as to permit the removal of the rollers and buckles at each extremity and of the traction ratchets, thus converting it into an effective simple fixation splint or knee support during the stage of convalescence, and when by the use of restorative measures the anterior muscles of the thigh have been strengthened so as to hold the tibia forward in its proper axis with the femur, the V-shaped lever may also be dispensed with, provision being made for that purpose without impairing the efficacy of the rest of the brace.

A description of the means to be employed for the restoration of these muscles constitutes too important a subject to be discussed in the limits of such a paper as this, and I shall reserve it for some future occasion. Suffice it to say, that the neglect of this precaution is not only a fruitful source of the long-continuance of lameness and feeble circulation in the entire limb, after cessation of all actual disease in the knee, but it is a cause of relapse, and the importance of this factor is too little, if at all, insisted upon by orthopaedic writers in treating of the subject.

#### CASES OF CEREBRAL SYMPTOMS IN EARLY (SECONDARY) SYPHILIS.

BY F. B. GREENOUGH, M.D.,

Physician to the Boston Dispensary, Department of Skin and Venereal Diseases.

THAT syphilis at the present time, on the whole, is a milder and less virulent disease than it was formerly is a fact which, I think, cannot be questioned. Whether this is due to a change in the type of the disease itself, or to an improved and more rational method of treatment, is perhaps an open question, but probably both of these factors have a share in the change that has taken place. That there has been a change is shown by the fact

that while without doubt the number of cases of syphilitic disease has been increasing, the number of cases where we find serious and destructive lesions of the skin and mucous membranes have diminished. This is, of course, simply a statement of opinion, not corroborated by statistics, but I think the opinion I express will be endorsed by colleagues who have seen much of venereal practice. Of one thing there can be no doubt, and that is that at present many, that is to say, a large percentage, of the cases of syphilis do very well, and after the comparatively light symptoms of the secondary period have passed off do not hear from the disease again. I am aware that it is claimed that the disease is not eradicated, but simply latent; but if it continues latent during the rest of the patient's life, and has no influence either on him or his offspring, what a boon it would be to humanity (as Hebra used to say) if phthisis, cancer, and other diseases could be made latent to the same extent. That the less frequent occurrence of severe sequelæ from syphilis is not entirely due to improved methods of treatment is shown by those cases in which, either from recklessness or indifference, or any other cause, the patient has stopped treatment long before he would have been advised so to do, and yet has for years been free from all symptoms. Although I have not attempted to get the exact figures, I can say that during my fifteen years' experience in charge of the special department at the Boston Dispensary the number of cases that showed late and grave lesions of syphilitic disease compared to those that came for treatment for the early symptoms has been very small. And yet these patients are exactly of the class in which one would expect bad results. That is to say, they are poor, unable to get proper food and care, often of bad habits, and rarely follow out the instructions and treatment given them for the length of time that in private practice would be insisted upon. While, however, the number of cases of syphilis that are followed by serious later symptoms seems to have diminished, or at least to be comparatively small in number, those in which we find evidence of cerebral trouble have decidedly increased. To convince one's self that this is the case one has only to look at the medical literature of the last decade and compare it with that previous to the last—twenty, or even fifteen, years. With regard to the recognition of cerebral syphilis by the older authors there seems to be some difference of opinion. Legrand du Sault, in the *Gazette des Hôpitaux*, in an article on "Cerebral Syphilis," says: "The first notions with regard to the cerebral symptoms in cases of syphilis date back very far. Fraenstor and Nicolas Massa even say decidedly that the French disease may be accompanied by insanity and epilepsy." On the other hand, Heubner, in his very complete article in Ziemssen's *Cyclopædia* on "Syphilis of the Brain and Nervous System," says: "Although Fraenstor described so graphically the ravages of syphilis on the face, etc., he knew nothing of the internal diseases of the same patients." He also states that this lack of knowledge with regard to syphilis of the nervous system was due, in part, to the fact that the old practitioners occupied themselves chiefly with symptomatology and therapeutics. This may be very well

as far as the Middle Ages go, but when we see that John Hunter classed the nervous system as one of the vital parts which are not at all susceptible to the action of syphilis, and that Ricord, in his classical "Letters on Syphilis," does not refer to this subject, it certainly looks as though not many cases of the kind I am about to report could have come under their observation. As late as 1861 Professor Lasègue, as the result of his investigations, reported to the Faculty of Medicine in Paris that "the nervous manifestations of syphilis are rare, indistinct, and destined, at least until further investigation, to figure in an account of syphilis as an appendix." It was just about this time, that is, 1861-62, according to Heubner, that scientific investigations with regard to cerebral syphilis began to be made. The monographs of Léon Gros, Lancereaux, and Lambuco marked out the path for study, and they were followed in Germany by Jaksh and many others. Fournier in 1879 published his "Syphilis du Cerveau," which, while it may not be up to the later German authors as far as pathological anatomy goes, is certainly a most wonderful collection of clinical observation. I will merely make three quotations from his preliminary chapter to show his deductions from his vast amount of material as to the frequency of cerebral syphilis at the present time, and ask you to remember that John Hunter considered the brain as non-susceptible to syphilitic disease, and that Ricord does not mention the possibility of cerebral syphilis. Fournier says: "A case of hemiplegia occurring in a subject less than forty years old, not affected by alcoholism, nor suffering from a lesion of the circulatory system, is, in eight cases, or perhaps even nine cases, out of ten, of syphilitic origin." Again: "When epilepsy manifests itself in a subject over twenty-five or thirty years old, for the first time, in nine cases out of ten it is of syphilitic origin." Finally, according to him, at least seventy-five per cent. of cases of ocular paralysis are due to syphilis. To even give a list of the literature on this subject during the past five years would exhaust your patience, so I will simply state that it is a very rich one, and that whatever minor differences there may be between the different authors, they all agree on one point, and that is that cerebral syphilis, as a rule, is one of the later manifestations, that is, that it is a symptom occurring in the so-called tertiary stage of the disease. Whoever was responsible for the terms primary, secondary, and tertiary did a very poor service to syphilography. From the meaning of the words one would naturally suppose that they were three distinct stages of the disease, one following the other. As a matter of fact, in many cases the primary lesion still exists when the secondary symptoms appear, and secondary and tertiary symptoms are more frequently than not seen coexisting. I happen to think of a dispensary patient who has now mucous patches of the tongue, such as are frequently seen during the early outbreak of constitutional symptoms, who two years ago had typical muscular gummata. Neither can a distinction be made according to the tissues affected, as not infrequently the periosteum is the seat of the very earliest secondary manifestations. There are, however, two distinct sets of symptoms in syphilis,

one of which, as a rule, is decidedly later in its appearance, and these are the symptoms of the different tissues that are due to an inflammatory process, which may range from simple congestion, as in the case of a macular syphilitic, or in congestion of the fauces, through infiltration (papular eruptions), desquamation, and ulceration; and, on the other hand, those that result from the development of a neoplasm, or gummy tumor. It seems to me that if we are to use the term tertiary at all it should be confined to these latter manifestations.

To return, however, to cerebral syphilis. As I have stated, the evidence of the authorities is that it occurs, as a rule, as a late symptom, but in the more recent literature we find that exceptions to this rule are recorded. Fournier gives from the third to the eighteenth year (after infection) as the most common period for cerebral manifestations, and puts two thirds of the cases between the third and tenth year, and one third between the tenth and eighteenth. He says, however, that "cases have been seen during the second or first year of the disease, even as early as the seventh, sixth, or fifth month." "These are, however," he goes on, "I hasten to say, rare facts, and naturally all the more rare as the date of the manifestation is more precocious." Heubner states that from his figures, that is, from the statistics derived from the cases observed and collated by him, it appears that when a syphilitic growth is developed in the nervous system such a growth almost invariably appears at a late period; in fact, when the syphilis has lasted for several, or often many, years. This rule, of course, he says, is not without exceptions. Prof. H. C. Wood, in an article on the "Clinical Aspects of Cerebral Syphilis,"<sup>1</sup> gives a very full account of the subject, more especially with reference to the later manifestations, epilepsy and general paralysis. He says, however: "Although syphilis is most prone to attack the nervous system many years after infection, it would be a fatal mistake to suppose that brain disease may not rapidly follow a chancre."

Legrand du Saulle, in a series of articles published in the *Gazette des Hôpitaux* in 1884 (vol. lvii.) on "Cerebral Syphilis," says: "At what period of the disease do the cerebral symptoms show themselves? In a general way, it can be said, in the tertiary. Ordinarily they show themselves from three to ten years after the primary lesion. But they may be delayed and not appear until after an interval of twenty to thirty years. Sometimes, however, in cases of precocious, malignant syphilis, they form part of the secondary symptoms."

Not to take up time by more quotations, I will state that the mass of authors on the subject agree with great unanimity on the fact that cerebral syphilis is of late development, and that, although there are exceptions, cases which show affection of the nervous centres within the first year are decidedly exceptional. It is this unanimity of opinion that has made me think that the five cases that have come under my observation during the last few years, in which symptoms of syphilitic cerebral trouble appeared quite early (the average of the five cases being a little more than five months),

<sup>1</sup> Boston Medical and Surgical Journal, 1884, vol. cv., Nos. 9 and 10.

were worth reporting. While our standard textbooks give very good descriptions of cerebral syphilis, and speak of the possibility of its occurrence, exceptionally, quite early, they do not sufficiently, if at all, call attention to the indication for the modified course of treatment which such cases, I think, imperatively show. The number of cases reported of precocious cerebral symptoms, while small compared with those in which the cerebral lesions came on late in the disease, are, in recent literature, fairly numerous. Fournier reports a dozen or more. Dr. Webber, in his paper presented to this Society, reported some precocious cases, that is, one of ten months, one eight to nine months, and one a little over three months. I find a case reported in the *New York Medical Journal* (1884, xv. p. 430) as a "Case of brain disease" (probably syphilitic), by Lucy M. Hall, M.D., and it is one of the very few in which a careful autopsy was made and recorded. Unfortunately, it may be objected to the case that it is not absolutely proved that it was a syphilitic one. I will give an abstract of it: The patient was a girl of sixteen, an inmate, I infer, of the Reformatory Prison for Women at South Framingham. The first record is December 1, 1883. No special symptoms, but poor appetite, pale, and nervous. January 24, 1884, some general febrile disturbance, high pulse and temperature, with pain in left temporal region, and vomiting. The pain in left side of forehead was constant, and unyielding to treatment. February 11th small excavated ulcers were noticed on side of tongue, and she was dull, stupid, and somewhat comatose. February 17th, tongue was swollen, left half being half (*sic*) dry, right half moist; the mouth was drawn to right side slightly, and partial paralysis of the facial muscles of the left side was noticed. She died at midnight. The autopsy showed the organs in the pelvic and abdominal cavities to be normal. There was thickening both of the dura and pia, and the cerebral vessels were distended, especially on the left side. "Tallow-like bodies, from the size of a millet-seed to a grain of wheat, were found along the surface of the dura in the line of the longitudinal sinus; also in the region of the third frontal convolution on the left side. The bases of the second and third convolutions on the left side were so soft that the handle of the scalpel laid lightly upon them penetrated the brain-substance. Section of the left anterior cerebral lobe showed a partially absorbed hemorrhagic infarction of the third, or Broca's, convolution, occupying about half its extent. If this was a case of syphilis, the age of the subject, sixteen, shows that it must have been of not long standing.

From Professor Wood I will quote the following cases of precocious cerebral symptoms: Dr. Alfrik Ljunggren, of Stockholm, reports a case where a rapidly healed chancre in March was followed in May by severe headache, mental confusion, and giddiness. Early in July (four months) he had an epileptic attack. This case was cured. Davaine reports paralysis of the portio dura a month after the first symptoms of constitutional syphilis. Dr. E. Leyden found advanced specific degeneration of the cerebral arteries in a man who had contracted syphilis one year previously. Dr. R. W. Taylor

reports a case where epilepsy occurred five months after infection. Dr. Schwarz's case had severe headache forty days after the development of the primary lesion, and on the forty-sixth day hemiplegia. Another case had an apoplectic attack seven months after the chancre, a female patient one five months after the appearance of her primary lesion. Dr. A. Sydney Roberts's (Philadelphia) case had a fit two months and eight days after the appearance of a chancre, which developed after a period of incubation of twenty-six days. Unmistakable cerebral syphilis followed, but convalescence under active antisyphilitic treatment.

These are some of the cases of early cerebral syphilis that I find record of, and are enough to show that, although rare, precocious cerebral syphilis is recognized. The following cases that have come under my own observation I will report in as condensed a manner as is consistent with calling attention to their important points.

CASE 1. On July 5, 1878, I was visited by a gentleman for advice. He was a lawyer, aged thirty-eight, reported his health as good, and appeared to be a strong, healthy young man. About two weeks after connection he had noticed a sore on the prepuce, which at the time of visit was a typical primary syphilitic lesion. The induration was well marked and quite large, and the inguinal glands in both groins were enlarged. In the latter part of August he had some soreness and congestion of the fauces, and on September 7th a macular syphilide appeared on his trunk and thighs. The eruption was not a very full one, and was entirely macular. In October he had some manifestations of secondary symptoms on the mucous membranes, that is, sore throat, with some congestion of the fauces, superficial plaques on the tonsils, and slight lesions on the sides of the tongue. He was put on a mercurial course of treatment from the first appearance of the constitutional symptoms, and seemed to be having a very mild case, until (some time in September) he began to be troubled with headaches, which came on in the afternoon, were aggravated toward night, and became very severe. These were relieved for a time by the iodide of potash, and it did not require very large doses (ten to fifteen grains three times a day) to control them. During October, November, and December I saw him about once in two weeks, and with the exception of an occasional attack of cephalalgia, lasting for two or three days, and yielding to increased doses of the iodide, which, however, never exceeded twenty grains three times a day, he seemed to be doing very well. The eruption had faded out, and the mucous membrane of the throat and mouth was healthy. I have heard since, however, that his friends noticed that he was heavy and sluggish mentally at this time. On December 27th he called, his previous visit having been on the 9th, and while there were no definite symptoms, except a more persistent headache, it was evident that he was not doing well. Besides increasing his dose of iodide, I thought it best to increase the action of his mercurial treatment, and as he objected to the use of inunctions I put him on small and frequent doses of calomel, and he was asked to report in a few days.

I did not see him again, as he came under the care of the family physician after that time, by the kindness of whom I am enabled to condense the following record from his very full notes on the case:—

On January 6, 1879, that is, ten days after I had seen him, while at dinner, he felt that he had lost power over his left leg. It was not completely paralyzed, but he could barely move it, and he was taken up to his room. On being questioned, he said that on the 4th, two days previous, he had noticed a prickly feeling in his right hand, and some loss of power in the fingers, shown by difficulty in using his pen. Also some dull headache. This loss of power in the right hand was more noticeable on the next day, and on the next one, that is, January 6th, the decided, but partial, paralysis of the left leg came on while he was dining with his family. On the 7th, that is, the day after his attack, in trying to get about his chamber he fell, and is reported to have been quite shaken up by his fall. The cause of his trouble being suspected by his physician, he was asked with regard to his previous syphilis, and gave a very good account of his disease, both as to symptoms and treatment. The paralysis of the left leg increased, and his mind became sluggish, although he would answer questions when aroused. The sphincters of the bladder and anus became paralyzed, as was shown by involuntary passage of urine and feces, and on the 12th it was noticed that there was paralysis of the left facial muscles, the mouth being drawn to the right side. On the 13th complete paralysis of the left upper extremity was evident. His mind was wandering, but he would answer when roused. On the 18th he was delirious, and muttering about matters that he was interested in, and died quietly at 5.30 p.m., twelve days after his attack of paralysis of the left leg. The specific origin of his attack was recognized from the first, and he was given a most thorough antisyphilitic treatment. Iodide of potassium was given in increased doses, as well as mercurial inunctions.

A careful examination of the brain was made, but the full record of it cannot be found. In the case-book of the attending physician the fact that there was thickening of the pia at both vertices was noted, as well as a partial plugging up of some of the cerebral arteries by means of an apparently new formation. He, however, simply noted these main points, referring to the source where he supposed the full record could be found.

CASE II. I saw this patient, a civil engineer, aged twenty-one, first on January 13, 1883. He was tall, thin, not well developed as far as muscular development goes, but reported his general health as good. He consulted me on account of a lesion which had appeared on his penis after intercourse, which proved on examination to be a primary syphilitic chancre. The induration was well marked, as was the enlargement of the lymphatic glands in both groins. Under the topical use of iodoform the chancre healed, and on April 1st a pretty generally distributed macular secondary eruption broke out. There was also at that time some congestion of the fauces. He was put on a mercurial course of treatment, and when seen on April 19th the eruption

simply showed some spots of pigment; the mucous membranes were healthy, but there were some small crusts scattered over the scalp.

On the 21st of May I received a letter from him from an inland town, where he was engaged in professional work, stating that he had been for some days troubled with a very severe headache, which was much aggravated at night; that he was very feverish, and felt generally very unwell. I wrote to him to take ten grains of iodide of potassium three times a day, and to report as soon as possible. On the 24th, that is, three days afterward, he came to my office in what certainly seemed a very critical condition. It was with difficulty that he spoke, his mouth being drawn to the left side during articulation, and his gait was very unsteady. He reported that after writing to me his headache was so excruciating, and feeling a decided numbness of his right side he had consulted a local practitioner, and by his advice had taken a cathartic and Dover's powder. On receipt of my letter he had begun on the iodide, and although his severe headache had ceased, as he had great difficulty in enunciation and noticed a decided loss of power in, and control of, his right arm and leg, he had come to see me. In addition to the partial right-sided muscular paralysis he had double vision. His symptoms improved gradually, and by June 15th, three weeks after, he was apparently all right, and has had no relapse since, having been under treatment and observation up to date. He is now doing his work as a civil engineer, is able to do it, and weighs more than he ever did.

CASE III. This patient, a student, aged twenty, consulted me July 12, 1883, for a urethral trouble, complicated with an acute epididymitis. He was small in size, pale, and, as far as muscular development goes, decidedly below par. He dated his gonorrhoea back to the middle of the previous December, and stated that shortly after his gonorrhoea had appeared he noticed a sore on the penis, which proved to be a primary syphilitic lesion, and which was followed by secondary constitutional symptoms. These had entirely disappeared by the time of his first visit to me; but from his report, which, by the by, was a very clear one, they must have been quite mild, and have yielded readily to treatment. His urethral trouble did well, and is of no interest in this connection, but his account of his syphilitic infection was so clear and consistent that I felt it my duty to put him on specific treatment, in the propriety of which I was confirmed by the appearance, later, of slight mucous patches on his tongue. He was doing very well when I saw him on July 28th, and on October 8th, when I saw him after his return from his vacation, he made the following report: On August 26th he had what was considered a sunstroke, as a result of which he was laid up in bed for a week, and was "under the weather" for some time more. On investigation, the "sunstroke" was reported to have come on two days after the supposed cause, that is, playing tennis in the sun, and getting much fatigued. He had had severe headache for some days previously, which was worse toward evening. His first symptom was a feeling of giddiness, in which he stumbled, and felt that he had lost control of his muscles. He had difficulty

in articulation, and even when seen October 8th I noticed a decided difficulty or hesitancy in his speech. For some time after he got about he reported a tendency to stumble, and at times a feeling of numbness in his left arm. Under a mixed treatment of a mercurial and iodide he improved in general condition and gained in weight. On November 28th he reported having had for a few days a very severe headache, which ceased at once on increasing his dose of iodide. In February, 1884, he went to the Hot Springs, Arkansas, where he went through a thorough course of innunction, and returned about the middle of April, having gained flesh and strength, and showing no specific symptoms. He is still under observation and treatment.

Although this case was not seen by me, either during the first outbreak of syphilis or at the time of his partial paralysis, I do not see how there can be a question as to the connection of the two. He did show decided and unmistakable symptoms of constitutional syphilis, that is, mucous patches on the tongue, and his account of the appearance of the sore on his penis, in December, followed by constitutional symptoms, which under treatment disappeared, was so precise as to leave no doubt in my mind as to the date of contagion. His account of his supposed sunstroke, eight months afterward, was also very clear, showing that he had had an attack of vertigo and loss of power over his limbs and speech, the latter symptom not having entirely passed off when I saw him about six weeks later, which attack was referred to an exposure to the sun and fatigue, two days previously. As additional evidence, there is the fact of these attacks having been preceded by headaches, with nocturnal exacerbations, and that since then he has had headache of the same nature, which has yielded at once to a course of iodide of potassium.

CASE IV. A mechanic, aged thirty-eight, consulted me on January 2, 1884. The patient was a tall, heavily framed man, but very much reduced in flesh and anemic. About the middle of the previous August he had a sore appear on his penis, which was at first supposed to be a chancre, but it was followed by symptoms of constitutional syphilis, and as he did not agree with his physician's diagnosis he put himself under the care of one of our quack institutes. When seen he showed marked symptoms of quite severe secondary syphilis. He had a very generally distributed papular, crustaceous eruption on his trunk, limbs, and scalp, as well as decided mucous patches on his tongue and tonsils. What he complained of most was an excruciating headache, worse at night, which had continued for some days. He reported that on several occasions, while at work, he had had "giddy spells," in which he had stumbled about, and two or three times had actually fallen down. At these times he had lost the power of speech, by his report, and in this respect he was confirmed by the gentleman, one of his employers, who brought him to see me. He was heavy and dull, and was evidently suffering from severe pain in his head at the time of his visit. He was put on a course of mixed treatment, that is, the bichloride of mercury and the iodide of potassium, and the lesions of the cutis and mucous membranes improved at once, but his cephalalgia was

more obstinate. It did yield, however, to innunctions, combined with the iodide, but as his gums showed decidedly the action of the mercury these had to be suspended. He also showed a sensitiveness to the iodide, having a very copious eruption of acne on his back and chest, as well as on his face, and a decided coryza. By carefully regulating the dose, however, he was kept on a mixed treatment, and by March 12th, about two months after he was first seen, he had gained twelve pounds, and his headache was reported to be a thing of the past. He is still under treatment, apparently well, and able to do his work.

CASE V. I first saw on May 23, 1884. The patient was a thin, nervous man, aged forty-three, interested in manufacturing, and evidently much upset by the trouble for which he sought advice. A few days after exposure he had noticed a lesion on the glans penis, which he had treated by an application of strong carbolic acid. The result was an inflamed, indurated sore, covered by a sloughy, whitish eschar, with some glandular reaction in both groins. As, owing to the artificial irritation from the application he had made, the diagnosis was rendered doubtful, no decided diagnosis was given. Under soothing local treatment the acute inflammatory condition passed off, but even after the sore had healed some induration remained, and the inguinal glands, instead of diminishing in size with the subsidence of the inflammation, became larger. On July 5th (six weeks after he was first seen) he had a quite fully developed macular syphilide, and was put on a mercurial course. The eruption was simply macular, and disappeared rapidly, as on the 19th, that is, in two weeks, no traces of it were to be seen. As his symptoms disappeared his fussiness about himself seemed to increase, and it was with the greatest difficulty that he was made to continue his treatment. On October 2d, while showing no symptoms, he complained of having had, on two occasions, very severe headaches, and was ordered the iodide of potassium in addition to his mercurial. He was seen three times between then and the 28th, when he protested so strongly against the iodide, which, he said, he was sure did not "agree with him," as he had omitted it for a day or two at intervals, always with good results, that I stopped it, and substituted a simple tonic. I was induced to do this as, although he had more or less cephalalgia, he insisted that it was not constant, or aggravated at night, and felt sure that it was connected with indigestion, which he laid to the iodide. On the 30th, two days afterward, he entered my office, and I thought he would tumble on the threshold. He stumbled into a chair, and, after a good deal of twitching of his mouth, managed to articulate, "I am paralyzed!" After a few moments' rest his articulation improved, and he was able to give an account of himself, but there was undoubted partial paralysis of the muscles of speech, and his mouth was drawn, in speaking, to the left side. He said that he woke up that morning with a feeling of numbness in his right arm and leg, and difficulty of speaking. There seemed to be a loss of power in the right arm, as tested by the grasping-force of the hand, and the right leg seemed to drag in walking. His difficulty in speaking was, however, the

most marked symptom, and although that improved after he had been sitting quietly in my office, it was very decided. His condition was almost an exact counterpart of Case No. 11. As he was a stranger, at a hotel, I advised him to take a room at a hospital, and he was admitted to the City Hospital, and came under Dr. Webber's care. Dr. Webber has reported his case before this Society in full, and as it will be published in the coming report of the City Hospital, I will merely say that under mixed treatment the patient recovered, and that I have seen him since, free from specific symptoms and apparently well.

(To be continued.)

## Reports of Societies.

### AMERICAN CLIMATOLOGICAL ASSOCIATION.

THE PRESIDENT appointed as Nominating Committee Drs. Shattuck, Reed, Westbrook, Hudson, and Wilson.

#### EVENING SESSION (MAY 27TH).

THE PRESIDENT, DR. A. L. LOOMIS, in the chair.

A new instrument for the removal of adenoid growths in the pharynx was presented by Dr. W. C. JARVIS, consisting of a form of steel cup with a shank. By pressing the mouth of the cup over the tissue surrounding the growth, the snare could better grasp the base.

DR. BOSWORTH had had no practical experience with the instrument, but if it accomplished what was claimed for it, it would be of great advantage. He added that the more he saw of catarrh in children the more firmly did he become convinced that its cause was usually due to adenoid growths in the pharynx, and not to inflammation of the mucous membrane of the nasal cavity proper.

#### FURTHER CONSIDERATION OF 'PNEUMATIC' DIFFERENTIATION, WITH DEMONSTRATION OF THE 'PNEUMATIC' CABINET.

DR. H. F. WILLIAMS, of Brooklyn, read the paper. The original article on the subject was published in the *Medical Record*, January 17, 1885, to which he referred the reader for a more complete exposition of his subject. His method consisted essentially in making the patient breathe the normal atmosphere through a tube, while the air within the chamber where he sat was more or less completely removed, producing a partial vacuum. This method induced deep respiration, or, by relieving pressure from without, caused the air to thoroughly permeate the lungs. Medical vapors could be mingled with the inspired air, and would thus be more likely to reach the seat of the disease.

The five cases of phthisis reported in the former article as cured remained apparently well to-day. Six cases of primary infiltration remained in perfect health, with one exception. This patient took a cold, but was again improving under treatment. Paradoxical as it might appear, great benefit was produced in three cases of emphysema. Altogether, seventy-five cases had been treated by this method in New York and Brooklyn by different physicians, and it promised to be of great usefulness.

\* Continued from p. 551.

THE PRESIDENT said, one patient whom he had treated, and who had always been compelled to leave the city during the winter, had fallen into Dr. Williams's hands, and had been enabled to remain at home this season. He knew of no case in which hæmorrhage occurred after the treatment excepting the one referred to by the author of the paper, and in that instance it occurred twenty-four hours after the last treatment, there having been thirty altogether. The patient thought that the gentleman who had charge of the apparatus at the time allowed too much pressure; otherwise he thought it could have had no deleterious influence.

DR. ARMOUR, of Brooklyn, spoke of a case of unresolved pneumonia in which the treatment had brought about marked results.

#### THE HOME TREATMENT OF CONSUMPTION

was the title of a paper by Dr. F. C. SHATTUCK, of Boston. The subject was introduced by a quotation from a French professor who ten years ago remarked, while making his hospital visit, that the only remedies for consumption are opium and lies. With this remark was contrasted the opinion of Jaccoud that phthisis is curable in all its stages, the experience of Dr. Flint which has led him to the view that some cases of phthisis are self-limited, and also that of most physicians in active practice. A more hopeful view is certainly current among the profession now than was formerly the case. The lessons to be derived from a study of the Massachusetts Registration Reports from 1857 to 1883 were then briefly alluded to. In the former year 39,500 deaths from consumption occurred for each 10,000 of the population, in the latter 29,90; and this in spite of the influx of foreigners, among whom the Irish are specially prone to consumption. The reader thought that this marked decrease was chiefly attributable to prophylaxis through improved hygiene among the native-born; but that a portion should be credited to earlier diagnosis and more rational treatment.

Treatment proper was considered under the main heads, the hygienic and the medicinal; the former including food, dress, moral management, fresh air, rest and exercise, and bathing. Each of these was briefly dwelt upon, and the medicinal treatment was then taken up, a distinction being drawn between the general medicinal, tonic, or curative remedies, and those which are given simply to combat symptoms, such as cough, night-sweats, pyrexia, and the like. The importance of refraining from prescribing cod-liver oil if there is fever, or the patient cannot digest it, was insisted on; in disturbed states of the stomach it being often desirable to prepare the way by a vegetable bitter and sometimes laxatives. A protest was entered against the use of cough-medicines, so called, most of which tend to impair the digestion, unless the cough provokes vomiting or breaks the night's rest. The peculiarities of the cough are to be studied in each case, and routine treatment here as elsewhere to be avoided as far as is possible. The reader stated that he purposely omitted any special reference to the inhalation and pneumatic treatments, and had not been sufficiently favorably impressed by the results of Pepper, Robinson, and others to lead him

to try the injection of the lung by antiseptics. The subject of the home treatment of consumption is so large that it was possible to give only an outline sketch within the limits of a single paper.

DR. KRETZSCHMAR coincided in the line of treatment recommended by the author of the paper, but said he thought particular attention ought to be given to the ventilation of the bedroom of the consumptive at night, and the habit which usually existed among the poor of a number sleeping in the same room ought, if possible, to be obviated. Again, the sputa of the phthisical patient were often allowed to remain too long in the room, or to fall upon the floor.

DR. ROBINSON thought the paper was an admirable presentation of the subject of the home treatment of consumption. He would add to what had been said that forced feeding might prove of benefit in some cases. He also referred to antiseptic inhalations, which he had treated of in his paper.

DR. SHATTUCK, in closing the discussion, said he agreed with what had been said by Dr. Kretzschmar, and the points made by him and by Dr. Robinson were not more fully treated for want of space.

#### SECOND DAY. — MORNING SESSION.

The President in the chair.

A RULE FOR THE EVEN DIVISION OF CLIMATE, BASED UPON THE AVERAGE OF THE COMBINED ATMOSPHERIC HUMIDITIES IN THE UNITED STATES.

By CHARLES DENISON, M.D., of Denver, Colorado.

In the absence of the author, the paper was read by Dr. J. H. TYNDALE, of New York. Maps were exhibited, illustrating the range of temperature and the mean of temperature, the amount of humidity, the force of the wind, etc., in the different parts of the United States, as based upon the reports of the signal service bureau. These qualities of the climate were indicated on the map by different shadings, lines, etc. Dr. Denison's view was that the principal elements of a desirable climate were dryness, elevation, and equability of temperature. Of these three, dryness was considered the most important, equability next, and elevation third, which was not to be separated from dryness.

The President said he had received a set of the maps, and it appeared to him that Dr. Denison had endeavored to put too much upon them, which was confusing. As stated in his address, he thought humidity depended more upon the soil than upon the general condition of the atmosphere as defined by Dr. Denison. The importance of the formation of the soil as influencing humidity has also been considered by Dr. Bowditch and others. One might suppose from the general appearances of the Adirondack region that it would be very unwholesome for those suffering from phthisis, yet the contrary had been shown to be the case, and this depended upon the sandy soil and free drainage which rendered the atmosphere pure.

DR. A. N. BELL thought that dryness of the atmosphere at certain places as indicated on the maps went little toward insuring the inhabitants immunity from phthisis. In Colorado, for instance, the mortality from phthisis was about the same as

in Florida and certain other portions of the South, the humidity of the atmosphere being represented on the charts as much less in Colorado. That something else than moisture had an influence upon the consumptive was made plain by the fact that at many places on the seacoasts there was less phthisis than inland, where the humidity was slight. The great freedom of seamen from phthisis was, making due allowance for their better physical development and other conditions, to be accounted for only by the fact that moisture alone should not be regarded as the all-important element in the causation of that disease. While he admired the industry shown by Dr. Denison, he was far from willing to accept his suggestion to make excessive dryness, to say nothing about altitude, the test of climate for the consumptive.

DR. REED agreed with what Dr. Bell had said, and called attention to the fact that in the English army, composed of picked men, the death-rate from consumption was much greater than in the navy, also composed of picked men.

The President said it was evident from the tone of the discussion that the Association was not willing to endorse Dr. Denison's position, and it was hardly necessary to take a vote upon the subject.

#### GEOGRAPHICAL DISTRIBUTION OF PHTHISIS IN MICHIGAN, WITH SKETCH OF TOPOGRAPHY.

By E. L. SHURLEY, M.D., of Detroit.

In the absence of DR. SHURLEY, DR. J. B. WALKER read the paper. Michigan could be divided into two regions, in which the climate differed: first, the northern, or mineral, region; and second, the southern, or agricultural, region. In the northern section the altitude was higher, the soil was sandy; there were pine forests. The climate of the whole State was temperate, rendered so by the surrounding lakes. The mortality from consumption in the different parts of the State for a number of years was then given. In parts of the north there were scarcely any deaths from this disease.

#### THE TREATMENT OF LARYNGEAL TUBERCULOSIS.

by E. F. INGALLS, of Chicago, was read by title.

#### THE PROBLEM OF ACCLIMATIZATION.

DR. J. H. PLATT, of Brooklyn, read the paper, in which he gave definitions which had been proposed for this term, and spoke of the difficulties which surrounded the study of the subject. Illustrations of the influence of a change of climate upon people were quoted. It was but natural that changes in the animal economy should take place on removing from, for instance, a temperate to a tropical region. The lungs being less called upon to do work under the new conditions would be less developed, the skin, which was more active, would manifest changes, and so with other organs. It was probable that the nervous system played an important rôle in the process of acclimatization. In general, a removal to a tropical climate would imply a change in the animal economy approximating more closely that of the herbivora. A perfect knowledge of acclimatization would not be had before physiolo-

gists had demonstrated the exact function of the different organs of the body and of their reciprocal influence. Natural selection was an important factor, for those persons who became acclimatized were most likely to prove reproductive, while those who were unable to adapt themselves to their new surroundings necessarily ceased to propagate.

DR. SHATTUCK wondered that any author had ever doubted the fact of acclimatization. It would be perfectly evident to one who would take a walk in England and then in New England, where both people had common ancestors. He also spoke of the difference of opinion which existed regarding the negro population of the Southern States.

#### SECOND DAY.—AFTERNOON SESSION.

The PRESIDENT, DR. A. L. LOOMIS, in the chair.

#### REMARKS ON THE CLIMATE OF FLORIDA.

DR. J. C. WILSON, of Philadelphia, read a paper with this title. He spoke only of the peninsula of Florida, which he divided into four parts, running in the direction of its long axis. The Atlantic seaboard, the St. John's River, the elevated pine lands constituting the watershed, and, lastly, the Gulf coasts. The two principal characteristics of all these regions were mildness and equability, due to the fact of their lying in a subtropical zone, and between the Gulf Stream on the one side and the Gulf of Mexico on the other. The advantages and the disadvantages of the health resorts on the Atlantic seaboard and on the St. John's River were then pointed out. The elevated region covered by pine forests and well drained would probably become an important health resort for consumptives in the future. The Gulf region possessed special advantages, particularly those of equability and comparative dryness. Ments exposed to the air here were said not to decompose, but to undergo desiccation. An excellent place for a health station was at Port Brook.

DR. TYNDALE thought the facts incorporated in the paper just read went to prove the inferences of Dr. Denison: that equability of temperature, dryness, and elevation covered the other constituents of climate, such as sunshine, wind, and electricity.

#### THE CLIMATE OF CENTRAL FLORIDA.

DR. KEATING, of Philadelphia, read a paper on this subject, in which he described the elements of climate of the elevated regions in the central and peninsular portion of Florida. The ground was elevated, the soil sandy, favoring free drainage, the climate mild and equable, there were pine forests, there was good drinking-water, and while but few hotels as yet had been built, there were towns which afforded good accommodation for the consumptive traveling in search of health. Orlando, a railroad terminus, was a desirable health station. Certain disadvantages of St. Augustine and Jacksonville were pointed out, the latter place being, as he thought, damp and malarial. The author particularly deprecated sending patients advanced in phthisis on long voyages or to distant countries where little or nothing was known of the climate as it affected the consumptive.

#### THE RESULTS OF THE HOME TREATMENT OF CONSUMPTION CONTRASTED WITH THOSE OF CHANGED RESIDENCE AND CLIMATE.

DR. E. D. HUDSON, JR., the author of the paper, said with regard to climate that each individual must ascertain by experience what climate was best suited to him while suffering from consumption, and there reside for three or four consecutive years. The climate which was beneficial to one consumptive might not be the best for another. A change of climate was only a relative term; it did not necessarily involve removal to a great distance from one's home. The wealthy had the advantage in travel, of out-of-door life, of relief from nerve tension, of temporary changes of climate tiding over certain critical periods, etc., and of checking the progress of phthisis until an age when persons were less liable to fall victims to its influence.

The importance of a correct diagnosis of the disease before selecting a climate most suitable for the patient was pointed out. The climate best suited to the several forms of phthisis was mentioned. The greatest benefit to be derived from a change of climate was to be expected in catarrhal phthisis. It was possible for a cure to take place in a case of phthisis with large cavities.

The home treatment of phthisis would consist in a change of environment, from school life to out-of-door life, removal from an old house in which the air was rendered impure by the surroundings, disinfection, free ventilation, stoppage of gas leakage, or bad sewage, proper physical exercise, diet, etc. etc. A large number of cases illustrative of the effect of these different modes of life were given.

#### HAY FEVER AND ALLIED AFFECTIONS.

DR. F. H. BOSWORTH, of New York, read this paper. The chief points made were that hay fever was due to the presence of three conditions: first, a peculiar nervous susceptibility; second, an abnormal condition of the nasal passages, and third, the presence of pollen or other exciting agent in the atmosphere. Any one of these three conditions being absent, a paroxysm could not occur. Dr. Bosworth called particular attention to the anatomy and function of the turbinated bodies, and stated that the very free vascular supply was intended to afford moisture for the atmosphere which passed through the nostrils during inhalation. It had been estimated that the respired air gained five thousand grains of water during its passage over the mucous membrane of the nose. No other mucous membrane of the human body was capable of giving off so great a supply of liquid. The bloodvessels going to the turbinated bones and furnishing this large amount of fluid for admixture with the air were so perfectly controlled by the nervous supply as to regulate the liquid exudation during the sudden changes from a very dry to a very moist atmosphere with great nicety. Any obstruction to the free entrance of the air through the nostrils would tend to rarefy the air behind the point of obstruction, and thus after a time what had been but a trivial condition at first would lead to changes of the greatest importance. Relieve the patient of his nervous susceptibility by building up his general health, and he

might lose his susceptibility to the ragweed or other pollen. Let him go to a climate where such pollen was not present, and he would not suffer from paroxysms of hay fever. Or, cure the morbid state of the nostrils, and thus the paroxysms would be forestalled. It was needless to say that the latter method offered the best prospects of a cure in most cases. A large number of cures which had been thus effected were incorporated with the paper.

#### THE HISTORY OF THE STETHOSCOPE, WITH THE PRESENTATION OF A MODIFICATION OF THE CAMMANN STETHOSCOPE.

By D. M. CAMMANN, M. D., of New York.

After giving the history of the stethoscope and describing Cammann's, the author exhibited his modification of the latter, which consisted in a rubber bulb attached near the rim of the chest-piece, and which when compressed, like the bulb of a syringe, and placed against the chest, exhausted the atmosphere and caused the rim to adhere firmly. The modification increased the intensity of the sounds conveyed to the ear, and allowed of the free use of both hands, which was of special advantage in auscultatory percussion.

The paper was discussed by Drs. TYNDALE, PLATT, HUDSON, The PRESIDENT, and the discussion was closed by Dr. CAMMANN.

#### ELECTION OF OFFICERS AND NOMINATION OF COMMITTEES.

The PRESIDENT announced the election of the following officers:—

President, Dr. William Pepper, of Philadelphia; Vice-president, Dr. Frank Donaldson, of Baltimore; Second Vice-president, Dr. Beverley Robinson, of New York; Secretary and Treasurer, Dr. J. B. Walker, of Philadelphia; Council: Drs. Wilson and Hudson, of Philadelphia, Tyndale, and Bosworth.

The PRESIDENT appointed the following committees:—

Committee on Sanitaria, to interest benevolent persons in the establishment of sanatoria at suitable health resorts: Dr. N. C. van Bibber, chairman, of Baltimore; Dr. E. L. Medean, of Saranac Lake, New York; Dr. Boardman Reed, of Atlantic City; Dr. Charles Denison, of Denver, Colorado; Dr. H. A. Johnson, of Chicago.

Committee on Mineral Springs: Chairman, Dr. Cable, of Charlotteville, Florida; Dr. William Osler, of Philadelphia; Dr. Gehlert, of Hot Springs; Dr. Burchard, of New York; Dr. D. E. Borger, of Park Robles Springs, Colorado.

Committee on Health Resorts and Collective Investigations from the Various Health Resorts, on recommendation of the local physician or physicians at each place to the Association: Dr. F. C. Shattuck, of Boston, chairman; Dr. A. N. Bell, of Brooklyn; Dr. A. Y. P. Garnett, of Washington; Dr. H. V. M. Miller, of Atlanta, Georgia; Dr. E. L. Shurley, of Detroit, Michigan.

The PRESIDENT then announced a reception at the University Club Theatre, given by the New York members of the Association to the non-resident members, after which the Association adjourned.

#### NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED meeting, held at the Carnegie Laboratory, May 18, 1885.

#### THE ADVANCE IN OUR KNOWLEDGE OF THE ETIOLOGY OF DISEASE.

The principal paper of the evening was by Dr. E. G. JANEWAY, on the above subject. In this country, he said, no greater inducement to study existed than that innate desire for knowledge which could best be compared to the hunger for food which seizes upon the starving; but oftentimes those well adapted for original investigation had been absolutely unable to succeed for the want of the necessary means, appliances, and place for such work. Moreover, any one here, unless possessing a private fortune, had to give up a large share of his time and thought to acquiring the means of a livelihood and for the apparatus and other expenses incident to his work. This had to be done either by teaching or practice, and he was thus subject to constant interruptions, and was obliged to work at scientific subjects, not when fresh and vigorous, but when weary and jaded, and hitherto too often in places little adapted to encourage work under such disadvantages. But, thanks to the liberality of the gentleman by whose name this building in which the Association had met was called, one of the great obstacles to successful labor of this kind had been overcome. That it was admirably adapted for the purpose he thought all would admit.

The history of medicine until within the last forty years had contained much that had been grossly theoretical, when the subject of to-night's thought was considered. He did not mean to deny that there were those who had the foresight to see through the dim mists on the horizon the rays of the sun of knowledge that were later to flood the scientific world with glorious light; but they lacked the means and appliances to prove the correctness of their surmises. Rudolph Virchow was a name which would long continue to be honored by all students of medicine. He had been chief among those who had led in the paths which have developed our present methods of investigation, and in his pupils scattered throughout not only Germany, but the world, a corps of workers was seen which had brought, and would still continue to bring, order out of chaos. Jenner was usually considered only in the light of a benefactor to the human race because of his success in preventing the spread of smallpox by the introduction of vaccination. Yet this operation, while primarily of so great value in this respect, had had a secondary influence in suggesting that for other diseases some such method might be employed, and thus leaving inquiring minds to search for the true cause of these diseases.

The origin of the idea that a number of diseases called infective spring from organisms which have entered from without and grow and multiply in the body, to again infect others, had probably sprung in most minds from the established instances of parasitic development as witnessed on the skin and in the interior. To Schwann we owed the idea that putrefaction and fermentation were dependent on the presence of germs or vegetable organisms; and to

Pasteur the dogmas that without such organisms there is no fermentation or putrefaction, and that for the different kinds there exist specific varieties, as well as the idea and method of endeavoring to separate the different varieties by fractional culture. After the acceptance of the belief that fermentation and putrefaction were dependent upon germs which rapidly multiplied under favorable conditions, the search after the organisms productive of infectious diseases could not be long delayed, nor the idea, which many already entertained, that in all of these disorders there must be a specific infecting agent which we might obtain for further research, be hindered from obtaining more adherents. The proof of such ideas in an absolutely satisfactory manner was of extreme difficulty, and as yet had been accomplished but for a few of the disorders; but Dr. Janeway did not doubt that the time would come when we should witness each of the disease-exciting germs classified and its life history known. The nature of the proof demanded was as follows:—

(1) The disease-exciting germ must be found constantly present during the existence of the disease, or at least of its earlier stages.

(2) It must admit of cultivation out of the body under such circumstances as to assure us of its purity.

(3) Reintroduced into the system it must excite in susceptible individuals the same disease phenomena.

(4) In the individual so made ill by the introduction of the culture we must again find the same germs as the cause. He did not here consider the question as to whether the symptoms were due to the irritation produced by the presence of the germ, or to chemical products produced by the nutrition of the germ and the effete products left over from such process.

Many observers had noted the presence of micrococci, bacteria, and the like, before the sure proof was afforded that any one of these diseases in man or animals was dependent upon a specific germ. The fact of their presence in connection with a given disease had invariably been met by those who did not accept them as the cause by the statement that the found a favorable soil which had been produced as a means of the previously existing disease in which they could multiply. Hence, experiments by inoculation of animals by diseased masses or by the blood containing the distinct evidences of bacilli did not produce an acceptance of the theory that the disease was due to a specific germ.

Dr. Janeway then took up successively the results which had been obtained in the study of the aetiology of splenic fever, relapsing fever, inflammations (such as abscesses, erysipelas, pyæmia, osteomyelitis, etc.), and pneumonia. In regard to pneumonia he said that patient and continued research had enabled the recognition of micrococci. These could be found in the sputa, and Leyden had obtained them in the fluid drawn from the lung by hypodermic puncture during life. It was claimed that after cultivation they might be inoculated with success in the lungs of mice. Whether these micrococci are the ultimate cause of the disease it might take a long time to determine; but of their actual occurrence he had

assured himself. In one instance recently, four Italians living in the same shanty at Tarrytown, N. Y., had sickened with pneumonia, and at the autopsy of one of these, four hours after death, the speaker was able to find in the red hepatization, and particularly in the pleural exudation and lymphvessels of the pleura, numerous micrococci, as cocci and diplococci, and also in somewhat longer chains of couplets. Dr. George T. Harrison had related to him the instance of the widow of a physician who was the fourth of a series of individuals in the same house taken with the disease. During the past winter he had seen in the country a farmer ill with pneumonia whose wife had died of the disease some months before, and the man who went for the doctor the night he was taken ill was also seized with pneumonia.

Having spoken of the presence of micrococci in variola, vaccinia, scarlet fever, diphtheria, gonorrhœa, and endocarditis, he said that the result of Koch's researches upon tubercle and cholera were familiar to all.

Later, Dr. Briggs, who had recently returned from Berlin, showed cultures of the thin comma-bacilli, as they are called: the mouth-comma, that of cholera nostras, and that of Asiatic cholera. Shortly before he left Germany, Professor Müller had been able to grow the mouth-comma separate from associated forms, and thus study its life history.

In numerous cases of typhoid fever a bacillus had been found, not alone in the intestine, where it was commingled with numerous others of different sorts, but also in the mesenteric glands and in the spleen. In five cases of the disease in which he had himself made autopsies last fall it was present in each, corresponding in character with the description given by Eberth and confirmed by Koch. No deductions of any value could be drawn from these instances, however, since, with one exception, the autopsies were made twelve or more hours after death. The bacilli of typhoid had been found capable of growth upon culture-fluids, but it would be difficult in this way to prove the disease, as the germs would necessarily have to be fed to people susceptible to typhoid fever and not exposed to its influence. For typhus exanthematicus there are no known experiments as regards culture or demonstrations of the peculiar exciting agent. Dr. Janeway had examined the blood taken from a spot of skin the site of petechial rash, and had found in the fluids a few micrococci separate. It was a disease in which careful and repeated examination and culture might be able to demonstrate, as of the others, a specific agent. Leprosy had been found to contain a specific germ or bacillus somewhat resembling the tubercle bacillus in its reactions. Bacilli had also been found in glands which were capable of cultivation and of reintroduction into the system of a horse with effect of reproducing the disease.

The subject of the connection of organisms with disease, Dr. Janeway said in conclusion, was a large one and growing constantly. Robert Koch had proved himself the most thorough and reliable of those who had undertaken this study, and was now devoting all his energies, with a large corps of trained assistants, to the prosecution of the research in different directions. The knowledge which had

been gained would not simply be for scientific accuracy, but would avail much in our subsequent efforts to cope with disease. Nothing was more essential to a correct prophylaxis than a true etiology. He said he had omitted from the paper the discussion of sepsin and its congeners, ptomaines, chemical substances produced either by the action of bacterial changes or in the process of decomposition, which, according to some, are more responsible for the injury than bacteria.

At the conclusion of his paper Dr. Janeway presented

SPECIMENS OF ULCERATIVE ENDOCARDITIS AND OF  
ABSCESS OF THE LIVER.

In the patient suffering from the latter disease, which was apparently of traumatic origin, a number of aspirations were practised and a large quantity of chocolate-colored fluid drawn off. Afterward an incision was also made. Death resulted from exhaustion, and during the latter part of life there was noticed some dullness over the upper part of the right lung, with bronchial breathing. At the autopsy there was found waxy degeneration of the liver, with some peripheral fatty degeneration also. There was an enormous abscess of the right lobe, the walls of which were extremely firm on account of the waxy character of the hepatic tissue. There was also found perisophageal and peritracheal suppuration, together with localized empyema in the upper lobe of the right lung and extensive ulceration of the large intestine. Dr. Janeway remarked that there were two sets of cases in which intestinal ulceration was found in connection with abscess of the liver. In the first, the cause of the trouble was dysentery, or other similar disease; but when this was the case there were generally multiple, though small, hepatic abscesses. In the second, as in the present instance, he believed that the ulceration of the large intestine was consecutive, and probably dependent on the depressed state of the general health and the presence of a septic process in the system. The condition was analogous to that met with in puerperal fever.

Dr. H. M. Buggs then gave a

DEMONSTRATION OF THE THIN COMMA BACILLI.

In the course of his remarks he stated that similarity of morphological appearances did not constitute identity. Identity of growth, culture, and function were essential to constitute this; and because this fact was not recognized by the recent English cholera commission their work was practically without value. Still the etiological relation between Koch's comma bacillus and Asiatic cholera, although even Klein had admitted that he had found the organism in greater or less quantity in all cases of the disease, could not as yet be regarded as positively proved. There was one point still lacking, namely, the test of inoculation, and it was quite possible that this never would be established, since, as far as could be determined, there was probably no animal that was susceptible to cholera. The so-called inoculation of guinea-pigs by means of injections into the duodenum was entirely unsatisfactory, and could not be accepted.

A demonstration was made of a

NEW CLOSED CIRCUIT "CURT BATTERY" AND INCANDESCENT LAMP, WITH UNIVERSAL ILLUMINATORS FOR DARK CAVITIES;

also the combined electric light and tongue depressor for laryngoscopic examinations, together with improvements on the Grenet battery. Some introductory remarks were made by the President, Dr. CHARLES A. LEAH, who said that recently in the examination of one of the dark cavities of the body he had used for illuminating purposes the small incandescent electric lamp, and that it had proved so satisfactory and combined so many recent improvements that he had deemed it worthy of a special notice and of presentation before the Association. The universal illuminator was an electric lamp attached by a ball and socket joint either to a long or a short handle, not much thicker than an ordinary penholder; being so small that it might be passed through an opening in the thorax, after the collapse of the lung and removal of the pus in empyema, to illuminate all the surrounding parts. It might be used in the rectum or the vagina, and also after gastrotomy and cystotomy in searching for localized disease or a hidden foreign substance. In the abdominal cavity it might be utilized in seeking for the source of a concealed hæmorrhage or for an injury to a fixed and obscure part.

For the mouth, throat, nares, and larynx, a combined tongue depressor had been attached, which was easily held in the left hand, while the right was free to manipulate. The improvements on the "curt battery" were the gain in space by the use of square jars, the employment of hard-rubber caps, replacing those of metal, and the increase of the exposed surface by the use of corrugated carbons.

MEDICAL SOCIETY OF THE STATE OF  
PENNSYLVANIA.

The thirty-sixth annual session of the Pennsylvania State Society, was held at Scranton, from May 27th to 29th inclusive. During the meeting the final passage of the bill to create a State Board of Health by the Legislature was announced; what the Society had failed to obtain by moral suasion though its Standing Committee had been made an actuality by the hard logic of the recent typhoid outbreak at Plymouth. The Society passed a resolution, after considerable discussion, which was proposed by the Committee on Medical Education, advocating the passage of a bill creating a special board to examine and license persons who wish to practise medicine in this State. These resolutions recommended that the sole power of granting a license to practice in Pennsylvania be vested in a single Board which should have no connection with any corporation engaged in medical teaching, the proceedings of the Board to be a matter of record open to public inspection, and that the medical profession should nominate to the Governor of the State a list of persons qualified to perform the duties of the board, from which he shall appoint the required number. It was furthermore recommended that a committee be appointed to prepare, in accordance with the views of the association, a bill to be

presented to the next Legislature, incorporating the above provisions. After considerable discussion the resolutions were adopted.

The Lackawanna County Medical Society presented a communication with regard to an irregularity in the practical application of the Registration act. It concerned a practitioner of medicine, of Scranton, who obtained a medical diploma from a Western college after an absence from home of less than two months. A protest had been made by this Society against the acceptance of this diploma, and the regular colleges in Philadelphia refused to endorse it, as the law requires, for registration. The holder of the diploma then went to the dean of the Homeopathic College in Philadelphia, who indorsed it, and he accordingly registered.

The Society, after considerable discussion, adopted a resolution offered by Dr. P. D. Keyser, declaring it to be the sense of the Society that diplomas granted in other States should be indorsed by colleges of similar kind in this State, thus requiring homeopathic colleges to confine their authorization to homeopathic diplomas. Referring to the recent attempt to have the Philadelphia County Medical Society memorialize the Legislature on the Medical Examiner Bill, the State Society adopted a resolution, on motion of Dr. H. H. Smith, declaring that all County Medical Societies which shall, without giving notice to the State Society, attempt to have legislation effected on any question shall be deemed guilty of contempt, and shall forfeit the rights they enjoy in the State Society until such disabilities be removed.

Among the papers read before the Society, the one which excited the most interest was one by Dr. Taylor, of Wilkesbarre, who presented a careful study of the outbreak of typhoid fever at Plymouth, tracing the epidemic to accidental contamination of the drinking-water with typhoid excreta. Drs. French and Shakespeare, of Philadelphia, also presented a report of their investigations, including post-mortem examinations, which proved the identity of the disease.

Dr. HENRY H. SMITH, of Philadelphia, read a paper on

#### THE NON-CONTAGIOUSNESS OF CHOLERA ASIATICA,

in which he opposed the views of Ferrán and Koch, and defended sanitary measures, disinfectants, and the use of ordinary precautions against an epidemic; he denied that there was any special danger to communities and individuals who observed the laws of hygiene.

Dr. S. S. Shultz, of Danville, read the address on "Mental Disorders"; Dr. J. G. Richardson, of Philadelphia, the address on "Hygiene and State Medicine"; Dr. Charles S. Turnbull, that on "Otology"; Dr. E. T. Bruen, that on "Medicine"; Dr. C. A. Rahter, of Harrisburg, that on "Obstetrics"; Dr. E. A. Wood, of Pittsburg, that on "Surgery"; and the annual address of the President was delivered by Dr. E. P. Allen, of Bradford County.

Among the volunteer papers read which especially deserve mention were: "Dermatitis Medicamentosa," by A. van Harlingen, M.D.; "A New Treatment of the Alcohol Habit," by William F.

Waugh, M.D.; "Nil Desperandum in Spinal Caries," by Benjamin Lee, M.D.; "Electric Light in Diagnosis," by Addmell Henson, M.D.; "Medicated Soaps for Skin Diseases," by J. V. Shoemaker, M.D.; "Osteotomy for the Correction of Deformities in the Lower Extremities," by H. R. Wharton, M.D., and "Dislocation of the Shoulder," by Oscar H. Allis. The officers elected for the succeeding year are: E. A. Wood, M.D., of Pittsburg, President; Hiram McGowen, Dauphin County; E. J. Russ, Elk County; A. H. Shaefer, Juniata County; C. C. Halsey, Susquehanna County, Vice-presidents; William B. Atkinson, of Philadelphia, Permanent Secretary; G. D. Nutt, of Lycoming County, Recording Secretary; J. H. Musser, of Philadelphia, Corresponding Secretary; Benjamin Lee, of Philadelphia, Treasurer. Williamsport was selected as the next place of meeting, on the first Wednesday in June, 1886.

### Recent Literature.

*Die Verdauungskrankheiten der Kinder.* Von D. ADOLF BAGINSKY, Privatdozent der Kinderheilkunde an der Universität Berlin. Mit 3 Tafeln Mikroskopischer Abbildungen. Tübingen: Verlag der H. Laupp'schen Buchhandlung, 1884.

In this interesting and valuable treatise Dr. Baginsky gives the results of his study during the past ten years on the digestive apparatus of children, which he has undertaken on a pathological basis and has illustrated with a number of microscopic plates. The work includes exhaustive articles on gastro-intestinal dyspepsia, cholera infantum, enteritis follicularis, the secondary, acute, subacute, and chronic gastro-intestinal catarrh, and the atrophy of children.

Besides commending themselves from their evident thoroughness and excellent method of arrangement, the various articles carry additional weight from the fact of the author's having already established himself as an authority by his monograph on "Pleurisy and Pneumonia" and his textbook on "Diseases of Children."

*The Care of Infants: A Manual for Mothers and Nurses.* By SOPHIA JEX-BLAKE, M.D., Member of the Irish College of Physicians; Lecturer on Hygiene at the London School of Medicine for Women; Attending Medical Officer at the Edinburgh Provident Dispensary for Women and Children. "Prevention is better than cure." London: Macmillan & Co. 1884.

This is one of the best little books of general advice for mothers and nurses which has yet appeared, in that it does not attempt too much, nor endeavor to tell the readers, for whom by its title it is indicated, what they cannot fully understand, and in not understanding do harm in their attempts to follow, a very common fault in treatises of this class.

As in all manuals on this subject, it would have been better if the authoress had contented herself with a general warning against artificial foods, and not attempted to explain when or how they are to be used, a subject which is entirely beyond the understanding of mothers and nurses.

**Medical and Surgical Journal.**

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**ANNUAL MEDICAL MEETINGS.**

THE season of the year devoted to the meetings of State Medical Societies and National Associations in special departments of medical science is again upon us.

Pennsylvania, Ohio, Illinois have already had their annual reunions within the last two weeks. This week Massachusetts, Rhode Island, and Maine hold their meetings, too simultaneously for those who would like to attend more than one of them. Next week the New Hampshire Society holds its meeting. Of the National Associations the Climatological met in New York two weeks ago, the Neurological Association meets in New York next week, the Laryngological will meet in Detroit about the same time, the Ophthalmological and Otolological at New London in the middle of July, the Dermatological at St. Louis in August, the Gynecological at Washington in September.

Here are ample opportunities for the cultivation of friendly relations between professional brothers for the exchange of views and a comparison of results, — opportunities which the nature of the practising physician's calling make especially desirable and should make especially profitable for him.

**CONGENITAL DISPLACEMENT OF THE HIP.**

IN our last issue we published the detailed account of the reduction of a double congenital luxation of the hip by Dr. Buckminster Brown, of Boston. In the case recorded by Dr. Brown, the patient, untiring, and ingenious efforts on his part as surgeon accomplished the reduction of the dislocation, which has remained reduced ever since.

Notoriously unamenable to treatment as this condition has been considered, it will perhaps be not amiss to hastily review the usual means for dealing with this deformity. The subject naturally divides itself into the operative and mechanical methods of treatment.

E. Rose, in 1874, ventured to resect the head of the femur in a unilateral congenital dislocation.

C. Regher soon followed with two resections for single congenital dislocations. Margary<sup>1</sup> reports seven excisions of the head of the femur for this deformity. The joint was exposed by a straight incision extending from the posterior superior spinous process of the ilium to the great trochanter, the thigh being adducted and flexed. The joint being freely opened, the round ligament divided and the soft parts protected, the head of the femur was severed by an Adam's saw. All this under antiseptic precautions. Extension was immediately applied and continued throughout the treatment. Two cases were decidedly benefited; the results in the others were not recorded.

The great obstacle to all attempts at a reduction of this deformity is the obliteration of the true acetabulum. To obviate this difficulty Heusner,<sup>2</sup> in the case of a girl twenty years of age where there was great pain, not only excised the hip-joint but deepened the acetabulum by chiseling; and Margary, in another case, after opening the hip-joint chiseled out the acetabulum. The deformity in these cases was reduced and the capsular ligament was reinforced by a strip of periosteum removed from the posterior superior margin of the acetabulum. Heusner's case was relieved of pain and could walk at the end of three months. Margary's case died of septicæmia.

Finally, as representing another operative method, we have Broadhurst's free division of all opposing muscles about the hip-joint.

The mechanical treatment of this deformity has been attempted by the various extension-splints. Certainly Dr. Brown's case is valuable and very striking as an exponent of what can be accomplished by properly adapted mechanical contrivances and the careful, minute supervision of a competent orthopædist.

Dr. Brown is to be congratulated upon his success; comparatively few surgeons would be capable of that unremitting attention to details which characterizes the treatment of this patient.

We feel that he strikes the keynote of the mechanical treatment of the deformity when he says: "The apparatus used was designed as the objects to be accomplished and the exigencies of the treatment presented themselves." The recognition of this principle of mechanical treatment has, in a large measure, given him success.

Our drift, at present, is toward brilliant operative methods. Dr. Brown has demonstrated that certain cases can be safely and successfully treated by mechanical procedures alone.

— Dr. Edward Cowles, Superintendent of the McLean Insane Asylum, at Somerville, Mass., is to give a course of lectures on Mental Diseases at the Dartmouth Medical College next autumn.

<sup>1</sup> *Archiv für Orthopædie*, December, 1884.<sup>2</sup> *Centralblatt für Chirurgie*, No. 45, 1884.

## THE INFLUENCE OF SEA-VOYAGING UPON THE GENITO-UTERINE FUNCTIONS.

AN interesting and suggestive paper was recently read before the New York Academy of Medicine on this important subject by Dr. J. A. Irwin, of New York, who has had much medical experience at sea. Had space permitted we should have been glad to have given our readers this article in full, but desire at least to bring to their notice the principal points developed by the writer. It is a timely contribution at this season when so many cross the Atlantic for a summer in Europe.

It is well known that the genito-uterine functions are liable to serious disturbances not only during a sea-voyage, but subsequently to it and presumably in consequence of it. The amenorrhea of recent immigrants has long ceased to be a novelty, and yet we have never seen the phenomenon satisfactorily explained. The increasing frequency of ocean travel, however, renders it peculiarly important that the effects of sea-voyaging on menstruation, gestation, parturition, and lactation should be well understood: it is desirable, too, that the therapeutic possibilities of sea-life in the treatment of uterine disease should be more definitely known. Dr. Irwin's paper is therefore timely in more ways than one; and it is to be hoped that others, who like the author have had, or may have, extended opportunities for observation, will continue the investigation of the subject. We do not propose in this notice to examine in detail the statistics of the author, but rather to give the general results and conclusions at which he has arrived in his very considerable experience at sea.

The special agencies which might naturally be supposed to affect the female economy in an ocean voyage are classed by the author under three headings—psychical, aerial, and motional. Strong mental impressions, particularly fear, are well known to have a marked effect on the uterus, as well as on the stomach, intestines, and bladder: the sudden arrest of menstruation, which occasionally takes place at the time of embarkation, may fairly be attributed to fear in some cases. Again, sea-air has long been thought to have some mysterious power on the human economy: menstrual irregularities are of common occurrence during a summer residence at the sea-shore; but the same phenomena have been observed to follow a sojourn in the mountains, and while sea-air has an undoubted hygienic effect in many cases, its influence in the causation of functional disturbances is as yet undetermined.

The effect on the human body of the motion of a ship at sea has been carefully studied: sea-sickness is now considered by many, if not most, authorities as synonymous with motion-sickness; and the author believes that to the effects of motion the various phenomena of perverted uterine function are chiefly due. The constant tendency of this

motion, he points out, is "to determine an increased blood supply to the pelvic organs"; and the result differs in degree from a slight circulatory stimulus, which in many cases has a positive therapeutic value, to a decided vascular engorgement, with the various consequences of pelvic congestion. From the author's observations it appears that menstruation may be disturbed as to its regularity, duration, amount of excretion, and increase of pain or discomfort, according to the individual constitutional tendencies, the length of the voyage, condition of the weather, and the relation of the last period to the time of embarkation. As Dr. Fordyce Barker has already pointed out in his essay on sea-sickness, "when the voyage is begun near an approaching period, the flow is brought on two or three days earlier, and is more abundant than usual"; the author finds also, and is supported by the experience of many other ship-surgeons, that a premature return of the catamenia may occur at any time during the inter-menstrual period, but especially so when the voyage has been begun during the first ten days after a normal period on shore.

The amenorrhea so often observed for two or three periods subsequent to an ocean-voyage is attributed by the author to the reflex disturbance of the uterus and ovaries caused by the nervous exaltation and pelvic hyperemia during the voyage; that is, the primary stimulus is followed by depressed innervation and pelvic anemia with consequent diminution or complete suppression of the flow at the next regular period. As to the amount of pain experienced during menstruation at sea, the author finds that in some women dysmenorrhea is suffered for the first time in an ocean-voyage; and that the pain is intensified in all cases in which dysmenorrhea is habitual on land, except perhaps in some cases of spasmodic or neuralgic dysmenorrhea supposed to be dependent on anemia.

Regarding an ocean-voyage as a powerful emmenagogue, therefore, the author considers it a therapeutic agent of great value in the treatment of conditions included under the term chloro-anemia: "in amenorrhea dependent on deficient tone, or an undeveloped state of organs; in retarded sexual maturity; in certain forms of leucorrhœa, uterine asthenia, and sterility; and above all in those delicate, gawky, over-schooled girls in whom abeyance of the uterine function is often among the first warnings of approaching phthisis."

The effect of sea-voyaging on the course of gestation is a subject of great practical importance. It would seem that abortion should be of frequent occurrence at sea, if uterine congestion can justly be considered a cause of abortion; but the author's observation leads him to believe that however active may be the ganglionic and sympathetic influences of motion with its consequent pelvic congestion, sea-sickness and the visceral disturbances of violent and prolonged vomiting are the

main causes of abortion and premature labor in an ocean-voyage. He has noticed that at the seventh and eighth months violent sea-sickness almost invariably gives rise to pains, which, if unchecked, will usually go on to the expulsion of the fetus. During the early months he believes there is great danger of abortion, and advises that if a pregnant woman is to undertake a voyage at all, the safest time to be selected is during the fifth and sixth months.

It should be said that some authors do not accept these views, but think that abortion is an extremely rare consequence of sea-sickness; on the other hand, however, several ship-surgeons known to the author have seen many premature labors and abortions at sea, and believe sea-sickness to be the principal exciting cause.

#### MASSACHUSETTS HEALTH AGAIN A VICTIM TO LUNACY AND CHARITY.

THE conglomeration of Health, Lunacy, and Charity yoked under the Massachusetts Board of that name is again attracting attention by unsavory details of internal administration. These details, though no surprise to those familiar with certain reports and investigations of previous years touching one of the departments connected with the out-door poor, are just becoming known to the public at large.

We are sorry to have to refer at all to this dirty question. When, however, we see that the sanitary interests of the State are in danger of losing a valuable promoter and in fact their only competent representative upon this unwieldy Board, it is fit that the medical profession should know something of the causes which have led to such a danger.

Through the insistence of Dr. H. P. Walcott, who brought to a conclusion the equally disinterested but less successful efforts of several predecessors, one of the departments of the Board was compelled to purge itself. As a sequel, Dr. Walcott's name has not been presented in nomination for another term, his previous term having expired last Saturday. The name of the other member of the Board whose term expired at the same time, Mrs. Clara T. Leonard, was promptly sent to the Council three weeks since according to custom, so that she could be confirmed and take part in the reorganization of the Board for the ensuing year.

It is common talk that Dr. Walcott, under these circumstances, has refused to be considered as a candidate for reappointment. Whilst sympathizing with such a position, the only one consistent with a sense of self-respect, we cannot believe that Dr. Walcott would refuse to yield his personal preferences to the demands of those most competent to judge of the services rendered by him to the State in the past, and which are likely to be required in the

future of any one representing its sanitary interests at the State House, should those demands be heeded by the Governor.

We reserve all further comment upon the causes and consequences of this vacancy upon the Board, but desire to express our conviction—a conviction representing as we know that of a large number of our readers—that the State can ill afford to lose the assiduous, though gratuitous, services of such a man as Dr. Walcott or to treat him with indignity. Service in connection with this Board is not yet so sweet but that an exceptionally able, high-minded, and experienced man who is willing to work on it should be welcomed and encouraged; and if he can only carry good measures by voting with "bad" men, this is discreditable to the Board, not to him.

#### ON THE USE OF CONCENTRATED SOLUTIONS OF SALINE CATHARTICS IN DROPSY.

DR. MATTHEW HAY, in the *London Lancet* for April 21, 1883, proposed a novel method for the treatment of certain cases of dropsy, based on the administration of concentrated solutions of saline cathartics.

He there cites a case of cardiac dropsy where the patient seemed to be in the last extremity from suffering and prostration, dyspnoea, ascites, and general anasarca. "An abundance of soft râles all over the chest indicated a pronounced œdema of the lungs. He had taken every variety of renal and cardiac stimulants, and had been purged repeatedly." Dr. Hay ordered that he should have as little as possible of food and liquids during the night in order to free the alimentary canal from digestive juices and other fluids and permit the full action of the salt. The next morning three ounces of sulphate of magnesia were administered dissolved in two tablespoonfuls of hot water, no water to be given afterward.

The result was most gratifying. In less than an hour after the purgative had been given, its cathartic effect was manifested and there were repeated evacuations in the next few hours; on each occasion the water seemed to "gush" from him, and he passed unusually large quantities of urine. There evidently had not been merely a removal of so much fluid from the blood and tissues as was necessary for the usual dilution of the salt within the intestines, but the sharp, sudden withdrawal of fluid from the tissues by the concentrated blood had initiated a movement of the fluid into the latter which had continued for some hours after the direct action of the salt and the blood had ceased and until the tissues were in great part rid of their superfluous liquid. The improvement was, in fact, most marked, and continued under an occasional repetition of the concentrated saline solution. The conditions of the treatment, then, are previous abstinence from food and drinks and the administration

of the salt (which should preferably be Epsom, on account of its great solubility) in a large dose in the smallest possible quantity of water.

Dr. W. G. Eggleston has reported in the *Journal of the American Medical Association*, March 28, 1885, the details of a case occurring in his own practice where the method of Dr. Hay was carried out with equally good results. The patient was suffering from a large pleuritic effusion, with prostration and gradually increasing dyspnea. Tapping was indicated and advised, but declined by the patient. He was then ordered to abstain from water and liquid food and to take, the next morning, sulphate of magnesia, three ounces in less than half a tumblerful of water. The salt operated in less than an hour, and during the day there were eight large watery evacuations. As the patient expressed it, the water literally poured from him. There was a marked decrease in the effusion. Another dose of the salt, three ounces, was ordered to be taken the next morning, and when seen the day following the fluid was still further diminished; this effect was now followed up by twenty drops of fluid extract of jaborandi, which produced copious perspiration. In three days more the fluid had almost entirely disappeared from the chest, the lung had resumed its functions, and there was no dyspnea. When last seen, several months after, there had been no return of the fluid. This new method of giving saline cathartics in dropsies merits farther trials by the profession.

#### MEDICAL NOTES.

—The Committee on Public Health of the Massachusetts Legislature have reported a bill to regulate the practice of medicine. As the bill is liable to undergo amendments, we defer publishing it in detail.

—The Boston School Committee has voted to establish the office of Instructor on Hygiene in the public schools of the city.

—In the notable Hoyt will case, as we learn from the *Medical Record*, Dr. Millard testified that Miss Hoyt had many imaginary ailments, among them a belief that she had diphtheria and that she had coagulated blood upon the brain. The doctor testified that to humor her he called a professional cupper and leecher, a man named Hansen, who conducted an employment agency for nurses. This man bled her a trifle behind the ear and then showed her a clot of blood on a plate, and she after that considered her head all right. "Did the nurse obtain the blood from her head?" General Butler asked. "He was n't a nurse," answered the witness; "he only kept a nurse agency." "If he kept a nurse agency," returned the Massachusetts statesman, doggedly, "he was a nurse." "Then I

suppose if a man keep a stable, he's a horse," suggested Senator Evarts, wearily. "Or if he drive an ice-wagon, he's a cold in the head," murmured Mr. Root, sadly.

—A writer in the *Weekly Medical Review* reports a case of death from shock produced by the injection of a stream of cold water against the cervix of a pregnant woman, made for the purpose of inducing abortion. No post-mortem examination was made, so that the conclusion can hardly be considered as certain that the shock alone was the cause of death. The death must have been nearly instantaneous and there was evidence that no drug had been taken. The possibility of air embolism cannot of course be absolutely excluded, but that occurrence would be extremely improbable in the fifth month from a vaginal injection by a Davidson syringe, there being no evidence of cervical dilatation.

—The cholera in France seems to have been more benign in character among the military, than among the civil population. In seven army corps, from the last of June to the first of December, 282 soldiers were attacked, of whom 87 died; a mortality of twenty-five per cent.

#### NEW YORK.

—The closing exercises of the Long Island College Hospital were held at the Academy of Music, Brooklyn, June 3d. The graduates numbered forty-seven, and the address to the class was delivered by Mr. St. Clair McElwey, of the Board of Regents.

—The trustees of Columbia College have decided to add a course of sanitary engineering in the School of Mines, and the chair will be filled by Dr. J. S. Billings, U.S.A., who will also continue to lecture on hygiene. The degree of sanitary engineer will be granted to those who take the course for four years and pass satisfactory examinations.

—The fire department has very sensibly offered a number of engines for the purpose of flushing the streets and gutters in the vicinity of the rivers with salt water, and in accepting the offer General Shaler, President of the Board of Health, remarked: "I wish that we could avail ourselves of the opportunity now presented to adopt a scheme for the permanent use of salt water for sanitary purposes. It would cost little to lay a six-inch iron pipe from the rivers to the tenement-house districts with hydrants at convenient points. The powerful engines of the fire department could be used to force water into the pipe, and the street-cleaning department could attach short lines of hose and flush all the streets in the districts."

—The late Rev. D. H. Macurdy bequeathed \$5,000 to St. Luke's Hospital, and the late Peter C. Cornell, of Brooklyn, \$5,000 to the Brooklyn Hospital.

—The seventeenth annual commencement of the Women's Medical College of the New York Infirmary was held at the University Club Theatre, May 29th, when degrees were conferred upon eleven graduates, one of whom was from China. The address to the class was delivered by Dr. Edward H. James, of the health department, Professor of Hygiene, and among those present were the Chinese and Japanese Consuls.

—At the annual meeting of the State Board of Health, held in May, Dr. E. M. Moore, of Rochester, was reelected President, and all the former committees were reappointed.

—Several cases of smallpox have occurred among the passengers of the steamship Weser from Bremen, and of the Polynesia from Hamburg, both of which arrived at quarantine on the second of June.

—The bill providing for a Forestry Commission and the protection of the Adirondack woods, which was passed by the Legislature last month, has been signed by the Governor.

### Miscellany.

#### ARE THE DOCTOR'S HORSE AND BUGGY HIS TOOLS?

A PHYSICIAN in New Hampshire, when his horse and buggy were seized to satisfy the claims of his creditors, pleaded that as the "tools of his occupation" they were exempt from liability to seizure for debt, and under the statute replevined the articles. The following is the decision of the court under which the jury restored the property:—

"The court cannot say, as a matter of law, that a wagon or a harness is a tool of a physician's calling, and so exempt to all physicians; nor can they say it is not such a tool. The most that can be said, as a matter of law, is that it may be a tool of his profession if, in the particular case, it is reasonably necessary for him to use it as a tool. If it should appear that his practice was confined to his office, or that he was a physician or surgeon in a hospital, attending to no cases outside of the institution, or that he was a surgeon on shipboard, or that he went on foot or horseback, or on the cars, to visit his patients, a wagon and harness would not be exempt under our statute, because they would be of no use to him as tools in his practice. They might be of use to him in other respects, as in going to church, or carrying his children to school, or in visiting friends, or as a means of recreation and pleasure; but these uses are manifestly not within the legitimate scope of the technical duty of a physician. Not coming within the strict definition of the term tools, and not being reasonably necessary as tools for him in his practice of his profession, they would not be tools within the meaning of the statute, and so would not be exempt as such. But if it should be found that the physician claiming the exemption could not practise his profession with reasonable success without a team with which to visit his patients;

that he was located in a country town, for example, where it was necessary for him to ride a large part of the time in order to accomplish anything professionally, a wagon and harness might properly be found to be reasonably necessary for him as tools of his occupation. But the finding would be one of fact so far as the reasonableness of the use is concerned; and it could not be said that these articles are exempt to every physician, or to physicians generally, but only to the debtor in the particular case. If there is any doubt whether an article claimed to be exempt from attachment is a tool under the statute, the question should be submitted to the jury whether its use as a tool by the debtor in his business is reasonably necessary. If it is, it is exempt; otherwise, it is not exempt."

### JACKSONIAN EPILEPSY.

DR. WILLIAM OSLER, in the January number of *The American Journal of the Medical Sciences*, makes an interesting contribution to the pathology of a typical case of Jacksonian epilepsy. The case was that of a girl who died at the age of fifteen years and nine months, having manifested the epileptic phenomena for more than fourteen years. She had been healthy up to the age of sixteen months, when she had a fall on her head, though for five months after this no symptoms referable to the brain were noticed. From that date she became liable to attacks of spasms lasting for about seven months, and then disappearing for as long an interval; on one occasion she was free from them for a year. The spasms always began in the left hand, and after a time the leg became affected, the spasm beginning in the toes, the face being affected last. There was never any loss of consciousness, and in the intervals between the spasms the patient was quite well. Thus it is said that if a spasm happened to seize her whilst she was at dinner, she would get a pillow and place it on the floor, and then lie down until the spasm was over, when she would return to her dinner. When she was about eight years old, the left leg became weaker, and the foot began to turn in, and from that time contracture remained, but the arm was never in the least degree stiff. From the time she was eleven years old the fits became more frequent, and she was at one time unconscious for six weeks. For the last ten months of her life she was free from spasms. Her intellectual faculties were unimpaired throughout. Death took place during a paroxysm of convulsions. On examination of the brain a small firm glioma was found in the white substance immediately below the cortex, but hardly if at all invading the gray matter at the upper part of the ascending frontal convolution. The case affords, as Dr. Osler points out, confirmation of the view derived from Ferrier's experiments as to the seat of the leg-centre, and is quite in harmony with the pathological experiences of MM. Charcot and Pitres on this point. Dr. Osler was led to infer that the growth had always been small, and in the earlier stages of its development, though causing irritation enough to set up the convulsions, had not involved the white fibres coming from the leg-centre to such an extent as to produce the permanent contracture.

## Correspondence.

## PARIS LETTER.—MEDICAL MATTERS IN PARIS.

[FROM OUR SPECIAL CORRESPONDENT.]

PARIS, May 12, 1885.

One of the most valuable courses in Paris, and to the American medical student perhaps the most valuable of all (for we have nothing like it in copiousness of material and frequency of occurrence), is that at the morgue. If not a matriculate, the visitor cannot enter without a card of permission. This is obtained from the dean of, and at the medical school, or his secretary. He will at once ask for your diploma, which one rarely has in his pocket; next for a medical document of some nature proving your status.

If you really wish to attend the course it will not do to be embarrassed by these little matters, nor by the fact that your pocket is not filled with medical passports. You present your card as the only testimony in your immediate possession and politely beg the gentleman (who will say: "*Any one might present a card*") to be good enough to believe you are a medical graduate, and finally his protests disappear under a smile, and he fills you a yellow card, numbered, bearing your name, your address, and good for one month. In return for his kindness you have only to enter in his register, your name, your country, your city, your age, where you were born and when, where you were graduated and when, and then write your name again as a sort of gentlemanly oath to the truth of the foregoing.

The course is called "Conférences de Médecine-Légale Pratique," and is held in a small amphitheatre in the morgue building, which admits perhaps fifty men, and at the hour is always full. There are three conferences weekly. Professor Brouardel conducts one of them; his two assistants the other two. There is, of course, always a body to be examined, death having occurred by violence, drowning, poison, or there has been a false diagnosis at the hospital where the death occurred. At all events the purpose of the autopsy is to discover the cause of death. In the case of a body drawn from the Seine, for example, the question to be decided is whether death occurred from drowning, or from violence before immersion, or whether the drowning was probably a suicide, etc. Every step has a medico-legal bearing. The most minute external and internal examination is made, and a careful record is kept. At the beginning of the autopsy, and as it advances, the student who holds the knife is questioned as to his opinion concerning the meaning of every abnormal sign, and if he fails to give a correct reply, or has no opinion to give, the audience is called upon for judgment. This creates the conference, and the professor and his assistants being very able the course is made unique in its great value to the students. Occasionally Brouardel does the entire work himself, thus converting the conference into a demonstration. The conference lasts one hour. I have seen Brouardel examine and pronounce upon three bodies within that period.

The manner of the necropsy is peculiar. The eyes are first incised and the lenses removed for examination. The body is next opened by means of a cut beginning at the bifurcation of the tracheæ, descending over the left costal cartilages and sweeping in a curve just inside the crest of the ilium, across above the pubes and back to the bifurcation by a similar path on the right side: an oval incision which lays open abdominal and thoracic cavities at once. The tissues are dissected away from below upward (the costal cartilages having first been cut through), and the sternum and tissues come away together. The organs are removed in the usual order, but a very much longer time is occupied in opening the intestines by the French,

than by the German, method. For purposes of examination longitudinal incisions are made, two inches apart, up each leg from ankle to hip, up each arm from wrist to shoulder, including the entire circumference of each limb, and also up the whole back from rump to shoulders and neck. This leaves the unfortunate cadaver in a state of mutilation which probably would not be permitted at home. Indeed, even Paris lay journals are complaining of what they consider unnecessary injury of bodies of people of the better classes who have met with violent death, and whose remains are subjected to legal post-mortem examinations.

The cranium is opened by two methods. By one the skull is quickly broken through in the usual circle with the sharp edge of a heavy steel hammer (shaped like that of a mason), and the brain is removed entire. The other method is to cut straight through the centre of skull and brain longitudinally, with a thin saw, from the middle of the os frontis to the occipital protuberance. Half the brain comes away with the top of the cranium. It seemed a very convenient cut. What was done with the remains of the bodies I did not learn. The organs, after examination, are thrown into a bucket and carried away.

At one conference, during which two stalwart male bodies were examined, there was present one young female student, quite near the table, and who talked and laughed with the men. It was not at all charming, but she did not appear in any way disturbed by her extraordinary surroundings.

A convenient use of water is managed by having the water-pipe come down from above, along the pipe of the gas-burners. The dependent hose is not in the way, cannot fall to the floor, and is always at hand.

It is easy to imagine the great usefulness of this course to students who attend the three weekly conferences. Every variety of medico-legal question in connection with autopsies is carefully discussed, and nothing is left undone to make each case clear in all its bearings.

During the recent Congress of French Surgeons, in proof of the occasional but rare preservation of the mobility of the leg and freedom from muscular atrophy after fracture of the patella, Larger introduced a man aged seventy-three, very robust, with no history of arthritis or scrofula, and no fracture of the patella among his ancestors or relatives. He has been four times the victim of this accident:—

(1) In 1846 transverse and median fracture of the right patella, treated by the Boyer apparatus.

(2) Patient recovered and resumed his occupation (butcher). Four months later the callus ruptured. A new recovery, without limp.

(3) In 1860 transverse and median fracture of left patella. Treated as before. Recovery, without limp.

(4) In 1862 occurred the final fracture of the right patella. Fracture transverse, but below the seat of the first and near the summit of the patella. Followed by persistent swelling of the knee. Puncture of the articulation gave issue to sero-sanguinolent fluid.

*Present condition anatomically:* Left patella divided into two parts by a fibro-callus four centimeters wide (fracture of 1860). On the right knee is a deep and ghastly sulcus at the habitual level of the patella, exposing very sharply the articular surface of the femur. The patella is no longer in contact with the surface of the condyles, but rests above upon the diaphysis. A callus one and one-half centimeters in width (fracture of 1846) joins the two rectangular fragments of the right patella. A third fragment, very small and triangular, formed by the summit of the patella, remains attached, at level of the head of the tibia, to the ligamentum patellæ. This third fragment is absolutely detached from the other two and has no connection with them, as may be proved by digital examination. Further, when the anterior muscles are contracted the patella ascends the thigh nearly to the junction of its

middle and lower thirds. Finally, the articulation of the two knees is perfectly normal.

**Functional power:** In spite of four fractures this man was able to continue his business. He has now retired, walks easily on a level without a cane and without limping, but slightly drags right leg. Goes upstairs without effort and more easily than any one of his age (73) in his neighborhood. Experiences only slight difficulty in descending, when he is obliged to stiffen one leg. Plays ten-pins; walks ten kilometers daily. Keeps pace with any one when he has a cane. Extension of the left leg upon the thigh perfect in spite of four centimeters of fibrous callus. In right leg, power of extension not nearly so perfect but exists, although the patella is entirely detached from the tibia. Duchenne, who saw a similar case, explained that extension was permitted by means of lateral fibrous attachments of the vastus, external and internal, to the superior and lateral surfaces of the tibia. In Larger's case the lateral fibrous bridges can be felt during extension. Finally, all of the inferior

extensor muscles are normal, the right triceps femoris alone having suffered a slight atrophy. The conclusion was that impotence of the leg after fracture of the patella depends only to a very slight degree upon the distance between the fragments. In fact, in this case the vasti, external and internal, which principally provide over extension of the leg are but slightly disturbed in their action. The true reason of functional impotence after such accidents is arthritis and muscular atrophy of the extensors. The reason, said Larger, that in this case four fractures of the patella have caused such slight functional loss of power is because articulations and muscles have remained intact.

For a very lengthy, interesting, and warm discussion on the treatment of this fracture, with especial reference to Lister's operation of osseous suture in recent cases, and for a long series of statistics, see the *Bulletin de la Société de Chirurgie*, 1883, séance of November 14th. Larger's patient was shown at that time, and I have used the discussion. It is a very rare and striking case. Yours very truly, H. O.

## REPORTED MORTALITY FOR THE WEEK ENDING MAY 30, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrhœal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	658	246	18.45	13.56	2.85	7.20	1.80
Philadelphia . . . . .	927,995	350	137	13.44	8.58	2.29	5.43	1.92
Brooklyn . . . . .	644,526	247	95	15.39	13.77	2.43	4.05	2.84
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	176	61	13.68	21.06	2.28	3.99	2.28
Baltimore . . . . .	408,520	—	—	—	—	—	—	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	155	63	26.00	3.75	14.30	3.25	1.30
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	77	23	23.36	10.58	11.68	1.30	2.60
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	36	12	—	—	—	—	—
New Haven . . . . .	62,882	25	10	12.00	24.00	—	—	—
Nashville . . . . .	54,400	27	15	14.80	14.50	—	—	—
Charleston . . . . .	52,286	39	6	3.33	16.66	—	—	—
Lowell . . . . .	71,447	16	4	25.00	12.50	6.25	—	6.25
Worcester . . . . .	69,442	16	3	12.50	50.00	—	6.25	—
Fall River . . . . .	62,674	21	7	—	23.80	—	—	—
Cambridge . . . . .	60,995	20	5	10.00	15.00	—	—	—
Lawrence . . . . .	45,516	10	3	—	—	—	—	—
Lynn . . . . .	44,895	17	5	16.66	33.33	—	—	5.88
Springfield . . . . .	38,060	11	2	18.18	20.27	9.09	9.09	—
Somerville . . . . .	31,350	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	—	—	—	—	—	—	—
New Bedford . . . . .	30,144	14	3	—	—	—	—	—
Salem . . . . .	29,503	9	2	—	11.11	—	—	—
Chelsea . . . . .	24,347	8	3	12.50	25.00	—	—	12.50
Taunton . . . . .	22,420	—	—	—	11.11	—	—	—
Gloucester . . . . .	21,400	5	3	—	—	—	—	—
Haverhill . . . . .	20,905	7	1	—	14.28	—	—	—
Newton . . . . .	19,421	7	0	11.28	12.81	—	—	—
Brockton . . . . .	18,323	2	1	—	—	—	—	—
Malden . . . . .	15,273	2	0	—	50.00	—	—	—
Newburyport . . . . .	13,917	1	0	—	—	—	—	—
Fitchburg . . . . .	13,433	—	—	—	—	—	—	—
Waltham . . . . .	13,568	1	0	—	—	—	—	—
Northampton . . . . .	13,165	5	0	—	—	—	—	—
94 Massachusetts towns . . . . .	—	66	9	6.08	18.24	—	6.08	—

Deaths reported 2,238; under five years of age 719; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhœal diseases) 323, lung diseases 271, consumption 281, diphtheria and croup 98, diarrhœal diseases 74, scarlet fever 39, measles 31, malarial fevers 25, typhoid fever 15, whooping-cough 12, erysipelas 11, puerperal fever 11, cerebro-spinal meningitis seven. From measles, New York 13, Brooklyn 11, Boston four, New Orleans, Nashville, and Cambridge one each. From malarial fevers, New York 10, New Orleans seven, Philadelphia and District of Columbia three each, Brooklyn two. From typhoid fever, Philadelphia five, New York and Providence three each, New

Orleans, Charleston, and Lowell one each. From whooping-cough, New York five, Philadelphia and Brooklyn two each, Boston, District of Columbia, and Cambridge one each. From erysipelas, New York five, Boston and New Orleans two each.

Cases reported in Boston: measles 73, scarlet fever 11, diphtheria 22, and typhoid fever five.

In 113 cities and towns of Massachusetts, with an estimated population of 1,905,053 (estimated population of the State 1,955,191), the total death-rate for the week was 15.43, against 18.19 and 17.52 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,116, for the week ending May

16th, the total death-rate was 20.4. Deaths reported 3,487; infants under one year of age 800; acute diseases of the respiratory organs (London) 291, measles 143, whooping-cough 126, fever 45, scarlet fever 37, diphtheria 33, diarrhoea 39, smallpox (London) 45, Manchester four, Sunderland one) 50. The death-rates ranged from 10.9 in Brighton to 33.3 in Preston; Birmingham 17.9; Birkenhead 19.6; Bradford 16.8; Leeds 20.5; Leicester 18.8; Liverpool 24.8; London 19.1; Manchester 27.7; Nottingham 19.0; Sheffield 24.9; Sunderland 25.0. In Edinburgh 17.5; Dublin 35.0; Glasgow 20.4.

For the week ending May 16th in the Swiss towns there were 27 deaths from consumption, lung diseases 17, diarrhoeal diseases 13, diphtheria and croup seven, typhoid fever four, smallpox two, measles two, whooping-cough one.

The death-rates were: at Geneva 12.1; Zürich 7.8; Basle 18.3; Berne 28.4.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM MAY 29, 1885, TO JUNE 5, 1885.

HORTON, S. M., major and surgeon. Ordered for duty as post surgeon, Fort Riley, Kansas.

CLEARY, P. J. A., major and surgeon. Ordered for duty as post surgeon, Fort Lyon, Colorado. S. O. 78, Department of Missouri, June 1, 1885.

BROWN, J. M., major and surgeon. Assigned to duty as post surgeon at Fort Omaha, Neb.

BRECHEMIN, LOUIS, captain and assistant surgeon. Relieved from duty at Fort Omaha, Neb., and assigned to duty as post surgeon at Fort D. A. Russell, Wyo. S. O. 49, Department of the Platte, May 29, 1885.

AINSWORTH, F. C., captain and assistant surgeon (Department of Texas). Ordered for temporary duty in Department of Missouri. S. O. 58, Department of Texas, May 25, 1885.

PORTER, JOS. Y., captain and assistant surgeon. Granted leave of absence for six months on account of disability. S. O. 126, A. G. O., June 3, 1885.

DAVIS, WILLIAM B., captain and assistant surgeon. Granted leave of absence for one month from May 25, 1885. S. O. 122, A. G. O., May 28, 1885.

ROBERTSON, R. L., first lieutenant and assistant surgeon. Leave of absence extended one month. S. O. 123, A. G. O., May 29, 1885.

#### SOCIETY NOTICES.

AMERICAN NEUROLOGICAL ASSOCIATION.—The eleventh annual meeting of the Association will be held in the hall of the Academy of Medicine, 12 West Thirty-first Street, New York, on June 17th, 18th, and 19th; afternoon and evening sessions. Members of the profession are cordially invited to attend the sessions of the Association.

Wednesday, June 17th. Afternoon session at 2.30 o'clock. Remarks by the President, Dr. Isaac Ott. Introduction, by the retiring President, of the Vice-president elect, Dr. Leonard Weber, of New York. Reports of Council, of Secretary, and Treasurer. Scientific communications: (1) Dr. E. C. Spitzka, of New York, "The relation between the symptoms and the lesions of Posterior Spinal Sclerosis." (2) Dr. J. T. Eskridge, of Philadelphia, "A case of Acute Ascending Paralysis (Landry's disease)." (3) Dr. A. D. Rockwell, of New York, "A case of Chronic Myelitis: recovery." Evening session at 8.30 o'clock. Scientific communications: (4) Dr. George W. Jacoby, of New York, "On the use of Osmic Acid in Peripheral Neuralgias." (5) Dr. E. C. Spitzka, of New York, "Clinical Observations on Spinal Irritation."

Thursday, June 18th. Afternoon session at 2.30 o'clock. Address by the President, Dr. B. G. Wilder, of Ithaca, N. Y., "Paronymy versus Heteronymy as Neurodynamic Principles." Scientific communications: (6) Dr. Charles K. Mills, of Philadelphia, "The Brain of a Delusional Monomaniac who killed several Persons." (7) Dr. B. G. Wilder, of Ithaca, "On a seldom described Artery (A. terminalis), with suggestions as to the names of the principal Encephalic Arteries." (8) Dr. B. G. Wilder, of Ithaca, exhibition of preparations illustrating (A) the form and extent of the adult aorta; (B) the non-extension of the rima to the tip of the medulla; (C) the enlargement, yet complete circumscription, of the porta in an aneurysmal hydropneumothorax; (D) the fibrous diverticulum and its relation to the prosopele; (E) the continuity of the diaphragmatic endyma from the mesal surface of the thalamus over the habenula to the diaphragm; (F) the innervation of a dog, monkey, chimpanzee, and porpoise. There will be no evening session on this day.

Friday, June 19th. Afternoon session at 2.30 o'clock. Scientific communications: (9) Dr. E. C. Spitzka, of New York, "Demonstration of a Brain Monstrosity." (10) Dr. B. G. Wilder, of Ithaca, "On two little-known Cerebral Fibres, with suggestions as to fissural and gyrus names." (11) Dr. Wharton Stuker, of Philadelphia, "Two cases of Friedreich's

Disease." Evening session at 8.30 o'clock. Scientific communications: (12) Dr. E. C. Spitzka, of New York, "The Anatomy and Physiology of the Tracts comprised under the name 'Lemniscus' or 'Fillet.'" "The Anatomy of the Truncular Fasciculus." (13) Dr. B. G. Wilder, of Ithaca, "Preliminary Report of the Committee on Encephalic Nomenclature." (14) Dr. E. C. Seguin, of New York, "A Contribution to the Pathology of the Cerebellum." Other papers and cases.

SUFFOLK DISTRICT MEDICAL SOCIETY. SUMMER PRACTICE.—All members of the Suffolk District Medical Society may send to Dr. Edwin H. Brigham, Medical Library, 19 Boylston Place, the days and hours on which during the months of June, July, August, and September they will be in the city to receive patients, with their addresses. After this information is collected and available, a notice to the public will be given through the *Advertiser* and *Transcript*.

DR. EDWARD WIGGLESWORTH.  
DR. F. I. KNIGHT.

BOSTON MEDICAL LIBRARY ASSOCIATION, 19 Boylston Place.

#### DEATH.

In South Boston, June 5, 1885, Joseph Ferdinand Gould, M.D., M.M.S.S., aged fifty-five years, six months.

#### BOOKS AND PAMPHLETS RECEIVED.

Annual Report of the Secretary of the Navy for the Year 1884. In two Volumes. Volume II. Washington, 1884.

Revolution in the Practice of Medicine, by John Floyd Banton, M.D. Second Edition. Chicago, 1885.

Twenty-seventh Annual Report of the Washingtonian Home, located at 41 Waltham Street, Boston, 1885.

China. Imperial Maritime Customs. II. Special Series No. 2. Medical Reports for the Half-year ended March 31, 1884. Twenty-seventh Issue. Published by order of the Inspector-general of Customs. Shanghai, 1884.

Eighteenth Report of the Medical Staff of St. John's Hospital. Submitted April 6, 1885. Lowell, Mass.

Epilepsy. By L. W. Baker, M.D. Reprint from the New England Psychological Society, December 9, 1884.

On the Use of the Absolute Galvanometer, with Description of Hirschmann's New Instrument. By B. Sachs, M.D., New York. (Reprint from Journal of Nervous and Mental Diseases, Vol. XII., January, 1885.)

Ueber der Nutzen der Chromwasser-Behandlung in einem Falle von Syphilis maligna. Von Dr. J. Edmund Gintz in Dresden. Separat Abdruck aus Betz's Memorialien. 1885. 2 Hefte.

Scarlet Fever and certain Suggestions for its Treatment. In accordance with the most recent advances in Science and Experience. By T. Griswold Comstock, M.A., M.D. (Reprint from New York Medical Times, March, 1885.)

Clinical Lectures. On Scrofulous Neck. By T. Clifford Allbutt, M.A., M.D., Cantab., F.R.S., F.R.C.P., Consulting Physician to the Leeds General Infirmary. On the Surgery of Scrofulous Glands, by T. Pringle Teale, M.A., M.B., Oxon., F.R.C.S., Consulting Surgeon to the Leeds General Infirmary. London: J. & A. Churchill, 1885.

The Art of Massage. No. 1. Tracts on Massage. Translated from the German of Rehnauer, with Notes, by Benjamin Lee, A.M., M.D., etc. etc. Philadelphia, 1885.

Transactions of the New York State Medical Association for the year 1884. Vol. I. Edited for the Association by Austin Flint, Jr., M.D., New York: D. Appleton & Co., 1885.

Medico-Chirurgical Transactions. Published by the Royal Medical and Chirurgical Society of London. Second Series, Vol. XLIX. London: Longmans, Green & Co., 1884.

On the Significance of the Development of Optic Neuritis in Cases of Purulent Inflammation of the Middle Ear. By Charles J. Kipp, M.D., Newark, N. J. (Reprint from Archives of Otolaryngology and Rhinology, No. 1, 1885.)

Vorträge und Discussionen gehalten von dem Deutschen geistlich-Wissenschaftlichen Verein von New York vom Juni, 1870, in April, 1885.

Insanity and Divorce. The Neuropathic Conditions and Treatment of Cancer. Myomania. By C. H. Hughes, St. Louis, Mo. (Abstracted from the Alienist and Neurologist, April, 1885.)

A Case of Psycho-Sensory (Affective or Moral) Insanity. By C. H. Hughes, M.D., St. Louis, Mo. (Reprint.)

How to Feed the Baby. A Lecture delivered before the Philadelphia Hospital Training School for Nurses. By J. M. Keating, M.D.

Medical Topics. Containing: (1) Hints and Suggestions for Reform in Medical Education. (2) A Plan for the State Regulation of Medicine and Surgery. (3) Medical Education: Its Objects and its Requirements. By F. E. Sturgis, M.D., New York: William Wood & Co., 1885.

## Lecture.

ANTISEPTIC SURGERY.<sup>1</sup>

THE ANNUAL DISCOURSE BEFORE THE MASSACHUSETTS MEDICAL SOCIETY, JUNE 10, 1885.

BY FRANKLIN K. PADDOCK, M.D., OF PITTSFIELD, MASS.

IN fulfilling the conditions of this method, the simple application of germicides only partially completes the requirements of antiseptic surgery. There are other causes of inflammation than bacteria, which, it is apparent, must be avoided. The observance of every measure which hastens complete recovery is included in this system of treatment.

The general health of the patient is one of the most important considerations in determining the prognosis and the result of a wound. Freedom from mental and arterial excitement should be secured, as well as perfect rest and comfortable posture for the wounded part. These and many other considerations, varying, of course, to meet the demands of special cases, must not be ignored in fulfilling the requirements of this method.

In the case of accidental wounds, wounds that have been freely exposed to the air are more or less inflamed, and frequently the seat of fermentation when first seen by the surgeon. The same general principles must be observed as in the treatment of wounds made by the surgeon's knife.

The primary object is to destroy all the bacteria and micrococci that are present; this is accomplished by making a thorough application of the lotion to every portion of the wound. Syringing and douching are important measures in rendering the germicide efficacious. The secondary object to accomplish is, by efficient external dressings, to prevent the access of new germs.

Most accidental wounds are of recent occurrence when first placed under the surgeon's care. These, after being well cleansed and rendered aseptic, can be closed by sutures, with a fair prospect of securing union by first intention. The value of absorbent drains and efficient antiseptic covering is particularly marked in this class of wounds. Union by second intention is frequently acquired in such when primary union has failed. To succeed in this, careful coaptation of the granulating surfaces must be made and complete protection from subsequent germinal invasion assured.

It is surprising how rapidly even large wounds of this sort usually heal when treated in this way. Wounds that require weeks of treatment by ordinary methods get well in as many days when fermentation is prevented. The effect of germ exclusion is to immediately diminish the amount of the discharge, and at the same time radically change its character; the pus becomes normal, and the necessity for frequent dressings is obviated.

The importance of furnishing an abundance of porous antiseptic material to envelop the wounded part, for the purpose of filtering the air and absorbing all discharge, should not be forgotten, for the efficiency of the treatment depends upon complete protection.

The antiseptic treatment of abscesses, both acute and chronic, involves the execution of the same gen-

eral details. Their contents should be evacuated in such a way as to prevent the access of air or germs to the abscess cavity. Thorough drainage should be established, employing, if necessary, rubber tubing, spun glass, or horsehair. The entrance or orifice should be well protected from infection by the antiseptic gauze or other equally efficient dressing. The results of similar treatment in the management of pleural and psoas abscesses show a decrease of fatality as compared with other methods.

The injection of abscess cavities is rarely necessary; in fact, the danger of the absorption of the antiseptic is so great, especially in large cavities, that it should generally be avoided.

The important part of the local treatment consists in preventing the access of germs to the cavity. It is quite evident that the discharges of suppurating wounds, as well as the pus of abscesses, constituting, as these substances do, such favorable conditions for the development of putrefactive germs, should be made to flow away as rapidly as possible. To facilitate the speedy removal of such, constant irrigation is often of great service, using some antiseptic solution for the irrigating fluid. In case of wounds or abscesses that furnish discharges so profuse that absorbent dressings fail to afford sufficient protection, this treatment proves very serviceable in excluding organisms. It also tends to prevent any accumulation for the germs to develop in.

The antiseptic water-bath, for treating wounds of the extremities, is a method employed by some foreign surgeons with excellent results. The injured limbs are immersed in water which has been impregnated with alcohol, tincture of benzoin, or some agent to prevent fermentation. The contact of the water relieves inflammation and favors rapid granulation. There is a class of wounds which, I should judge, would do very well with the water-bath treatment. I am not aware, however, that it is employed to any extent in this country.

The recognition of bacteria as the cause of putrefactive fermentation logically led to the search for, and the discovery of, agents inimical to septic organisms. There are many substances that will destroy these microscopic bodies, but only a few are applicable in the treatment of wounds, in consequence of their injurious effect upon animal tissue. The term antiseptics, in its restricted sense, therefore, only includes those agents which can be employed to check germ development without producing serious detrimental effect upon wounds. The specific virtues of the different remedies are somewhat varied. They all tend, however, toward the accomplishment of the same object when properly and intelligently employed. Some of them are vigorous germicides, and destroy rapidly both bacteria and micrococci. Others exert a fatal influence upon bacteria, leaving the spore and micrococci unaffected, to develop in their natural way. There are still others that render the different varieties of germs inactive and inert without devitalizing them. As soon, however, as the effect of the agent ceases they resume their active reproduction and pernicious influence.

The artificial cultivation of these organisms has been successfully accomplished by numerous investigators, and their behavior under the influence of the

<sup>1</sup> Concluded from p. 565.

various antiseptics carefully observed, so that the knowledge we possess of the protective properties of these remedies is the result of scientific research as well as the effect of experiments upon wounds.

The antiseptic which, from the inauguration of this treatment until of late, has been inseparably connected with the method is carbolic acid. The fact that it was first successfully employed in demonstrating the principles of the antiseptic system will always contribute to its notoriety, even if its virtues are excelled by some other agent. However, notwithstanding its defects, carbolic acid has not yet been displaced, although it does not at present maintain its former exclusive position in antiseptic surgery. The chief advantage is its universal applicability to all wounds as a germ destroyer, as well as its adaptability as a purifier to the hands and all materials used in an operation and about a denuded surface. Its disadvantages are that it is occasionally absorbed and produces poisoning; that when employed of sufficient strength to act vigorously as a germicide it excites local irritation in and about the wound; that its volatility renders necessary a more frequent change of dressings than is desirable. These objectionable qualities are magnified and exaggerated by the lack of skill and tact in its application. To avoid its toxic effects, the continued application of the acid to an extensive granulating surface should be interrupted and the strength of the solution used, carefully regulated.

Some constitutions are very sensitive to its influence, owing either to individual idiosyncrasy or to the existence of renal disease. Such are apt to feel the toxic effect of the drug, even when sparingly applied to a raw surface. Nevertheless, when the fact of its general employment during the last twenty years is considered, it is astonishing that comparatively so few cases of poisoning have been reported as a result of its antiseptic use.

Scarcely less can be said of the importance of corrosive sublimate as an antiseptic than of carbolic acid. It is certainly a more effective germicide. A very weak solution, one part to a thousand of water, immediately destroys both bacteria and micrococci, while a still milder solution, one part to five thousand, paralyzes, without devitalizing, them. Its application to the surface of wounds causes less irritation than carbolic acid. Its disadvantages are that it occasionally produces fatal poisoning by absorption; that the constant wetting of the skin in the vicinity of the wound not infrequently develops a troublesome eruption; that it tends to chemically combine the albumens in the discharge, forming a compound that is practically inert as an antiseptic; that its corrosive action upon metals unfits it for the purpose of disinfecting surgical instruments.

Another very active germicide is the chloride of zinc, used in solution in water, in the proportion of one part to two to eight per cent. This agent is not applicable in the treatment of recent wounds, in which union by first intention is expected, because of its caustic effect upon the tissues. It is, however, exceedingly effective in destroying organisms in suppurating wounds, especially where septic material is abundant.

There is also a chemical action exerted by the agent upon the discharges, resulting in the formation of a film of zinc albuminate which covers the surface of the wound and constitutes an efficient protection so long as it remains. Zinc is not absorbed and its use is not attended with the danger of poisoning, although when the solution is too strong it may induce local inflammation and sloughing. It is not adapted for use as an external dressing; other agents are more efficient for this purpose.

There is one other antiseptic that I will speak of somewhat in detail, and that is iodoform. This has proved very effective as an external application in preventing the access of germs to suppurating surfaces. When applied too freely there is danger of absorption and iodoform poisoning. It is therefore kept from too intimate contact with the wound surface by using gauze or similar porous material as a medium of conveyance.

The dressing is prepared by rubbing or pressing finely pulverized iodoform into the meshes of any thin, loosely woven fabric like cheesecloth. The powder not admitted into the interstices of the mesh and there retained should be removed by gently shaking the cloth until the excess of the agent is disposed of. The resulting iodoform gauze constitutes not only a safe but one of the most valuable dressings for the protection of all kinds of wounds from infection. The gauze should be applied in layers to a sufficient depth and extent to absorb the entire discharge. It is a dry dressing and does not favor decomposition as the moist variety do.

The iodoform adheres to the gauze with sufficient tenacity to prevent enough of it from coming in contact with the absorbing surface to induce poisoning. Wounds that have been thoroughly cleansed and rendered aseptic by other agents can be maintained in a healthy condition with the protection afforded by this gauze for a considerable period.

The healing process in many instances is completed with one dressing, even when the wound is ragged, contused, and inflamed.

The progressive development of the principles involved in antiseptic surgery reveals the virtues as well as the deficiencies of the various antiseptic remedies. The search for one that is perfect is as yet unrewarded, although its vigorous prosecution has brought to the notice of the profession quite an array of drugs, possessing in a greater or less degree antiseptic properties.

The comparative merits of these different agents are gradually being demonstrated by many surgeons. Every year adds much to our knowledge of their general usefulness and their individual fitness for wounds and special purposes. Permanganate of potassa, iodine, bromine, salicylic acid, acetate of alumina, naphthalin, subnitrate of bismuth, and the oil of eucalyptus are some of the more prominent agents receiving attention at present.

In selecting and applying these remedies there are several rather important considerations to be borne in mind. Their indiscriminate and unintelligent employment, without reference to individual adaptation and effect, is apt to disappoint the expectation of the surgeon by results that are either

negative or injurious. (1) The nature and requirements of the lesion must be considered. Fresh, clean wounds require simply protection from the causes of inflammation. The chief of these is obviated by excluding the putrefactive germ with the external antiseptic dressing. Whereas suppurating wounds, in addition to, and premising, protection require the extermination of the bodies that have gained admission to, and are multiplying in, the discharge. In accomplishing these different objects not unfrequently more than one remedy can be used with benefit in the treatment of the same lesion.

(2) The efficiency of the agent employed as a germicide should be considered. As a rule, the degree of putrefaction present determines the required strength or vigor of the antidote.

(3) The local effect of the agent upon the surface of the wound should be anticipated.

(4) The toxic influence of the drug, resulting from its possible absorption, should always be kept in view.

The majority of the germicides now in use produce injuries effects when introduced into the circulation in immoderate quantity. The danger of absorption depends in a measure upon the extent of surface exposed, as well as upon the length of the period of contact.

As the principles of the antiseptic method have become more distinctly defined the more fully is the fact recognized that the natural secretions form the most suitable fluid for bathing healing surfaces. When this is normal in character and amount the employment of antiseptic or other lotions to dilute or replace it is an uncalled-for and injurious interference with nature. The aim and object of this method is to protect the normal secretions from the organisms which render them abnormal. The faithful and intelligent application of external protective dressings secures all the advantages that are to be derived from the use of antiseptic agents in the care of many wounds. Many of the cases of poisoning that have been reported can undoubtedly be reasonably attributed to their unadvised and too generous employment.

Some form of protection may be developed in the future which will enable us to dispense with drugs. At present, however, there is little or no light in this direction. In order to appreciate the great changes and the wonderful improvements in surgery since the introduction of the antiseptic treatment it is necessary to take a retrospective view of the results obtained previous to the last twenty years. That this improvement and progress in the surgical art is attributable to the discovery of the putrefactive germ, and the consequent development of the principles and methods comprised in the antiseptic treatment, no fair-minded person familiar with the facts can for a moment doubt.

Formerly the danger of gangrene, septicæmia, pyæmia, and erysipelas following operations and accidental wounds was appalling, and the operator was constantly oppressed with the nightmare of apprehension. The unfortunate complications attending suppuration and the process of healing by granulation induced surgeons to avail themselves of very radical measures to secure healing by first

intention. Many limbs were sacrificed by amputation in order to avoid the risks associated with the healing of inconsiderable wounds by granulation. Even this extreme course of treatment too frequently failed in securing immunity from the evils connected with suppuration. The surgery of twenty years ago was so different from the surgery of to-day that a comparison between the two is unsatisfactory, being rendered so by the great variety of operations that are now practicable which then were rarely undertaken.

The contrast in treatment and results is equally great. Formerly the mortality following major operations was about thirty per cent., the greater number of the fatal cases being the result of pyæmia or septicæmia. The present mortality after such operations is reduced to about five per cent., and septic poisoning is a rare occurrence, except in cases that are not properly protected by the antiseptic method.

Conservative surgery has progressed surprisingly since the elimination of septic poisoning from the list of probable dangers attending the healing of open wounds. The success of conservatism has naturally resulted in narrowing the field of heroic surgery, which is employed now with more caution than formerly. A comparison of the results of similar operations, as formerly conducted and as now treated with antiseptic protection, reveals in a marked degree the advantages of the new method. A list of five hundred and sixty-three amputations, reported by Malgaigne in 1842, including amputations of the thigh, leg, foot, shoulder-joint, humerus, and forearm, resulted in a mortality of three hundred, or over fifty-two per cent.

Paul, in 1851, gathered and reported a list of 5,060 amputations, including both upper and lower extremities, the mortality of which amounted to 1,997, or over thirty-nine per cent. These reports are fair illustrations of the results obtained with old methods of treatment.

Schide reports a list of 321 amputations, including both extremities, treated antiseptically, with a mortality of less than five per cent.

Volkman reports 139 similar amputations receiving also antiseptic treatment, with a mortality of less than four per cent.

I am conscious of the unreliability of such statistics as these in demonstrating accurately the respective merits of different methods of treatment. Still, the marked difference in results is so commendatory of the antiseptic method that a reasonable degree of error in compilation can be admitted without materially lessening the contrast between the two methods.

A very recent report of the results of over twelve hundred surgical wounds and accidents, treated antiseptically with corrosive sublimate, shows a mortality of only five per cent., and only one death could be attributed to the toxic effect of the antiseptic. More than three fourths of these wounds, over nine hundred in number, united by first intention, while more than one half of the balance healed by second intention. The serious nature of many of these wounds is apparent when it is understood that of the whole number 91 were major amputations, 117 were resections of portions of the long

bones, 91 were compound fractures, 69 were joint operations, 84 were operations for hernia, 3 for removal of the kidney, 25 for ovariectomy, and 8 for resections of the intestines.

Formerly the mortality of cases of compound fracture of the long bones averaged one in every four. The complicated nature of this double wound in every way favored the absorption of septic material. The long-continued suppuration reduced the vigor and vitality of the constitution, while at the same time it delayed indefinitely osseous union.

A remarkable change in the results of these injuries has been occasioned by antiseptic treatment. This consists in practically closing the external wound at once by the dressing. The danger of septicæmia is thus greatly diminished, suppuration is prevented, and the bone unites with the same facility and rapidity as in cases of simple fracture, while the mortality is reduced to about the same ratio as that following fractures uncomplicated with an external wound.

Some of the most brilliant achievements of modern surgery are the results of operations involving the exposure and exploration of the abdominal cavity. The protection afforded by the exclusion of germs has rendered these operations successful, although formerly they were so uniformly fatal that their performance was considered unjustified, except as a last resort.

Fifty per cent. of recoveries used to be thought a fair and reasonable expectation in operations of ovariectomy, the mortality being caused in a large majority of the cases by septicæmia or septic peritonitis. At the present time the death-rate of unsuccessful cases is reduced to about ten per cent.

When every condition is favorable ovariectomy is almost invariably successful, provided modern rules and precautions are observed and a fair degree of skill is exercised. The astonishing success attained in this particular operation is unquestionably the result of a comprehension of the principles and faithful execution of the details involved in the antiseptic method. Other operations, requiring exposure of the abdominal cavity and its contents to the influence of the external air and the irritation of manipulation, have also proved surprisingly successful. In a corresponding degree have the results of most other surgical operations been favorably influenced by this method. Exsection of joints, exsection of portions of shafts of bone, opening into and exploring joint-cavities, amputation to check senile gangrene, besides many other operations which, in former times, were considered extremely doubtful as to results, are, at the present day, performed with an assurance of success not dreamed of thirty years ago. In fact, there are few, if any, external wounds known to surgery that have not, at least in some degree, contributed to the vast and increasing fund of accumulated testimony which establishes the great importance of the principles embodied in antiseptic surgery. Allusion has been made to the importance of recognizing the fact that there is a limit to the beneficial application of antiseptic agents. Since this limit has become more distinctly defined and its value more fully appreciated, there has been increased success in wound treatment. It is also important to remember that the antiseptic agent employed is not necessarily the

*sin qua non* of the method, but that success depends largely upon the faithful, intelligent, and persistent execution of the details required to prevent inflammation. It is unnecessary to say more. Even now I have trespassed too far upon your good nature in stating facts that are an open book to the profession. The subject is worthy of a more facile pen than I can wield, and should be presented by one who has more perfect knowledge than I possess and a wider experience than I have enjoyed. The knowledge that I am addressing to-day some who are endowed with these accomplishments does not deter me from exerting my influence, however slight it may be, to induce every member of this Society to avail himself of the advantages connected with the practice of antiseptic surgery. The fact that there are scores of physicians in this Commonwealth, members of this Society, who have never fully employed the antiseptic method in wound treatment places me under an obligation as a medical brother to convince them, if possible, of its superior merits as compared with other practice. To assert that antiseptics, especially carbolic acid, are not generally employed by my fellow country practitioners would be most assuredly false. But they are not applied in a manner to secure the advantages entitled to the antiseptic method. In the form of lotions and washes they do exert, to a certain extent, a beneficial effect, but the protective dressing, upon which depends the question of putrefaction in most wounds, is practically omitted except by a minority of physicians. The application of lotions to fresh wounds is of very slight importance in comparison with the value of protective dressings to prevent the access of germs during the process of healing. However, to omit either the lotion or the dressing, except in special instances, is a violation of antiseptic rules. The best results have been obtained by surgeons who have most carefully observed all the requirements and details of the treatment. Furthermore, in addition to strictly professional reasons for using this method, there is to be considered the claim of the patient. The members of the medical profession are not the real beneficiaries of the antiseptic treatment. Our patients have a right to enjoy the advantages and blessings conferred by antiseptic surgery and it is our moral duty to afford them its benefits. The only apology entitled to acceptance that a member of this Society can offer a patient for neglecting to employ this treatment is a lack of familiarity with its principles and details. This, however, is so easily acquired at the present time that even such excuse should barely suffice to satisfy the expectation of the patient. If the presentation of this subject to-day results in stimulating my associates who are united with me in the rural practice of our noble profession to adopt more completely the principles and practice of antiseptic surgery, the present hour will not have been unprofitably employed.

—Two hundred and forty of the Boston police received diplomas of the Massachusetts Emergency and Hygiene Association this spring, having attended and passed an examination upon the lectures provided by the Association the last winter.

## Original Articles.

CASES OF CEREBRAL SYMPTOMS IN EARLY (SECONDARY) SYPHILIS.<sup>1</sup>

BY F. B. GREENOUGH, M.D.,

Physician to the Boston Dispensary, Department of Skin and Venereal Diseases.

THESE five cases, which, excepting the first, which occurred in 1878, have been seen in my private practice during the past two years, showed symptoms of cerebral trouble, coming on during the early period of syphilitic infection, respectively six, four and a quarter, eight, four and a half, and five months from the appearance of the primary lesion, or on an average of five and a half months. They all were preceded by severe cephalalgia, all showed partial paralysis of certain muscles, and, with the exception of the fatal case, all yielded quickly to treatment. With one exception, Case IV., they were cases in which the manifestations on the skin and mucous membranes were decidedly mild and of short duration. It is perhaps fair to assume that if Case IV. had continued under regular treatment, instead of getting into the hands of a quack, his secondary symptoms might not have been as severe as they were when I first saw him. They certainly disappeared very quickly after he came under my care. I refer to the mildness of the secondary symptoms in these cases, as it confirms the statistics which other observers have collected, which go to show that in the majority of cases where cerebral symptoms show themselves early the previous manifestations have not been of a severe type. I think, however, that it would be very far from the truth to infer, on that account, that the fact of a case of syphilis showing a mild and benign type, as far as the manifestations on the skin and mucous membranes go, is an indication that cerebral trouble is to be anticipated; in other words, that a mild course of development of the constitutional symptoms is a bad feature in a given case. This is far from being so, as a large number of the cases, which run a mild course and in which the symptoms disappear quickly under treatment, not only do not have any cerebral trouble, but are exempt from relapses of any kind. In all five of these cases headache was a prominent premonitory symptom, and, moreover, a headache having certain well-marked and definite characteristics, such as its decided tendency to exacerbations toward evening, its severity, and its very quick yielding to the administration of the iodide of potassium. While cases of early cerebral specific trouble are rare, cases that complain of cephalalgia, exactly identical to that described, are quite frequent. I have seen many that I am convinced would have resulted in cerebral trouble had they not been recognized and properly treated. The proportion of these cases in dispensary practice is much greater than those observed at my office, and as the former class of patients are much less under control, to say nothing of their being so situated that they are unable to get proper care, nourishment, etc., and do not follow out the instructions given, it is not to be wondered at that such is the case. The fact that in patients who are careless or

unable to follow up the treatment prescribed the symptom of early syphilitic cephalalgia, with the possibility of the occurrence of cerebral symptoms, is comparatively frequent, is of course a strong proof of the need of regular treatment as a safeguard, to say nothing of giving the patient relief from what is at times an excruciatingly painful symptom. The appearance of a patient who has been suffering for some days from this specific headache is very characteristic. Even if seen early in the day, before the attack comes on, they show a worn and wearied expression. I have not been able to corroborate the statement made by some of the writers on this subject that these headaches are usually confined to one half of the head. On the contrary, my experience has been that they are either frontal or occipital, in the early stages chiefly the former. Some patients describe the pain as feeling as though there was a great pressure inside the skull, or, as one expressed himself, as though his "whole brain had swollen, and was too big for its box." Others, again, refer the pain more to the exterior, and even complain of tenderness to the touch of certain points of the scalp.

Prof. LeGrand N. Denslow, in the *Northwestern Lancet*, May 1, 1885 (vol. iv, No. 14), reports four interesting cases of "Persistent headache in early syphilis," in all of which the phenomena were observed within six months from the appearance of the chancre. In one of the cases, where treatment was neglected, complete hemiplegia, with aphasia, came on, and, although the patient recovered, at the end of a year there still remained marked hesitancy in speech. He got excellent results in these cases, as early as two or three days after commencing treatment, by administering minute (one twentieth of a grain) doses of calomel hourly. I will refer later to this question of treatment.

With regard to the influences which may act as predisposing causes in producing cerebral symptoms in syphilis, the writers on the subject, especially Fournier and Heubner, have made thorough investigations. Beyond the influence of the weak spot, the *pars minoris resistentis*, they find that excesses in venery, abuse of alcohol and tobacco, great fatigue either physical or mental, mental griefs or shocks, etc., may act as such. In the cases I have reported nothing of especial interest in this line of investigation is to be noted.

The diagnosis of these early cases of cerebral syphilis is very much simplified by the fact that they occur either while the symptoms of constitutional infection on the cutis and mucous membranes are still apparent, or so shortly afterward that the fact of the patient's having recently had syphilis could not very well be ignored. Their diagnosis, however, by no means depends on this point of time alone. The fact that the attack had been preceded by the characteristic headaches which I have described would be of importance. The muscular paralysis in these cases is always, at first at least, an incomplete one; loss of power or of control of one arm or leg, or both, is first noticed, and this gradually increases. A certain amount of aphasia, or rather a hesitancy in speech, seems to be a pretty constant symptom. The comparative youth of the patient in many cases is of diagnostic value. Lastly,

<sup>1</sup> Concluded from p. 571.

the fact of the symptoms improving under specific treatment would, of course, decide the question. The lesion which is most likely to be confounded with these early cases of cerebral syphilis is an embolus of a cerebral artery. In such a case, however, the symptoms of paralysis would come on more suddenly, be more complete, and there probably would be some indication of the cause of the embolus.

While the *pathology* of cases of late cerebral syphilis has been very thoroughly studied by the French and German pathologists, these early cases have not been, or at least I have not been able to find much on the subject. The important point, practically, is to know whether these cases are the result of a precocious development of the neoplasms which, as a rule, are only found in the later stages of the disease, or whether the symptoms are produced by a simply temporary, inflammatory process affecting the meninges of the brain itself, which corresponds to the macula on the cutis, and the superficial mucous patches of the mucous membranes, and which leaves no structural alteration behind it. Heubner, with the characteristic caution of the German scientific observer, who refuses to go one step beyond the path which his scalpel cuts out for him and his microscope illuminates, says, with regard to this point, that "while not denying the possibility of intercranial simple inflammation of syphilitic origin existing, neither originated nor accompanied by a new formation, the cases so far reported are not sufficient to justify it, and for the present it must be regarded as an open question." From a clinical point of view it seems unlikely that these cases of early cerebral syphilis, which show themselves simultaneously with symptoms on the skin and mucous membranes due to simple inflammatory action, and which yield almost at once to treatment, should be caused by a different pathological process in the nervous system from that which is manifest elsewhere, and the question presents itself, whether in the same way, as we see at an early stage of the disease, the periosteum of certain bones, such as the sternum, the clavicles, and the tibia, become tender, painful, and swollen, all of which symptoms disappear rapidly under treatment, the same thing may not take place in the dura, and by pressure give rise to the cerebral symptoms noticed.

Fortunately, when we come to the question of *treatment* of these cases we leave all regions of uncertainty and doubt, for if there is one proved fact in medical science it is that in the iodide of potassium we have a specific in the true sense of the term. Of course, there are exceptions to every rule, and more especially so in medicine, but in spite of the many examples I have seen of its efficacy I am constantly astonished at the almost immediate result of this drug in cases of syphilis where its use is indicated. Time after time patients will come, complaining of the most excruciating headache, which has been torturing them for weeks, and on the second day they will report themselves as absolutely freed from their trouble. The importance of giving the iodide in all cases of syphilitic headache as not only a means of saving the patient from great suffering, but as a prophylactic against more serious cerebral

symptoms in the future, is, I think, the most important practical deduction to be drawn from the cases I have reported. While I would insist upon the use of the iodide in these cases, I would by no means be understood to deny the importance of a mercurial course. On the contrary, if we want to give the patient the full benefit of treatment, and, more especially, guarantee him as far as possible from relapses, the advantage of a mercurial which should be continued even after all indications for the iodide have ceased is absolutely necessary. The old dictum—secondary, mercury; tertiary, iodide—no longer holds. The fact is that in mercury properly administered we have a true specific for the treatment, and I think I can venture to say for the cure, of syphilis in whatever stage or period it may be, where its use is not contraindicated, while in the iodide of potassium we have an equally powerful specific to use against *certain symptoms*, at the head of which stand those affecting the brain. I have not found that it has been necessary in these early cases to push the iodide to the very large doses that we see reported; ten, fifteen, or twenty grains three times a day will generally show decided results. On the other hand, I have seen cases where the patients had been doubling up on their doses of iodide and getting daily worse, improve most decidedly on having the iodide cut down to a very moderate amount and a mercurial added to it. Where the mercurial is administered internally it is well to combine the iodide with some simple bitter, and have it taken just before meals and the mercurial after. In cases, however, of present or threatened cerebral trouble a more rapid and thorough action of the mercurial is indicated, and inunctions are very efficacious. The method mentioned by Dr. Denslow of giving small and frequent doses of calomel will act even more rapidly than inunctions, but the patients must be watched very carefully, as the chances of salivation must be taken into consideration. It may be asked why, if the treatment by inunction is the most successful one, not always use it? To this I would reply that, in point of fact, most patients do very well under internal treatment. I am referring now to the general treatment of syphilis, and as long as they do so it is just as well to reserve our most powerful weapon for any emergency that may arise. Moreover, the process of inunction is so dirty and troublesome that few patients, in my experience at least, can be kept on it for any length of time.

With regard to the prognosis of these cases of early cerebral syphilis it is, of course, too soon to draw any deductions from those I have reported. One of them, Case II., seems absolutely well, but it is only two years since his attack, and, of course, too soon to feel sure as to the future. That cases in which such serious symptoms show themselves so exceptionally early should be warned as to the need of their giving themselves the full benefit of careful life and regular habits there can be no doubt. Fortunately as we are in the possession of methods of treatment, which in many cases will overcome the threatening symptoms, we must feel that there is always a possibility of permanent injury having been done to one of the most important of the vital organs.

RECENT PROGRESS IN PATHOLOGY AND  
PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M.D.

## THE PATHOLOGY OF LIPOMATOSIS UNIVERSALIS.

KESCH<sup>1</sup> has given his attention to obesity and some of the results which can be directly attributed to it are incorporated in a paper with the above title. He premises by saying that the line between a physiological production and a pathological condition is not always easy to draw, and that the proposition which states that fat should form one twentieth of the weight of a man and one sixteenth of the weight of a woman is of no practical clinical worth. It is shown that the pathological condition begins first in those places where this condition is normally very abundant: in the subcutaneous tissue, mesentery, larger omentum, perinephritic tissue, mediastinum, pericardium, etc., and it is not until the disease has reached a high degree that much is found in those places where very little is normally present: between the muscular fibres, under the endocardium, and in the glandular organs, liver, and kidneys.

Two forms are recognized: the hereditary and acquired. The predisposition cannot be denied, and almost every one can recall families, the members of which become very fat, uninfluenced by their manner of living or abode. Cohnheim assumes in such cases that the oxidizing process does not go forward with normal energy, but he does not entirely ignore the idea that the hæmoglobin (the oxygen carrier) may be too small in amount in the red corpuscles of the blood.

As an example of this form the author cites one family in his own practice in which was a girl sixteen years old who weighed 142 kilos (300 lbs.), a boy of fourteen who weighed 135 kilos (290 lbs.), and a girl of ten years weighing 81 kilos (178 lbs.). The prognosis in such cases is very unfavorable, as treatment seems to be without result, and one of the complications to be mentioned later soon puts an end to existence.

The acquired form is in the great majority of cases to be directly referred to improper mode of nutrition. A rich albuminous diet in combination with considerable quantities of starch and sugar, muscular inactivity, and an insufficient supply of oxygen are able to increase the fat to a pathological degree. An example of this was found in a well-to-do merchant, thirty-six years of age, who weighed 192 kilos (420 lbs.), whose circumference at the umbilicus was 186 cms; the upper arm measured 56 cms., the thigh 94 cms., the knee 50 cms., and the calf of the leg 56 cms. The abdomen was so heavy that he was obliged to have a second chair on which to support it.

In such people the danger of sudden death is very great.

In the first place, changes which are induced in the heart may cause this. This organ is burdened in two ways. In the first there is a direct increase in the call made on its activity by the increased bodily weight, and on the other its power of work is directly decreased in a manner parallel with

the increase of fat, since in the tissue thus newly formed there are new vascular districts, which increase the quantity of blood and the resistance. This augmented work is rendered still more difficult from the fact that a growth of fat has also taken place upon the surface of the heart, and has penetrated between its fibres, which at last become degenerated. The strain on the heart is rendered still greater, in many instances, by an arteriosclerosis. This seems to be a common accompaniment of excessive corpulence, and by it the elasticity and contractility of the vessels are impaired, and thus a hindrance is given to the onward motion of the blood.

For a time, as is well known, these demands may be met by a compensatory hypertrophy and dilatation of the left ventricle, and then by the same condition of the right. It is then that palpitation and dyspnoea become urgent after any bodily exertion, often accompanied by vertigo. Objectively the area of the heart's dullness is increased, its impulse is directed outward and only to be weakly felt. The tone is muffled and at times accompanied by a short murmur or double tone. The pulse is rapid or slowed or dirotic. Later the action becomes very arrhythmic and is very feeble. Neuralgic pains of various kinds streaming out from the region of the heart into the left shoulder are annoying symptoms.

In the majority of cases the fatal end is brought about by the gradual failure of the heart, accompanied by universal dropsy, general loss of strength, or by paralysis from cerebral hæmorrhage.

Occasionally death is sudden from paralysis of the heart or from œdema of the lungs. Next in importance to changes in the heart are those in the lungs, which may lead to fatal complications. On the one hand the accumulation of fat on the thoracic walls renders the respiratory movements more difficult, while on the other that in the abdominal cavity pushes up the diaphragm and so restricts the respiratory space. This can be compensated for by a quickening of the respiration, but gradually there is set up a catarrh of the finest bronchi, due to the compression of the lung combined with the passive hyperæmia, resulting from the weakened heart. This can easily take on acute exacerbations, from accidental irritation of the air-passages, causing alarming dyspnoea. Further, a tendency to pneumonia seems to be developed, which is apt to be very fatal.

The kidneys frequently present symptoms of the disturbance in the balance between the arterial and venous systems. The urine is diminished in amount, dark-brown in color, of a high specific gravity, and with a marked separation of urates or crystallized uric acid. Albumen is constant but varies in quantity, with a few small casts, and here and there epithelium from the tubules, with blood corpuscles. As a consequence of this comes œdema and anasarca, with effusion into the serous cavities. The renal complications are most to be dreaded in cases of chronic alcoholism.

The following table of the results of eighteen autopsies, where obesity seems to have been the primary lesion, show the organs in the order affected:—

<sup>1</sup> Wien, Medle, Presse, March 4, 1895.

## CHANGES IN THE HEART.

Simple hypertrophy of the whole heart . . . . .	5
Eccentric hypertrophy of the whole heart . . . . .	3
Dilatation of the right side of the heart . . . . .	3
Signs of fatty degeneration of the heart . . . . .	7
Signs of arterio-sclerosis . . . . .	13

## IN THE BRAIN.

Hæmorrhage . . . . .	6
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## IN THE LIVER.

Fatty infiltrated liver . . . . .	9
Cirrhosis . . . . .	2
Gallstones . . . . .	2

## IN THE KIDNEYS.

Passive congestion . . . . .	5
Parenchymatous degeneration . . . . .	8
Advanced granular atrophy . . . . .	2

## IN THE LUNGS.

Emphysema . . . . .	5
Pneumonia . . . . .	5

From this it seems that in two thirds of the cases hypertrophy and dilatation of the heart were present, and in more than one third fatty degeneration was associated with the infiltration. In more than three fourths of the number signs of arterio-sclerosis were present and this often, too, in young individuals. In about five sixths the kidneys were affected, varying in degree from simple passive congestion to extreme interstitial nephritis. One third died from cerebral hæmorrhage, while in one half a fatty liver was present.

THE THYROID GLAND: ITS RELATION TO THE PATHOLOGY OF MYXŒDEMA AND CRETINISM, TO THE SURGICAL TREATMENT OF GOITRE, AND TO THE GENERAL NUTRITION OF THE BODY.

Under the above title Horsley<sup>2</sup> has recently delivered two lectures in which light is thrown upon the functions of this ductless gland and its close relation with certain diseases.

**Anatomical Peculiarities.** The arterial blood-supply is very abundant, the area of the arteries being estimated as equal to that of the brain. Along the course of these are large lymphatic spaces, as well as around the borders of the alveoli. The nerves found in the stroma appear to have chiefly a vasomotor function. The question whether the acini communicate and thus form a ductless racemose gland is still undecided. Everything seems to point to the view advanced by Heber that the mucinoid contents of the spaces are excreted from the blood by the living epithelium and that reabsorption is affected by the large lymphatics.

**Function.** Two distinct views have been advanced in regard to this: (1) That the gland acts as a regulator of the cerebral circulation; (2) that it secretes something necessary to the perfect nutrition of the brain.

The first rests chiefly for its support on the anatomical proof of the close relationship of its arteries with the carotid, and on the fact that after long efforts the pulsation of the carotidian branches is stopped by the pressure of the gland on the main artery, produced by the contraction of the cervical muscles upon it. By others it is regarded simply as a mechanical bolster.

The second view rests on the results of excision.

It has been found that a person in whom the gland was entirely removed became idiotic (a *cretin*), and that the same operation on dogs caused great nervous disturbance; they also became idiotic, and finally died comatose. It is especially in the experimental direction that the author has turned his attention, and his results tend not only to confirm the above facts but go to show that the disease, first accurately described by Dr. Ord and called by him myxœdema, can also be induced in monkeys. He considers, however, that this is only a phase in the disturbance of nutrition and, like cretinism, is the effect of some undetermined law.

The wound after the operation (for the details of which the original is to be consulted) was entirely healed at the end of three days, and the post-mortem examination in all cases showed that the gland had been entirely removed and that there had never been any injury to the sympathetic or its branches. So that the theory that looks to changes in this last falls to the ground.

The phenomena which follow the extirpation of the gland may be summarized as follows: Within five days of the time of the operation the appetite fails for a day or two, and upon close inspection a slight but constant fibrillar tremor of the muscles of the face, hands, and feet is evident. This disappears upon voluntary movements. The animals grow pale and thin in spite of the marked appetite which has returned, the tremors increase and affect all the muscles of the body without exception, they become languid and paretic in their movements, and finally imbecile. Puffiness of the eyelids and swelling of the abdomen follow with the increasing hebetude. During the last stages the temperature gradually falls until it becomes subnormal, and then the tremors gradually disappear as they came. Meanwhile the pallor of the skin becomes extreme, leucocytosis is well marked, upon which oligæmia follows and the animal dies perfectly comatose, at a variable time, but usually within five or seven weeks after the operation.

The tremors are from a central origin or else idiomsclular. They are accompanied by a marked paresis and rigidity of the muscles, which varies directly as their force. At times a slight increase in power is observed, but as a rule there is a steadily increasing weakness.

The cerebral symptoms are gradually progressing dulness terminating in partial or complete imbecility. In the advanced stages they take no notice of anything going on about them and only rouse up to eat. The same listless air as in cretinism is observed. There is little change in the emotions beyond that they are easily enraged in the same way that idiots are, and there is almost or complete inhibition of voluntary power.

A point of special interest is the enormous amount of hypertrophy which the salivary glands undergo. This is unaccompanied by pain and probably due to an increase of mucin (on analysis sixty times the normal amount was found to be present). Physiologically this is of importance, as the parotid, which is normally a serous gland, has become a muciparous one. The spleen is enlarged, and the abdomen swells as in true myxœdema. This latter condition is due to a hypertrophy of the great omentum and

<sup>2</sup> British Medical Journal, 1885, pp. 111, 211.

distention of the intestines. The peritoneal fluid is slightly increased and contains mucin.

The skin is also swollen, the eyelids become so puffy and elastic as to diminish the palpebral fissure one half, while the general look of the face becomes pathognomonic of the disease above mentioned. Dryness of the skin has not been noted, but there was one example of atrophy of the hair.

*Pathological appearances.* Upon turning back the skin of an animal that had lived for more than a month the subcutaneous tissue was found swollen, jelly-like, bright, shining, and excessively sticky. This is especially marked over the triangles of the neck and the hypochondrium. The same condition is also found in the loose tissue of the mediastinum and in the omentum, along the line of the coronary arteries, and the auriculo-ventricular groove. The fat in this increased tissue is as a rule atrophied.

The changes may be characterized as a hypertrophy of the fibrous tissue elements coupled with mucoid transformation of the ground substance, and accompanied by disappearance of adipose tissue.

The increase in size in the parotid and submaxillary glands was due to a semitranslucent pale enlargement of all their lobules. From the cut surface a glairy, sticky fluid exuded, quite the reverse of that found in health. Microscopically the cells of the parotid were seen to be distended by mucin or a substance closely allied to this, and in extreme cases were destroyed, and recalled the goblet cells of the intestine. The mucosa of the intestinal tract appeared swollen and had a semitranslucent appearance, while in four cases there was an increase of mucus in the excreta, in one case forming firm, tenacious strings.

As to the swelling of the tongue which has been noted in man it could not be clearly proved here, as that organ in the monkey is normally very large.

The increase in the size of the spleen is due to simple hypertrophy.

In the central nervous system the brain and cord were very pale, the sulci deeply marked, and the meshes of the pia mater distended with fluid. In short, there is some wasting of the convolution.

The peripheral nervous system showed no change to the naked eye, neither did the sympathetic nor musculo-spinal nerves.

The author thinks that no one would be prepared to formulate a theory of the full pathology of the conditions that have been described in the present state of the subject. Certain facts are, however, so striking that they will perhaps aid in further investigations and he has enumerated them in a tabular form, first taking the anatomical and then the physiological.

(1) The thyroid gland appears to consist of two distinct portions: (a) glandular, consisting of highly vascular acini which excrete into the inferior a mucoid substance, and this or something very similar is found again in the lymphvessels of the gland; (b) highly vascular lymphoid nodules which have a hæmatogenous function.

(2) Excision of the gland is followed by an increase in amount of mucin in the tissues which normally possess it, by an increase in the activity of the glands which secrete it, and by the assumption

of the muciparous functions by glands which normally produce very little or no mucin.

(3) Excision of the gland is followed by profound changes in the blood, namely, a diminution in the number of the corpuscles, preceded in the case of the white ones by a temporary increase in their number; an alteration in the albumens and in the presence of mucin.

(4) Excision of the gland is followed by nervous symptoms indicating changes in the lowest nervous centres as well as in the highest psycho-cortical ones.

The practical point to be drawn from all this in surgical operations is the necessity of refraining from total extirpation of the thyroid except in the gravest cases (malignant disease), and that where simple goitre is to be combated excision of the isthmus is the procedure to be recommended both on practical and theoretical grounds.

#### ON THE PATHOLOGICAL CHANGES IN BILIOUS TYPHUS FEVER.

In the early times when recurrent fever was first set off from the other forms of typhus, this peculiar form was not recognized, and it was Griesinger, in 1850, who first gave it the proper position. He characterizes it as a severe form of remittent which is localized especially in the spleen and bile ducts. From the fourth to sixth day onward there is marked icterus and stronger subjective symptoms, while the regularity of the paroxysms often fails.

From that time there have been two opinions held: one that the disease is simply a form of relapsing fever; the other that it is an independent affection.

Lübimoff<sup>3</sup> has had an opportunity of studying this in an epidemic in which twenty-four cases came to autopsy.

The spleen was the organ which most attracted attention. It was enlarged, often to an extreme degree, the largest weighing 1,845 grammes.

In some cases the surface of the cut section was studded with white or yellow specks, the size of poppy or hemp seed, surrounded by the cherry-red, comparatively firm parenchyma of the organ. These were often so numerous that they became confluent and foci as large as a pepper-corn resulted. The microscopic examination showed that they were enlarged follicles. The parenchyma contained, besides its normal constituents, cells holding red blood corpuscles in their interior. The endothelium of the small veins was swollen and loosened from the walls.

In other cases there were found grayish-red or grayish-yellow infarctions reaching to the surface or the anterior edge and varying in size from a pea to one fourth of the entire volume of the organ. These nodules in the majority of cases were separated from the surrounding tissue by narrow spaces filled with a thick, yellowish-green, odorless pus. In the neighboring parenchyma there were seen, after proper staining, dark-blue tube-like masses, which were found to be bloodvessels thrombosed by micrococci or filled with red blood corpuscles and micrococci. In the vessels free from these, the

endothelium had been cast off, forming accumulations of epithelioid-looking cells completely blocking up the lumen.

In one case finally there were multiple abscesses, one of which had worked its way through the diaphragm and was only prevented by adhesions from breaking into the pleural cavity. In this case there was a softened thrombus in the splenic vein.

In the liver the cells showed evidences of marked granular or fatty degeneration. Micrococci were found in the intralobular veins and in two cases there were small abscesses.

In the kidneys there were found parenchymatous swelling and acute interstitial inflammation, the latter distinguished by the presence of minute abscesses in the pyramids and cortex. In these abscesses there were to be distinguished three zones: a deep-colored central one composed of microorganisms, a middle one of coagulative necrosis, while the outer was formed of canals which had undergone an intense parenchymatous inflammation.

The heart presented appearances indicative of various degrees of fatty degeneration; while the elements of the nervous system showed signs of a parenchymatous one.

In the stomach and intestines there were punctate hemorrhages of the mucosa as well as evidences of an acute catarrh. The vessels of the mucous membrane, submucosa, and muscularis were often plugged with micrococci.

In the bone marrow there were found small hemorrhagic centres, in the peripheral layers of which, as well as in the medullary vessels, colonies of micrococci were present.

The lungs were oedematous, or else had broncho-pneumonia or pneumonic infiltration.

The author has found the spirilla of recurrent fever in the blood of the patients examined during life, and upon this he explains the occurrence of the infective lymphomata which are found in the spleen. The other changes are to be explained on the ground of a coëxistent pyæmic or septic condition, and he therefore regards bilious-typhus simply as a complicated variety of remittent fever and not as an independent disease.

## Reports of Societies.

### THE ONE HUNDRED AND FOURTH ANNUAL MEETING OF THE MASSACHUSETTS MEDICAL SOCIETY.

JUNE 9TH AND 10TH.

For this occasion the Fellows were favored with the perfection of June weather, and an interesting, profitable, and agreeable series of gatherings occurred. The streets were clean and hard from recent rains, the air bright and clear, and what is not often the case at this season, the temperature at the same time cool and bracing. The usual provisions were made for the day previous to the anniversary proper. The place of meeting was, as for the past two years, at Huntington Hall in the building of the Massachusetts Institute of Technology in Boylston Street, Boston.

### AT THE HOSPITALS.

On Tuesday morning, June 9th, quite a large number of the members of the Society accepted the invitation to visit the various hospitals. In the wards of the City Hospital a number of antiseptic dressings were exhibited by Dr. Bolles, and attention was called to the excellent results which had followed a careful carrying-out of antiseptic principles. Fracture dressings as usual attracted considerable attention and in particular the demonstration by Dr. Brewer, house officer, of the method of application of the plaster posterior splint. Among the operations witnessed were an amputation of a portion of the foot by Dr. C. D. Homans, sequestromy by Dr. Bolles, a plastic operation of the nose by Dr. Gay, and two operations each for cataract and strabismus performed by Dr. Williams without ether and with the use of cocaine. Drs. Gay and Bolles each exhibited the results of plastic operations done some years ago, the former upon the nose, and the latter upon a crushed hand in which the power of apposition of thumb and little finger was retained, the intermediate portions being removed. Among the interesting medical cases shown was one of subclavian aneurism by Dr. Lyman.

At the Children's Hospital the visitors witnessed an operation for cleft palate and also an osteotomy. A successful case of trephining for epileptic convulsions was exhibited by Dr. Cabot, in which the convulsions from having been six to twenty daily ceased entirely after the operation. The practical application of various orthopaedic apparatus was shown, and various little details promotive of the comfort of children during confinement to bed were wisely considered of sufficient importance to be noticed. At the Massachusetts General Hospital an amputation of the thigh was performed by Dr. J. C. Warren.

### FIRST SESSION.

The first session opened on Tuesday at noon. Dr. CHAS. D. HOMANS, President of the Society, in the chair. Rather a small number of members were present, many remaining at the various hospitals to witness the conclusion of interesting operations.

The first paper was on "The Pathogenesis of Certain Affections of the Skin," by George N. Tilden, M.D., of Boston.

It dealt principally with the power of various drugs in common use to cause certain symptoms in the skin, and discussed the method in which these effects were probably produced. Much care was shown in its preparation.

The second paper on "Consanguineous Marriages: Their Effect upon Offspring," by Charles F. Withington, M.D., of Roxbury, contained the results of a large series of consanguineous marriages, collected by the writer. The conclusion drawn from an analysis of the figures was that where evil results followed such unions, they were due to a combination of morbid qualities in the parents and not to the simple fact of consanguinity.

In the brief discussion which occurred Prof. H. P. Bowditch alluded to a case spoken of by Professor Baelz, of the Royal University of Tokio, Japan,

while on a recent visit to this country, where on a small island of Japan there was an isolated community which had intermarried very closely, so that all the individuals were related, forming as it were one great family. Yet they were an exceptionally well-developed race and free of any marks of mental or physical deterioration. Dr. Brown, of Barre, in charge of an institution for defective youth, said that in his experience Dr. Howe's figures on the proportion of consanguineously descended among the idiotic was wide of the mark. In Dr. Brown's institution the proportion was about five per cent.

The concluding paper of this session, and one of much interest, was by J. R. Chadwick, M.D., on "Labor Complicated with Fibroids."

Adjournment was made shortly before two, and the Society reassembled in large numbers at four o'clock, when the following papers were presented: "The Climatic Treatment of Phthisis," by Harold Williams, M.D., of Boston. "How a Lesion of the Brain Results in that Disturbance of Consciousness known as Aphasia," by Morton H. Prince, M.D., of Boston. "The Relation of Insanity to Certain Nervous Affections," by Henry R. Stedman, M.D., of Roslindale.

These papers were all thoughtfully written and were received with much interest by the members present.

#### EXHIBITION OF APPARATUS.

During Tuesday and Wednesday an interesting exhibition was given in one of the lower rooms of the Institute of Technology. It comprised electrical apparatus in considerable variety, including Toepler-Holtz machines, and galvanic and Faradic batteries in a large variety of styles and manufactures for office use and in portable form. Especial interest was shown in the Curt battery and the adaptations thereby of electric illumination to the cavities of the body. Dr. Robert Amory exhibited a variety of delicate electrical apparatus adapted to medical and surgical uses, galvanometers, etc.

As usual, arrangements had been made for the exhibition of original mechanical and surgical appliances by members of the Society and a number of interesting devices were shown, of which we can only speak briefly. Perhaps foremost in historic interest was a case of instruments arranged by Dr. H. I. Bowditch to illustrate the "evolution of the stethoscope," beginning with the earliest attempts of Laennec in 1816, and passing through various intermediate types down to the perfected double instrument of Cammann. The long and the short, the thick and the thin, the plain and the "fancy" types were all there, including the notable instrument of Dr. Jacob Bigelow, with plessimetric attachment alluded to in Holmes's "Stethoscope Song."

The exhibition of the Massachusetts General Hospital showed the old-time elegance of bandaging which is so intimately associated with that institution, and which was especially striking in the somewhat dilapidated situations of shoulder and axilla. The sterilized cotton dressing employed by Dr. Warren was shown, as well as the apparatus used in its preparation. The Children's Hospital afforded a number of orthopedic appliances, among them a club-foot crusher and a head-rest for use in cervical

caries. Rubber abdominal, vaginal, and cephalic coils for reducing temperature were also shown.

The chief centre of attraction among the apparatus was, perhaps, the pneumatic cabinet, designed by Dr. Herbert H. Williams, of Brooklyn, New York, and exhibited by Dr. Vincent Y. Bowditch. It consists of a cabinet large enough to contain a patient in a sitting posture, and with an air-pump attached whereby any desired degree of rarefaction can be produced in the contained air. An opportunity was afforded the Fellows of witnessing its practical operation. The individual operated upon, taking his place in the cabinet, places his mouth in connection with a tube communicating with the external air, and, as a slight exhaustion is produced in the chamber, he breathes an atmosphere denser than that in which he sits. By an atomizer placed in connection with this tube any desired medicated fluid may be introduced, as is claimed, deeper into the alveoli of the lung than could be otherwise done. The initial rarefaction of the air made was only to an extent corresponding to one tenth of an inch of barometric pressure, but the exhaustion may be carried to the extent of two or three inches of the mercurial column if desired and as the exigencies of the case may seem to require.

#### CONFERENCE OF CENSORS.

At half-past two o'clock the annual conference of censors from the different District Societies throughout the State was held at No. 19 Boylston Place. Dr. John Crowell, of Haverhill, north district, presided, and the principal topic of discussion was: "The Examination of Physicians for Admission to the Massachusetts Medical Society, and the Desirability of a Uniform Examination Throughout the State." Remarks were made by a number of gentlemen present. After some discussion Dr. F. C. Shattuck offered the following resolution, which was adopted:

*Resolved*, That this meeting has heard with pleasure of the conformity to the By-laws in the matter of examining candidates for admission to the Society, and hopes for further progress in that direction.

The following motion of the Secretary was also carried:—

*Voted*, That the delegates of the District Board of Censors be required to report the doings of this conference to their several boards, and that each be urged to send a full delegation to take part in the future deliberations of the conference.

The meeting then adjourned.

#### COUNCILORS' MEETING.

In the evening at seven o'clock the annual meeting of the Councilors was held.

After this meeting a numerously attended and very pleasant reception was given by Dr. C. D. Homans, the President, at his residence in Boylston Street, to the Councilors and guests of the Society.

#### WEDNESDAY MORNING.

At nine o'clock A.M., the meeting was called to order by the President, Charles D. Homans, M.D. The records of the previous meeting were read by the Secretary, Dr. F. W. Goss, and approved. Dr. F. W. Draper, Treasurer of the Society presented his report, by which it appeared that with a balance

of \$1,562.86, the receipts for the past year have been \$10,022.75; the expenses were \$8,312.20, leaving a balance of \$1,710.55. The invested funds amount to \$32,420.17.

It was announced that for non-compliance with certain By-laws twenty-two members have been dropped from the rolls. The present membership numbers 1,578. During the year ten women have been admitted to the Society.

The committee to which the resolution offered at the last annual meeting by Dr. Asa Millett, relative to the examination of persons seeking certificates of ability to practise, irrespective of place of study, made a report that the same ought not to pass, as the By-laws of the Society now cover the ground so far as the Society should act; and the report was accepted and adopted.

In the matter of the proposition from the Nebraska State Medical Society for the appointment of an interstate medical representation, a committee reported that the Massachusetts Society accede to the proposition, and Dr. Bowen, of Platte City, Nebraska, was appointed as the representative of Massachusetts there.

The first medical paper of the session was on "Cremation in its Sanitary Aspects," by John O. Marble, M.D., of Worcester.

The reader set forth in a striking manner the danger in which the living are placed by the burial of the dead, and cited numerous authorities, both native and foreign, to show this. Earth burial, he claimed, affects not only the ground itself, but the water also, while cremation is liable to none of these objections.

Other papers were read as follows: "Diagnosis and Treatment of Occipito-posterior Positions," by William L. Richardson, M.D., of Boston. He dwelt upon the value of external palpation in the diagnosis of foetal positions, and described the method. He then showed his method of applying a forceps designed for flexing the head when unduly extended in occipito-posterior positions. "The Influence of Ovariectomy on Surgery" was the title of a paper by John Homans, M.D., of Boston, in which the progress of the operation was traced in a very interesting manner from its first performance, in 1809, and its relation to other abdominal operations shown.

The following delegates were then presented: A. B. Worthington, M.D., of the Connecticut Medical Society; Peter Foley, M.D., and W. L. Bates, M.D., of the New York Medical Society; E. S. Albee, M.D., of the Vermont, and C. R. Walker, M.D., of the New Hampshire Medical Societies.

A brief intermission followed, during which the Fellows had an opportunity for pleasant social greetings, and to visit the exhibition of apparatus already described. As usual the manufacturing pharmacists occupied rooms at the Brunswick Hotel where they displayed their products to all visitors, and where a "free dispensary" seemed to be well patronized.

#### ANNUAL DISCOURSE.

At 12 o'clock the Society reassembled to listen to the annual discourse by Franklin K. Paddock, M.D., of Pittsfield, on Antiseptic Surgery, which is published in full in the JOURNAL.

#### THE DINNER.

At the conclusion of Dr. Paddock's address, a vote of thanks was adopted, and the Society adjourned to meet at 12.30 P.M., October 7th. Then in accordance with the usual custom the Fellows were called in order of seniority, and preceded by the officers and invited guests marched to the skating-rink in Clarendon Street. The entrance this year was from the rear of the hall so that late comers and early goers were not so likely to disturb the proceedings. For the first time in the history of the Society the banquet hall was graced by the presence of the fairer sex—Female Fellows, shall we call them? The platform was at the northerly end of the building and was carried further out toward the centre of the room than last year. The orchestra was stationed in the gallery opposite and discoursed sweet music which was only occasionally broken in upon by the screech of a locomotive on the tracks outside. Some 800 Fellows found room at the tables, after which Dr. ROBERT AMORY, the anniversary chairman, called the assembly to order, while the divine blessing was invoked by the Rev. William Lawrence, Professor in the Cambridge Theological School. At the right of the chairman sat the President of the Society, and at the left His Honor the Mayor of Boston.

Among the other guests of note beside the officers of the Society were Dr. Henry W. Williams, Dr. H. P. Walcott, Hon. F. T. Greenhalge, of Lowell, Dr. Alfred Hosmer, Dr. H. I. Bowditch, Professor John Trowbridge, of Harvard College, Hon. E. I. Thomas, of Brookline, Hon. George A. Marden, of Lowell, Dr. F. K. Paddock, Dr. F. R. Sturgis, of New York, Dr. E. C. Seguin, of New York, ex-Surgeon-General Dale, Surgeon-General Holt, Dr. Samuel A. Green, Dr. B. E. Cotting, Mr. Thomas C. Amory, Dr. George H. Lyman, Dr. Charles F. Folsom, Dr. W. L. Richardson, Dr. St. John Roosa, of New York, the Rev. A. Amory, Dr. Gilman Kimball, Dr. George B. Shattuck, Dr. A. L. Mason, Dr. George C. Shattuck, Dr. Samuel H. Durgin, Col. Charles H. Taylor, Mr. James C. Fiske, of Cambridge, Mr. Arthur Lincoln, and others.

When the tables were cleared and the cigars lighted, Dr. Amory introduced the speaking as follows:—

FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY.—It is my pleasant duty to welcome you all to this annual feast. The custom which is continued in this eighty-fourth anniversary dinner probably unites us more closely and fosters our prosperity.

Momentous questions discussed from time to time in our business meetings seemed liable to leave permanent marks and to jeopard our organization; but in a few hours the bitterness of debate was consumed with the food upon the tables, and scars erased before we met again to discuss other matters of similar portent in other or subsequent years.

We have seen other societies which did not think it necessary to follow our example totter and fall to pieces over matters no more serious than those which we have grasped.

No code of ethics, no question about the sex of candidates seeking for admission, no wrangle about

the 'pathies evanescent as the day, no fight over who shall be our officers has ever shaken the foundations of our organization. We, as a Society, still live and are proud of our fellowship.

During a period of a few years some of our misguided members chose to adopt dogmas of cure which most of us considered foolish and untrustworthy. These men were so few in number and so little known to science or literature that we paid but slight attention to them or their new-fangled notions. While admitting their privilege to hold erroneous tenets, it was not until called upon by others outside of this Society that we impeached these members and dropped them from our rolls. In spite of these experiences, and others like them, our grand old conservative Massachusetts Medical Society still goes through the troubled waters, with prow to the seas, ever onward and ever onward; if an occasional wave comes aboard she shakes herself free and presses forward with steady progress. We occasionally look astern and see shipwreck and disaster overtake those swift-going crafts which chose to leave our stalwart vessel.

Again I say, all honor to our Society which braves the storms and holds fast to the grand old arts of cure and to the knowledge of the natural laws of disease. Let the individual try the experiments of new theories and the Society will prove the work and honor the workers.

It is not the duty of the presiding officer of this social occasion to offer you an address, but simply to introduce those who can perform this pleasant work more gracefully. But before calling upon those who are ready speakers and who bid you remember that "brevity is the soul of wit" I must ask you to join in a toast to our Massachusetts Medical Society, founded by men of learning and of distinction, and fostered by their successors, among whom are associated men of literary fame, men of erudition, men of wisdom, men of culture, men of skill, and to whose ranks of 1,500 Fellows it is an honor to belong. I call upon your President, Dr. Charles D. Homans, to verify my statement and to respond to this toast.

The PRESIDENT, DR. HOMANS, arose and, being very cordially received, said:—

MR. CHAIRMAN AND GENTLEMEN.—So many times has this anniversary dinner been held, and so many times has the President answered to this toast, that I certainly cannot expect to find anything to say which has not been much better said before. I congratulate you on the healthy condition of the Society. If the old saying be true "happy is the nation which has no history," how much more happy is it for a medical Society as large as this, when its executive officer can say, as I can to-day, that nothing has occurred during the past year and there is no report to make. Since the last anniversary, ten or fifteen women have satisfactorily passed the examination of the Board of Censors in their several districts and have been admitted to the Society. I have offered them the right hand of fellowship whenever I have had an opportunity, and am sure that every gentleman connected with this ancient Society will do all in his power to render everything agreeable and pleasant to them, so that all, both men and women, shall equally enjoy the privileges pertaining to member-

ship, and be equally amenable to the laws made to regulate the conduct of those belonging to the Society.

While attending the meetings of the several district Societies in different parts of the State, I have been frequently told by members that they are very much discouraged by the great success of quacks, and they do not see the use of belonging to the Society, as it cannot protect them from the disagreeable results of this state of things. Now it is true that quackery hardly ever has been so rampant as at present. There is in Massachusetts no law against the practice of medicine by any person, however ignorant, and as there are such laws in some of the neighboring States, the irregular practitioners seek refuge here in great numbers. But this class of persons has always existed and always will exist, though possibly much may be done by a proper law to modify their present successful career. In 1828 the late Dr. George Shattuck, a former President of this Society, and a very shrewd and sensible man, said, in a letter in my possession, that at that time he estimated that one sixth of the population of Boston were under the treatment of Thompson and his followers, who had formed a botanical society, his system of practice being by hot drops, sweating, etc. How is it now with this so-called system? At the present time his disciples have nearly all disappeared from the medical world, while the very name of their master is almost unknown to the present generation. Perhaps it will be so by-and-by with another class of practitioners who at the present time occupy in the city of Boston about the same relative position that the followers of Thompson did sixty years ago!

But history repeats itself: the Thompsonian system, Perkins's "tractors," the so-called "mind cure," nay, even Lydia Pinkham herself, must in turn yield to other claimants on the credulity and imagination of mankind, and you must all bear in mind that, notwithstanding all this prevalence of quackery, the Massachusetts Medical Society has gone on increasing in numbers and influence, and while acknowledging no blind allegiance to any system, and holding itself ever ready to learn from all, "it pursues the even tenor of its way" with dignity and self-reliance. I beg you, therefore, to have faith in yourselves, in the Society, and in the principles which you represent.

The next toast was "To the good Old Commonwealth of Massachusetts, sturdy and sound, may she ever stand in the foremost ranks of her sister States; and may the execution of her laws which so largely deal with the public health and ever promote the public wealth be entrusted to safe hands."

A letter was read from His Excellency Governor Robinson, expressing his regret that numerous and pressing engagements prevented his acceptance of the invitation to dinner with the Society. The chairman said: "As His Excellency is unable to be present, I call upon one who, as Chairman of the Health Committee of the State Board of Health, Lunacy, and Charity, has ever been true to the best interests of the people,—Dr. Walcott,—to respond to this toast."

DR. WALCOTT, whose recent experiences at the hands of the politicians were fresh in the minds and

sympathies of all present, was received with great enthusiasm which showed itself by repeated cheers and applause. He said: Not now a member of the State Board of Health, Lunacy, and Charity, and having no claim to personally present the views of His Excellency the Governor, I should be placed in a position of great embarrassment were it not that this unexpected, almost overwhelming reception, on the part of the body of men most competent to fairly appreciate the services I may have rendered the State, makes it proper for me to say a few words about the organization with which I have been for some years connected.

The history of the old State Board of Health I need not repeat; the men composing it, the work accomplished for the protection of the public health cannot be forgotten.

The present conglomerate Board had its origin in relations purely personal and political, as a number of the ablest men of the old organization had entered the new. Much good work was done, however, but uncongenial associates, needless sacrifices of thought and time drove one good man after the other from his place, until in this present year we find a Board so constituted that but two of the nine members are practitioners of medicine, and the important functions of a commission in lunacy are performed under the direction of a committee, not one member of which could be fairly reckoned as an expert in diseases of the mind.

There is, however, even with this disagreeable side of the question, a certain satisfaction to me as more intimately concerned with the Health Department of the Board in knowing that in these latter years, even, we have secured the enactment of laws for the prevention of the adulteration of food and drugs, and that Massachusetts is to-day the only State in the Union where such laws have been enforced for a succession of years.

In regard to the merely personal element in this reception, I wish to say that it was the belief that I had the approval of the medical profession that led me to accept and almost compelled me to retain a position in many ways disagreeable. For a better reason yet I am thankful for this expression of feeling. The position of my successor will be strengthened by the knowledge that my poor endeavors have had from you this all-sufficient reward.

There is every reason to assume that some member of this Society will be selected to fill the vacant place and I can have no doubt that he will be competent to deal with the questions that affect the public health and will receive in his turn the applause which now fills me with wonder and content.

The CHAIRMAN said: We are pleased to remember that we have guests here who live in the great metropolis of the new world, in a city more than twice as large as ours and, I might say, more than twice as dirty; and if dirt brings disease she should need four times as many doctors. Whether this be true or not makes little matter to us now, since its discussion must be confined to this end of the hall, from which we propose to do most of the talking and you the hearing. I take pleasure in introducing, as the next speaker, Dr. ST. JOHN ROOSA, of New York, and I have no doubt you will "lend him your ears."

DR. ROOSA said that, notwithstanding the dubious compliment implied in his introduction, he counted it a rare privilege to stand in this presence; there was a time when New York was clean, but that was before the Yankee invasion, before the Knickerbockers gave up to the invaders, who have gone on from one thing to another until they have set up the statue of a pilgrim in Central Park, and we are almost ashamed to own that we ever had anything to do with Peter Stuyvesant. He came from the Medical Society of the State of New York, not as a delegate, but in his own personal capacity. In his Society there has been something of a commotion, but it has fought the fight and peace has been declared. A new organization, composed of men who yet retain their membership in the only chartered Society, has been formed, but the old Society, with its ranks intact, still holds up its banner in favor of education, and for the good of the people whom it serves. By it the question of consultation has been left to the circumstances of the case, which determine when and where the practitioner shall go. With the American Medical Association the New York Society has no quarrel, but that Association cannot legislate for the needs of all the societies of the United States. In the opinion of many it should be a national convention, but instead of that, meeting in remote sections, and dominated by the influence of the section where it happens to be, it attempts in vain to discipline State organizations. It should at once relegate to each State association all matters relating to its own constitution and code of ethics. The great question in New York is not the matter of consultation with homeopaths, but how it is possible to so elevate the standard of medical education that allopaths and homeopaths and hydropaths shall be unknown. And we think this can be reached by a Board of Examiners entirely independent of the teaching members of the profession. If we succeed in educating men up to the standard of the Army and Navy Board quackery will perish from the land, and all the 'pathies will meet with the same fate. His message to Massachusetts was to ask it to stand by New York in that advancing column which is to overthrow quackery by placing the medical profession on the plane of the other learned professions; with such union this result can be brought about, and in medical education this country will command the respect of the world.

DR. HENRY W. WILLIAMS, of Boston, was introduced as an ex-President of the Society and was warmly received. He said that he thought that all will admit that the eye ranks next the brain; the eye is the brain's most important minister. Since the last meeting the eye has again come to the front. Dr. Koller, of Vienna, now no longer unknown to fame, modestly announced last September that having seen it recorded that cocaine caused a state of anesthesia on being applied to the tip of the tongue, he had used it for a similar purpose on the conjunctiva and found that by its application the sensibility of the eye can be suspended so that operations can be performed upon it without producing general unconsciousness or deleterious effects.

The same action has been found to extend to all the mucous membranes. Since ether was first suc-

cessfully used (near where we now stand) to induce anesthesia, no greater boon has been given to the world than cocaine. The speaker eulogized that specialism which, by steady application to its chosen field of work, can make a discovery like this, and then give its benefit freely for the use of suffering humanity. He thought it highly fitting on such an occasion as this to make mention of a remedy which, with increasing plentifulness of supply, is destined to be of such great service in surgical science.

The HON. FREDERICK T. GREENHALGHE, of Lowell, was introduced as one of our wise legislators and a brilliant member of the bar, who could tell why the Massachusetts Legislature thinks the pharmacist should be an educated professional, and why the public should be protected from uneducated apothecaries, and perhaps, also, whether it should be protected from the charlatan, the quack, or the uneducated physician.

Mr. Greenhalghe said he did not see why at this particular juncture, when the House of Representatives is staggering in a fit of epileptic convulsions, he should be named as a member of that body. He told, in a pleasant way, how through all the storm and disturbance the Pharmacy bill, "breathing Sabeian odors from the spicy shores of Araby the Blest," rode triumphantly and is now safely anchored in port. The "doctors'" bill is in the offing. Now there is a popular prejudice against a doctor's bill, and whether it will or will not meet the good fate of the Pharmacy bill it is not now possible to determine. Coming hither he met an undertaker out for a holiday: therefore he expected to meet a majority of the medical profession. We lawyers know you chiefly as experts, and your testimony often enables us to win a case when nothing else would; when both the law and the facts are against us, there is no such panacea as a medical expert witness. When a case is in a moribund state we call in the doctor. There is no success to be compared with that of an expert with a "hypothetical case." If you could only confine your practice to hypothetical cases how the mortality rate would fall! We have another tie of sympathy; we, too, are treated with ingratitude. I was glad to hear your reception of the honored name of Wakeott. After all, there is no cause for surprise at his defeat, for we know that often the only reward of standing firm for truth and right and justice is crucifixion. You deal with the bodies of men and we with their consciences, and we both do it pretty effectually. The clergyman near me might take exception to part of this remark as an infringement on his grounds, but the clergy are under a cloud and they are trying to regain their prestige by taking up the faith cure. The doctor, the lawyer, and I will add the clergyman, are the most trusted and respected members of the community, and it is their duty to take with good nature the badinage and raillery of the ignorant. Sir Thomas Brown said that the fabric of man had certainly a trace of divinity, which was before the elements and owes no homage to the sun. The Scripture tells us that the bodies of men are the temple of God. In that temple we are all reverent workers.

The CHAIRMAN said: We meet in a city which

thrives and prospers and grows on land and sea, but though she cannot find room enough upon the natural land to build her houses and streets, yet forfeits large portions of her territory for public parks, and that without stint.

We have invited to our feast its chief magistrate to whose management has lately been entrusted large powers over her temporal affairs. I take pleasure in calling upon our guest His Honor the Mayor to respond to the toast to the City of Boston.

His Honor, MAYOR O'BRIEN, responded: He said it required courage to make even a brief speech in such a presence. Boston was honored by the gathering of so many distinguished men. He spoke of the city's public institutions for the treatment of the sick, and gave some of the expenditures upon them showing that with a reduced tax-list for this year, the appropriations for the Board of Health, the Health Department, and the City Hospital were greater than for the previous year. Boston is called a cold place, yet if you meet an accident in her streets you are taken to the hospital where the best surgical skill of the country is at your free command. The city has cleaner streets and is soon to have finer parks than any city in the world. The Charles River improvement will be one of the most magnificent improvements ever carried out, extending six miles up on one bank of the river and as far down on the other. It will cost much money and much time and we may not all live to see it completed, but it will be done.

The statistics of the deaths from smallpox were given for the last forty-five years. In the decade ending in 1850 there were 457; in that ending in 1860, 762; from 1860 to 1870, 630; for the four years 1870-73, 1,100. For the eleven years, 1874-85, only 26. This is the magnificent work of the Board of Health. The mayor felt it to be his first duty on his inauguration to call together the leading physicians to consult with the Board of Health. The services of the whole 700 police of Boston were placed at their disposal to abate nuisances and he felt that Boston was to-day better prepared for cholera than ever before in her history.

The HON. GEORGE A. MARDEN, of the Massachusetts Senate, responded to the following introduction by the Chairman:—

"I requested the Hon. Senator Marden to be present at this dinner and to address you gentlemen of this Society. He replied that he would be pleased to do so, unless he went fishing. Fortunately for us work on the bill has kept him in our city, and here he is to tell us what he would rather do than go a-fishing."

Mr. Marden humorously mentioned a number of things he would rather do than go a-fishing, including making a speech.

"If the 'doctors'" bill reaches the Senate," said he, "it will be passed by that body without a four-days' convulsion over it. Prejudice against that measure is unreasonable."

Speaking of doctors' bills he was reminded of an old lady in Maine, whose husband had a long illness and died. A year afterward the doctor's bill came in and was unheeded. Finally when the physician felt obliged to press for his money, she brandished her broom in his face and said: "I want you to

understand you don't get a cent out of me till I've paid my honest debts."

Another thing he would rather do than go a-fishing is to eat dinner. To eat one's dinner with a thousand doctors is not a common experience; but perhaps behind that dinner lies the expectation of increased practice. My friend from Lowell, he said, has spoken for the lawyer, the doctor, and the clergyman incidentally; but he has forgotten the important estate—that of the journalist. When the doctor's patient is dead, and the lawyer has set up the will, and the clergyman preached the sermon, the journalist comes in and writes the obituary, covers up the imperfections of your work, eulogizes your victim, and smooths everything decently over. The speaker alluded to the warm reception tendered Dr. Walcott and said he was struck by the doctors' loyalty to each other, and was certain that Dr. Walcott had added to his honors by getting away from that composite body, the Board of Health, Lunacy, and Charity. Some time the State will have a Board of Health that is a Board of Health and not a piece of political patchwork.

COL. CHARLES H. TAYLOR, of the *Daily Globe*, was presented as a young man who for years had sat at the reporter's table and reported the proceedings of the Society, but who now sits at the editor's table and to-day at this board. He responded pleasantly for the daily press, and said that if he has succeeded in life it is partly because of the mental friction of attempting to report the meetings of the Society. One might infer from the newspapers that every one was cured by patent medicines or by faith, but you have a flourishing Society, and it occurs to me that those people have been making more noise than cures. It is certain that your Society holds the confidence of the community, and it does it by its intelligence and its fidelity to duty. It seems to me there is something in the mind cure, but there is nothing new in it, and the cheerful physician uses all there is of it. The press has a mission; it is to cultivate the good and the beautiful. If it has any fault at all it is lack of assurance, of self-assertion. It is to be the corrector of all evils. Incidentally it is to make money. In this last respect your profession is like ours. We have the kindest feelings toward you. Through an imperfection in your constitution as a Society, you cannot advertise with us, but you help new subscribers into the world and keep old ones in it.

At about half-past three the festivities were brought to a close with "Auld Lang Syne" by the orchestra, and the Fellows dispersed.

#### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

L. M. BUCKINGHAM, M.D., SECRETARY.

MAY 25, 1885. The President, Dr. F. W. DRAPEL, in the chair.

#### DEMONSTRATION OF THE POSITION AND LENGTH OF THE SIGMOID FLEXURE OF THE COLON; AND HOUNSTON'S VALVES OF THE RECTUM.

DR. W. J. OTIS demonstrated, by means of a dissection recently prepared by him at the Harvard

Medical School, that the sigmoid flexure of the colon was that position of the gut between the lower end of the descending colon and the beginning of the rectum. He called attention to the fact that in this case the descending colon ended just in front of the psoas muscle, and the rectum began just below the promontory of the sacrum; that the distance between these two fixed points was only two inches; that the intervening loop of bowel when spread out measured just two feet; that the meso-colon of this loop measured in the longest part four inches; that the position of this loop when empty, or only moderately distended, was entirely within the cavity of the true pelvis, and not in the left iliac fossa; that it presented no resemblance to the letter S when empty, but did when fully distended.

Dr. Otis next demonstrated, by means of Codman and Shurtleff's small electric light, the folds of the mucous membrane of the rectum known as Hounston's valves, and Kohlrausch's *plica transversalis*. These folds were three in number, semi-lunar in shape, and projected from one half an inch to one and one-half inch into the lumen of the gut, and were plainly seen through the dilated anus and a hole trephined through the sacrum into the rectum. The lowest fold was placed on the left side, extending from the prostate to the coccyx. The middle fold was placed higher up, on the right side, extending from the base of the bladder to the fourth bone of the sacrum. The uppermost fold, the smallest of the three, is placed on the left side extending obliquely from above downward, from the second bone of the sacrum to a point anteriorly about an inch above the middle fold. Dr. Otis said that he had observed these folds in five dissecting-room subjects, three males and two females; that their relation to each other was apt to vary, but in every case there were two folds on the left and one between them on the right; that the latter was always the largest and most prominent of the three, the "*plica transversalis*" of Kohlrausch. The best position to place the subject was the knee chest, then dilate the anus, or divide it posteriorly to the tip of the coccyx and stitch each flap back out of the way to the skin of the buttock; then with the aid of a Sims's speculum, a head mirror, or, better still, a small electric light, and a blunt hook, the folds will be readily seen.

DR. W. C. B. FIFIELD said that the position of the sigmoid flexure of the colon has been long in dispute, and that its different position at different ages has not been fully discussed. The length of its attachment to the mesentery is unsettled. Years ago it was asserted by Huguier, as the result of dissections, that in infant life the sigmoid flexure is not in the left, but in the right, of the pelvic cavity, and that the incision for artificial anus in the groin, a recently revived operation, should always be in the right side. This assertion has proved a stumbling-block to operators who have found clinically that it is only exceptionally true, and who have had to grope for the gut. The speaker thought that he had found the right-side position in one or more dissections of new-born infants.

DR. J. C. WARREN said that he had once done the operation in the right groin in a case where the rectum was absent. He got a large flow of mæconium, but

did not feel sure whether he had tapped the ascending colon or the sigmoid flexure. Death from inanition is stated to be the invariable result of operation in the right groin in adults, owing to the want of absorbing surface. There was, unfortunately, no autopsy.

DR. FIFIELD answered that a woman lived for years at a tavern near Paris who had been operated upon in mature life in the right groin, and who professed herself to be very comfortable.

#### DERMOID CYST OF THE OVARY.

DR. J. W. ELLIOT showed a dermoid cyst of the ovary which he had that day removed by laparotomy. The cyst was about the size of a child's head before it was removed. A pint of fluid had been evacuated which was liquid at the temperature of the body but which caked and looked like lard, after removal. The cyst also contained bunches of hair and pieces of skin.

Before the operation the cyst felt hard and was wedged in the pelvis. The uterus ran obliquely across to the right side and was freely movable. Dr. Elliot had been able to make the diagnosis of a dermoid tumor before the operation.

At the operation the pedicle was found not between the uterus and tumor as usual, but on the outer side of the tumor toward the brim of the pelvis. The tumor had developed from the ovary, growing toward the uterus, crowding the Fallopian tube and ovary out toward the pelvic brim. The tumor was universally adherent and the operation unusually severe, lasting two hours.

DR. F. B. GREENOUGH read a paper entitled

#### CASES OF CEREBRAL SYMPTOMS IN EARLY (SECONDARY) SYPHILIS.<sup>1</sup>

DR. J. C. WHITE said that he did not agree with the reader that cerebral syphilis is a new order of the disease. The poison that causes syphilis undoubtedly acted a thousand years ago as it does to-day; but it is now that we are beginning to recognize these forms of its manifestation which were formerly not attributed to their true source. John Hunter did not recognize them because he was thrown off the track for want of the fundamental knowledge of the preliminary process.

The cases reported, occurring as they did while under treatment, and lacking the graver characteristics of later cases, are probably to be explained by simple inflammation.

Headache, when most severe in the later stage, does not always yield either to small or to large doses of the iodide. Even in the early cases a combination of bromide with iodide of potassium often exerts a more rapid control than iodide alone.

DR. S. G. WEBSTER said that he had recognized more cases of early cerebral syphilis of late years than formerly. It is possible that he has greater skill in diagnosis. It is possible that he sees more patients, but when he considers the number of dispensary patients that he saw in his early practice the increase cannot be great, and he recognized these cases at that time. He is therefore compelled to believe that he has met more of them within the last five years than was the fact seven or ten years ago. He has been led to use larger doses of the

iodide of late years by finding that he got only partial benefit from smaller ones. Some cases receive ten or fifteen grains, then twenty, then thirty or forty grain doses, three or four times a day, getting relief only when the larger dose is reached. Occasionally small doses will answer, but in severe cases he does not dare to trust to them. He hopes then to speedily affect the disease in order to save life. In very few cases is iodide enough without the addition of mercury. The speaker again called attention to what he believed a fact: that large doses of iodide are sometimes well borne where small ones disagree with the patient.

DR. ABERNETHY said he would simply mention two cases of early nervous lesions of an entirely different type from any of Dr. Greenough's cases. Unfortunately he was unable to give the exact time of the disease at which either of them appeared, though both were early enough to be included in the cases mentioned in Dr. Greenough's paper. The first case of cerebral syphilis that he was ever called upon to treat occurred in a sailor who was under treatment for an early syphilitic eruption. While under treatment his stomach refused to retain anything, he became dull and heavy, and in the course of a very few days was completely comatose. He lay in this state for a number of days; was nourished and medicated principally by the rectum, and gradually regained consciousness. After leaving the Marine Hospital, in which he was a patient, he spent quite a time in the almshouse and reported to Dr. Post, after some months, apparently well.

The second case was a young woman who was first seen on September 11, 1882. She then had an abundant papular eruption and mucous patches. The eruption had existed for some time, but was the first appearance of general symptoms. The data in regard to the primary sore could not be exactly determined. She improved rapidly under treatment. On November 12th her eruption had reappeared, and she was suffering from a pain in the head, which was of great intensity, and had nocturnal exacerbations. It was accompanied by vomiting, pain down the spine and in the shoulders, and was exceedingly obstinate to treatment, but finally yielded to iodide of potash and innuents. In December she had an iritis. On January 31, 1883, Dr. Post was summoned, to find her in bed in a maniacal condition, her delirium resembling that of delirium tremens. She saw all sorts of horrible objects, failed to recognize her nearest relatives, and was said to have convulsive attacks at night. Combined with it was great muscular weakness and some inability to fully control her muscular movements. It was several weeks before she was able to recognize her friends or became perfectly rational, and even longer before she regained perfect control over locomotion. After she was able to walk, as far as strength was concerned, she was unable to walk straight toward a given object, and she often tottered in a manner to make the spectators expect her to fall. Her recovery was perfect, and she still appears to be in good health, though definite information in regard to her condition is wanting.

DR. EDWARD WIGGLESWORTH was of the opinion that nervous manifestations of syphilis are becoming more common, not that the anatomical changes are

<sup>1</sup> See pp. 551 and 595.

different, but that the changed habits of modern life predispose the nervous system to be easily disturbed, as it is by non-syphilitic causes as well. He must confess, however, that his own worst cases had happened to be in vigorous, phlegmatic people. In treatment he would not forget that it is a degenerative disease with which he has to do, but would combine tonics with specifics. The speaker agreed with Dr. Greenough that moderate doses of iodide are often enough in dealing with the early forms, but he also agreed with Dr. Webber that in the late forms large ones are more often needed. He quoted a case of Dr. Taylor's treated with two ounces daily before getting the desired effect. He had himself got results from two hundred and fifty to three hundred grains that he had not had from smaller doses in the same patients.

DR. FIFIELD said that he thought that absolute delirium, as in Dr. Post's case, must be very rare. He did not remember having ever seen a case. Others had been reported, however, and he mentioned a case of Fournier's where a man probably began to have hallucinations while returning from a drive. It is possible that cerebral symptoms may sometimes depend on syphilitic kidney, and the speaker related a case that he thought was explainable in that way.

DR. J. J. PUTMAN said that while small doses of iodide are often enough, yet that large doses are sometimes absolutely necessary. He also called attention to a kind of irritability and to insomnia as early cerebral symptoms.

DR. GEO. H. LYMAN thought that we are hardly justified in giving small doses in a disease that may end so disastrously. In giving large doses of the iodide it should be combined with a tonic, and he thought that iron was preferable to anything else.

DR. R. M. HODGES said that if syphilis is in some respects milder than formerly, yet that an increase in cerebral symptoms is certainly an exception, and from it we ought to learn the lesson to protract the treatment. When a mild eruption has disappeared, the patient and sometimes the physician are apt to think that continued treatment is not worth the trouble, but it would be better to continue treatment to the end of one's days than to run the risk of such complications.

DR. WHITE said in reply that he had seen grave symptoms appear after two years of continuous treatment.

DR. HODGES did not suppose that the disease would be always stopped in that way, but that its severity would be diminished.

#### TANNATE OF MERCURY.

DR. G. H. TILDEN showed a specimen of the tannate of mercury which has recently been employed in the treatment of syphilis, having been first used for this purpose by Lustgarten. The drug consists of a coarse granular powder, of a greenish color, inert and tasteless. It is unaffected by acid solutions, but is decomposed by dilute solutions of the alkalis, the action of which causes the formation of mercury in a very finely divided state, a fact which can be verified by the microscope. The theory of its action is that it passes through the stomach, when the secretions are acid, unchanged

until it reaches the intestine, when the normally alkaline secretions cause its decomposition and the metallic mercury, which is set free, is absorbed. The reports of its efficacy in the treatment of syphilis are very favorable, and its use is apparently attended with uncommon freedom from any of the ordinary bad effects due to the administration of mercury, such as salivation and gastric or intestinal irritation. The dose is about a grain, and it should not be combined with alkalis or the iodide of potash, the former causing its premature decomposition, while the latter combines with it to produce the iodide of mercury, a much more irritating and powerful preparation than the tannate.

#### STILLINGIA.

DR. V. Y. BOWDITCH asked if any one knew anything about stillingia.

DR. WIGGLESWORTH answered that it is an utter humbug. The question being asked of a large number of specialists, it was found that of those who had tried it, all, without exception, had found it of no value.

DR. LYMAN asked how the reader would draw the line between nervous symptoms and cerebral syphilis.

DR. GREENOUGH said that headache alone did not show actual cerebral lesions, either neoplasms or simply inflammation, but when we get even quite pointed paralytic symptoms, we can conclude that some trouble of the cerebrum exists.

In all five of the cases reported there were decided symptoms of partial paralysis, besides the persistent headaches. In three cases, partial hemiplegia; in the other two, difficulty of articulation, stumbling, etc. While he considered such symptoms in early syphilis as rare, the severe specific cephalalgia was comparatively common. He had seen many cases where the headache of the well-marked syphilitic type was very severe that went no farther. In some cases this result was undoubtedly due to treatment; in others the headaches ceased without further complications where proper treatment had not been followed. While he considered that one of the most important practical deductions to be drawn from the consideration of these cases was the imperative call for the administration of the iodide of potassium, he did not think that we should be justified in calling a case one of cerebral syphilis, in which the only symptom was severe headaches.

#### CONNECTICUT MEDICAL SOCIETY. NINETY-FOURTH ANNUAL CONVENTION.

The Ninety-fourth Annual Convention of this Society was held at Hartford on May 27th and 28th. The meetings are held alternately at Hartford and New Haven. Last year an attempt was made to establish Bridgeport as a third regular meeting-place, but it found little support outside of Fairfield County. Of late years the Hartford meetings have been held at the City Hall, which, though very convenient in situation, has proved unsatisfactory in some other respects, and the change was universally approved of having the assembly at the Superior Court Room of the new County Court House. This

building, of which the county may justly be proud, was the theme of much favorable comment, and the accommodations for the Society were all that could be required.

In Connecticut, the *business* of the Society — which in every organization is practically settled by committees — is put into the hands of a large committee of about fifty members, called Fellows, who are elected by the various County Societies at their meetings held previously. In this way the founders of the Society endeavored to secure an equable geographical distribution of the governing body throughout the State; guarding against the "packing" of the house by the members from any particular section. All other members have a right to be present and to take part in debates — all rights, in short, except that of *voting*, which they are supposed to do by proxy through the representative Fellows. The main interest of the business meeting this year centred about a proposition to do away with this time-honored arrangement and substitute one by which all members should participate as Fellows or principals. The separation of the State Society from its union with the Medical Department of Yale College, which had continued since 1810, seemed to present an opportunity for further changes, and this was brought forward in the shape of a proposed new charter, the special features of which were (1) the reorganization, as above alluded to, and (2) the appointing of a committee to examine candidates for a degree and license them if found satisfactory. The licensing of candidates was a privilege voluntarily surrendered by the Society at the time of its union with the Yale Medical School, and now that that union has been dissolved (by a vote of the Society last year, confirmed by Legislative acts during the past winter) the question arose: Is it best for the Society to resume, even technically, the power of granting degrees? It seemed to be admitted by all that the occasions for granting degrees would be very few and perhaps the Society would never exercise the right, but the advocates of it said there was no harm in resuming the privilege, which if not taken now would never be attainable. The opponents stood out boldly in the name of medical reform. "Too many 'doctor-mills' already," said they. "Any man who is fit to be a doctor can go through a medical college and get his diploma, and moreover," said they, "if we keep the right of granting degrees we can never go before the Legislature and ask that the eclectics, homeopaths, etc. shall not be allowed to exercise it." On the one hand there seemed to be a strong desire to nip in the bud this revolutionary charter, and on the other an impression that perhaps it would be better to postpone action till the next meeting, and the latter course was pursued, though the vote for postponement was carried by a bare majority of two. The President, in his address to the Fellows, urged that this subject, which had been previously brought up at a special meeting of the Fellows in January, be finally disposed of, but the Society ordered otherwise, and the bone of contention remains.

The exercises of the first day consisted in the appointment of the usual committees, reading of the Treasurer's report and receiving the reports of

various committees, none of which were of any interest to the general medical public, except those giving rise to the discussions above alluded to. The second day's exercises began at half-past nine, and were introduced by the Secretary's report, by Dr. St. John, of Hartford: "The net gain in members is fifteen and the total membership 196. Eight deaths are reported — twice as many as last year. In the death of Dr. Chamberlain, our late Secretary, the Society loses an active, intelligent worker; a man of remarkable executive ability; one devoted to the work of building up and strengthening this Society."

The President, Dr. B. N. COMINGS, of New Britain, then delivered the annual address to the Society, his subject being "Nervousness," which he described as a condition rather than a disease, and considered that in New England unusually good facilities existed for studying the phenomena. The intensity of life, the competition and restlessness of New England, make it the home of the most nervous people on the face of the earth. He did not propose to discuss nervousness as the result of organic disease, but "in an unscientific and practical way to call attention to the extremely nervous condition of a large percentage of New England people, and consider the cause. All medical men testify to the rapid and universal increase of nervousness. According to the reports of institutions for the insane the cause is unknown in more than forty per cent.; it is a condition that comes about from a great variety of causes that are not dependent on any organic lesion. A great portion of our nervous patients are not insane but live very close to insanity at times, and in paroxysms of high excitement bear a close resemblance to lunatics. The New Englander exhibits his characteristic nervousness in the way he takes his vacation — rushing through Europe as if he had taken a contract to 'do' the Continent in thirty days. It is becoming more and more a characteristic of all persons whose health is generally below par and complicates unpleasantly the symptoms of many real diseases. The cause is often to be found in heredity, and as New England stock is rapidly deteriorating and moving out, this is acting more powerfully. The children of great brain-workers are often below than above mediocrity — our best men generally come from sound stock in rather humble life, a parentage of good physical organization, strong commonsense, industrious habits, fair intelligence, and a life free from excitement.

"Overpressure in schools is a prolific cause of nervousness. The speaker had sent out circulars and gathered instructive statistics regarding the habits, study out of school hours, dreaming about studies, etc. Fully one third of the children in Connecticut in the graded schools suffer seriously from overwork in study, become nervous and irritable at home, lose appetite, and run down in term time. Everything tending to overwork or unnecessary excitement should be pruned out. This necessitates giving up two factors now deemed essential, namely, competition and marking. With children under twelve one half of the time now devoted to study should be given to physical labor or training." The speaker concluded by alluding to noted men like Lincoln, Garfield, and Burritt, who acquired

their education with a very large admixture of physical labor thrown in. The address, which was quite long, was received with marked attention, and a resolution was passed endorsing the opinions expressed regarding the evils of overpressure in schools. We learn that a portion of the paper is to be republished as an educational pamphlet. The Committee on Matters of Professional Interest made, through the chairman, Dr. Wordin, of Bridgeport, an extremely interesting report. The usual plan of the committee has been to collect miscellaneous material sent in by county reporters and endeavor to arrange it so as to present it intelligently. This year the committee endeavored to guide investigation and stimulate experimentation with new remedies, and to that end issued circulars last summer asking the members to try in appropriate cases *cascara sagrada*, *convallaria*, and *psiscidia*. The tabulation of the reports received leads to the following conclusions: *Cascara sagrada* is universally conceded to be a valuable remedy for habitual constipation, especially in old people. In strong doses it is cathartic. *Convallaria* was found to be a useful substitute for digitalis in many cases, and in some superior to it. *Psiscidia* had been frequently substituted for opium and was found to be free from some of the disadvantages of the latter drug. The committee was aided by an enthusiastic professor and some earnest students who had carried out experiments with these drugs on their own persons and made careful and complete notes of the effects. Of course cocaine could not be entirely ignored and the usual tribute was paid to its virtues, especially in the domain of ophthalmic surgery.

The committee also brought forward the subject of medical education, calling attention to the solid work done in the classes at the Yale Medical School whose aim is not "to graduate large classes but to educate men in the fundamental principles of medical science. The system of medical instruction as now pursued in most of the schools is a relic of the past and should give way to the more exacting demands of a later day. The profession of medicine is made too cheap by the 'grab system.' We are oppressed to-day by cheap periodicals, cheap condensations, compends, and dictionaries, to learn the science of medicine." The remedies suggested were, first, endowments to make salaries secure, and second, to prevent by law the entrance of the unlearned into our medical schools.

DRS. J. M. BROWN, of New Hampshire, MUNSSELL, of Massachusetts, WYLLIE, of New Jersey, FAIRHAM and HITCHINSON, of Rhode Island, delegates from their respective States, were introduced to the Society by the President and made pleasant and suggestive speeches in response.

Several surgical cases were detailed by Dr. W. C. WYLLIE, of Sandy Hook, most of the operations having been done under antiseptic precautions, the spray being used rather to charge the atmosphere, than to play directly upon the wound. In one case of traumatic tetanus chloral was given in sixty-grain doses at short intervals, chloroform being used to a certain extent also, the case recovering in about a week, and more than six ounces of chloral being used.

A very lengthy and elaborate essay, entitled "Are

there any Symptoms or Criteria by which we may Diagnose Insanity?" was read by Dr. Cassidy, of Norwich. It bore the marks of much research into psychological literature and much ingenuity in collecting and arranging established *dieta* in this field. The author sums up as follows: *First*. The intellect depends entirely upon the senses and the imagination for the presentation of all the objects of its thoughts and ideas. *Second*. There are two conditions of the brain that may produce insanity: (1) organic changes, permanent and easily recognized; (2) changes in nutrition, which may be temporary, producing insane mental action. *Third*. The symptom of insane mental action is delusion. *Fourth*. There is no moral or other insanity independent of the intellect unless there is lack of brain matter, and then the intellect and will are barely discernible. *Fifth*. There is no insanity of the will with sane intellect. *Sixth*. Crime, no matter how often repeated, is not of itself a symptom of insanity, but rather of depravity. *Seventh*. Passion or impulse, however irresistible it may appear, is not insanity and should not excuse from punishment. *Eighth*. There is such a disease as monomania, during which a person may be insane on one or more subjects and perfectly sane on all other subjects.

The length of the preceding papers was so great that several interesting papers which were to be read could not be reached and had to be read by title. They are as follows: "Internal Use of Germicides," by Dr. Knight, of Hartford; "Treatment of Stricture of the Urethra," by Dr. Whittemore, of New Haven; "Angina Pectoris," by Dr. Turner, of Chester; "Centennial Observations on the Past, Present, and Future of the Connecticut Medical Society," by Dr. S. G. Hubbard, of New Haven.

A resolution limiting future essays read before the Society to thirty minutes, and discussion thereon to five minutes for each participant, was adopted. This will prevent in the future any such monopoly of the time as occurred this year, but it would be well to consider the expediency of prolonging the time for reading essays. To hear the Secretary's report, the President's annual address, the report of the Committee on Matters of Professional Interest, receive delegates from other societies, hear reports from delegates to other societies, cases of interest and miscellaneous business, between 9 and 1.30, and have much time left for dissertation and essays, even if restricted to thirty minutes each, seems to us a somewhat difficult problem to solve. We do not see why the evening intervening between the afternoon and morning session might not be utilized. To be sure it was utilized this year, and very pleasantly too, but not exactly in a scientific manner. At invitation of Dr. Davis, of Hartford, the Society met socially at his elegant house at the edge of the city, where they were entertained right royally.

As a whole the meeting was quite a success, as it is said to be usually when it meets at Hartford. The only serious drawback was the crowding out of several papers of interest.

After adjournment the members gathered around the "festive board" at the United States Hotel, where some good speeches were made by delegates from sister societies and invited guests.

# Medical and Surgical Journal.

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CUPPLES, UPHAM AND COMPANY,

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## DR. H. P. WALCOTT AND THE MASSACHUSETTS BOARD OF HEALTH, LUNACY, AND CHARITY.

WE believe that Governor Robinson has made a mistake in not reappointing Dr. Walcott to this State's Board of Health, Lunacy, and Charity, from the point of view of political expediency as well as of the public welfare. We are informed that the alleged cause of his failure to make an appointment so eminently fit is in the interest of "harmony" in a board where *personal* and *political* influences are so prominent that no harmony except the harmony of mediocrity or of subservency is possible.

So able and upright a public officer as Dr. Walcott must necessarily meet the most violent opposition in any body of men and women who would uphold as chief of a department a man of the character of the late superintendent of Out-door Poor, until the addition of three members appointed by Governor Butler made possible his summary retirement into private life.

At that time ex-Governor Talbot, then chairman of the board, used the party whip so vigorously in behalf of Mr. Wheelwright, Dr. Walcott was the only republican who voted against him. For this he has not been forgiven, and we believe this to be really at the bottom of his being turned out of office now. If Governor Robinson has any valid reason for removing Dr. Walcott from an office which he has honored, we challenge him to produce it. If he has given himself over to those members of the board who sustained Mr. Wheelwright, we wish him joy of his position.

It has not been to the credit of the Board of Health, Lunacy, and Charity that it has maintained so long and so obstinately a source of public scandal at the State House, thereby giving foundation for some of General Butler's worst accusations against the management of our public charities, and causing many people who knew something of the bad in our official life to suspect also what was good. If, however, we are correctly informed that the conception and creation of this ill-assorted, incongruous, unwieldy board, with the long name and the mixed functions, was a clever device of the

late head of the Out-door Poor Department for strengthening his own position, it is perhaps a waste of words to wonder that he should have been able to retain the office so long, and we content ourselves with offering our modest tribute to his "smartness," a quality which has not been unemployed at the State House by his political patrons.

This struggle over the Out-door Poor Department has been in reality a long one. Former members of the board retired in disgust, utterly hopeless of accomplishing what Dr. Walcott, by his fidelity and courage, combined with a more favorable opportunity, has brought about, and for which the State owes him a debt of gratitude. It is unfortunate that the chairman of the board has been able to make use of the case of one of its subordinates, a clerk in the Out-door Poor Department, trained under the superintendent, Mr. Wheelwright, in such a way as to confuse the public as to the real issue in this controversy. We understand the circumstances of the case to be as follows: An employee of the board, in the department of the board formerly controlled by Mr. Wheelwright, had been indicted for bastardy, in Lowell, by a woman of bad character. The case was investigated by a trusted officer of the board who believed, as Dr. Walcott and we believe, that the accusation was a groundless one.

We understand from Dr. Walcott's letter to the *Advertiser*, on the twelfth instant, that Chairman Donnelly suspended the man from office on his own authority, which he had no right to do under the by-laws of the board, and that he also, at the same time, acknowledged the possibility of innocence of the charge by suggesting that the salary of this clerk be paid during the time of his suspension, if found not guilty; that Dr. Walcott insisted upon a hearing by the board; that, at this hearing, a general state of foulness, long suspected, was proved to have existed in an important department of the board, for which the former head of the department, Mr. Wheelwright, was responsible, and of which he was the head centre; that the chairman of the board wished to turn the employee out at once; that Dr. Walcott thought it fair to give him a chance to defend himself against a charge which he believed groundless and to which innocent officers of the board engaged in looking after bastard children might be exposed, and that he, instead of making one poor victim a scapegoat, wished to make this case a means of investigating that whole Department of Out-door Poor, and thus clean out a mass of filth from the State House, the extent of which — how much had been retained since the superintendent's virtual dismissal from the board — no one had any means of knowing.

That Dr. Walcott was right, we fully believe, and in that he accomplished a work which former conscientious members of the board, Mr. David L. Webster, Drs. Hosmer and Folsom, hoped, but were unable, to do, he is to be congratulated.

Considering the disgusting nature of the revelations made, the number of "good persons and timid politicians" who permitted such a burning disgrace to last for so many years, and especially considering the uncomfortable revelations which the late superintendent of Out-door Poor might make if driven into a corner, or put into the witness-box, we do not wonder that Mrs. Leonard and Mr. Donnelly, and Governor Robinson and the "grand old party," fomed themselves in a very bad fix, and that in attempting to cover up a shameful state of things instead of coming out with the truth they thought Dr. Walcott the kind of a man of whom they must rid themselves by fair means or foul, and as early as possible.

An unfortunate issue has been made in the whole affair by the *Globe's* warm defence of Dr. Walcott, thereby seeming to give the matter a political significance which it does not possess. Dr. Walcott, however, in this respect, has fared no worse than another former member of the board whom it served the *Globe's* purpose for the moment at one time to revile and at another time to praise.

The history of the old Massachusetts Board of Health and of its successor—this unfortunate Board of Health, Lunacy, and Charity—has for us and for our readers a deeper interest and a greater importance than any mere petty question of local politics, and party struggles, and personal jealousies, and individual political ambitions. We see reflected in it the birth, the struggles, and the future growth or decay of "preventive" medicine, of "State" medicine under a popular form of government. There is no more beneficent department of medical science, and at the same time no branch of State administration of more vital concern to the welfare of the people. Are active, honorable, independent, and competent men to be encouraged to labor in this field or not?

#### QUACKERY UNDER MARCUS AURELIUS.

THE reign of Marcus Aurelius belonged, according to Gibbon, to the most happy and prosperous period in the world's history. It was an age which gave a progressive impetus to the rising Christianity; the age of philosophers, than whom there was no greater than the Emperor himself; the age of Galen, and of the revival of rational medicine. Nevertheless no epoch was ever more rife in quackery. Renan says that it was the era of *fools*, and almost the only level-headed man among them was that "stray sage" Lucian.

Never was superstition more prevalent. The masses had greater faith in the power of amulets, charms, and incantations to remove disease than in the maxims of Hippocrates, and that "colossal idiot," Socrates, the Boeotian savage, had more followers than Galen. It is impossible to conceive

of such princely revenues accruing to any professional man for honest work as came into the possession of the most notorious charlatan of antiquity, Alexander of Abonotichus. Not only the poorer classes put implicit trust in such scoundrels, and supposed that for a few oboli they could purchase a charm which, pasted over the doors of their houses, would keep away the plague; but men first in rank and intelligence had faith in barbarian oracles, which they often followed to their destruction, and even the Emperor was not altogether free from the taint of superstition, as Lucian testifies.

The practice of medicine was largely mixed up with divination and soothsaying, and the advice of a dead Æsculapius was considered of more worth than that of a living Galen.

There were stringent laws on the statute-books against soothsaying, and against all impostors who aimed to make money by gulling an ignorant and credulous public,<sup>1</sup> but these laws were difficult of enforcement, and were virtually a dead letter.

The wise Emperor was one of the most tolerant of men. He lamented the degradation of the masses, but realized the powerlessness of repressive legislation materially to improve their condition; if the weeds of superstition flourish, it is because the mental soil is just suited to them, and if you root out one rank cluster, another quite as noxious will speedily spring up in its place. "He had vainly endeavored," says Renan, "to suppress the scenes of cruelty which were enacted at the amphitheatres, making them places of horror for every one with moral sensibility, but he could not succeed"; "these abominable representations were a part of the life of the people." The influences that transform society and purge it of error are of a moral and educational order rather than the product of any executive fiat. A singular episode in this eventful period was the career of the renowned imposter Alexander, of whom mention has been made. He began his rôle of fraud and deception with the determination to enrich himself by catering to the two most powerful passions of human nature—hope and fear. As the masses of mankind have always been impatient of the natural sources of knowledge, and eager for the hidden mysteries behind this material scene, he resolved to establish an oracle and become both a prophet and a healer. Lucian relates the means by which he beguiled the gaping multitude and acquired a reputation. In his travels he had obtained possession of an immense tæne snake which he called *Alcyon*; this he would wrap around his person and exhibit to visitors as the soul of Æsculapius incarnated. The tricks by which he imposed this belief on the people are detailed in Lucian's account. The real head of the monster was concealed from view, an artificial head resembling that of a man with forked protruding tongue being displayed instead;

<sup>1</sup> They were to be banded,—"ne a humana credulitate publici mores ad spem alacris rei corrupterentur."

by a species of clever ventriloquism the serpent was made to talk and utter oracles. The show was always made in dim light, and with a great deal of mystery, such as attends certain modern "séances." It was found convenient to deliver most of the oracles in writing. Those who desired to consult the "young Æsculapius" (as it was called) were required to send in their questions in *sealed tablets*; these to be returned to them unopened, the seals unbroken, but with the questions answered. It is a singular fact that we hear of certain "writing mediums" resorting to the same trick at the present day. Lucian explains very plausibly how he supposes the trick was done. He says that Alexander "heated a needle in the fire, and putting it under the wax, lifted up the seal, and read the book, then, by means of the needle, melting the wax again, easily fastened down both that which was under the thread and that which was around the seal." The next day the consultants had their tablets returned to them answered, and for this they paid a certain sum. Lucian has transmitted to us some of the medical prescriptions of this ophidian Æsculapius; they are sufficiently curious. To a patient complaining of a disorder in his bowels, he prescribed "swine's flesh in mallows," to be pounded together in a "consecrated vessel." To a person complaining of a pain in the side, he ordered an ointment of "bear's grease mixed with dew, which must be gathered during the full of the moon." Of such a character were the absurd prescriptions of those times. All medical writings of that age, with perhaps the single exception of Galen's works, are full of such trash as this, everything being the fruit of incomplete observation and unverified statement. Pliny's books are a collection of crudities, in which the medical part shows how encumbered was the *Materia Medica* of that uncritical age with abominations of all sorts.

Lucian and the Epicureans of that epoch seem to have been a sore trial to Alexander; Lucian put him to severe tests in which he caught him tripping every time. As a result the illwill of the imposter was obtained, and Lucian narrowly escaped a plot laid to take his life. He thereupon complained to the King of Pontus and Bithynia and asked that an edict for the arrest of the imposter should be granted. The king sympathized with Lucian, but dared not interfere and bring the scoundrel to punishment.

He was too popular at Rome: an ex-consul, Rutilianus, was his son-in-law, eminent senators believed in him, and an attempt to prosecute him would provoke a storm throughout the entire Roman Empire. Alexander lived to a ripe old age and died in all his glory; his statues about the year 178 A.D. were the object of public worship, and Nicomedia stamped its money with a representation of the serpent on one side and Alexander on the other.

The history of medicine involves many an instruc-

tive chapter occupied with charlatanism of the grossest character. Theologians are fond of proving that all religious heresies have been continually repeating themselves; this seems also to have been largely true of medical heresies. There is much that is disheartening connected with medical practice under present social conditions; the demon of superstition has been *scotched*, not killed; the gullibility of mankind is still immense; charlatans prosper while men of modest merit toil on in honest poverty; nevertheless the psychological distance is a wide one between this age and the age when the charlatan of Abonotichus could deceive the clever heads of Rome; the advance is incalculable and the world will not go back.

#### A MASSACHUSETTS PHARMACY LAW.

A PHARMACY bill has at last been passed by the Massachusetts Legislature, and having received the signature of the Governor it is now a law of the State. It has been passed through the influence of the State Pharmaceutical Association, which, although it has been organized only three years, already includes over half of all the apothecaries in business in the State. The bill very nearly met defeat, as in former years, through the misrepresentations of its opponents that it was being pushed in the interests of the Massachusetts College of Pharmacy, when that institution in reality sedulously held aloof from any action in regard to the matter in order to give no just grounds for any such assertion.

This time the bill was so drawn as to avoid any reasonable objections to such legislation. The Governor is to appoint a board of registration in pharmacy, consisting of five skilled pharmacists of at least ten years' practical experience, no two to be in business in the same town or city. Each year the term of one of the five will expire, and a new appointment to the board is to be made. The board will meet at least three times a year. All who have been engaged in the business for three years at the time of the organization of the board can upon application simply be registered on payment of fifty cents; all others, however, will have to pay five dollars and prove their qualifications by passing an examination. All the fees received by the board, its secretary will pay into the State treasury monthly. From these fees the State treasury will pay each member of the board five dollars for each day actually spent in these duties, and also traveling expenses—provided that the fees paid to the board are sufficient. The records of registrations and fees will be open to inspection at the office of the State Secretary.

The board will report annually to the Governor its acts and the condition of pharmacy in the State. All apothecaries doing business without registration are liable to a fine of fifty dollars, and it is the duty

of the board to have complaints made against all such to the district attorneys. This act does not apply to physicians dispensing their own medicines, to wholesale druggists not retailing, to patent medicines, or non-poisonous domestic remedies usually sold by grocers.

The effect of this statute will of course very largely depend upon the character of the men appointed upon the board and their manner of examination for applicants. Yet the mere fact that there is such a board, and that an examination has to be passed, will doubtless deter very many of those who are conscious of their want of proper qualifications from seeking to enter this calling so important to our success as physicians; for whatever skill we may have exercised in our choice of the therapeutic remedy, it will be of no avail if the drug has not been well selected and properly dispensed by the pharmacist, while the health of our patients and our own reputations will be the principal sufferers.

Up to this time a considerable proportion of those engaged in the business of apothecaries have been unqualified, and many of the leading States of our Union have been compelled to pass pharmacy laws, which in most cases have been more stringent than this one.

#### AN INSTRUCTORSHIP OF HYGIENE IN THE BOSTON PUBLIC SCHOOLS.

THE Boston School Committee has for a number of years been shying skittishly at the question of medical supervision of the city's public schools.

It was found that they could not provide for direct inspection without exceeding their powers, so the same end was sought by establishing the office of instructor in hygiene. The opponents of the measure have hitherto secured its defeat either by voting against the office or by voting against the candidate.

But a complete change of sentiment was disclosed at the last meeting of the School Committee. The opponents of medical inspection became its supporters, and some of its supporters opponents.

The office of instructor in hygiene was voted quite suddenly, so suddenly that it seems as if the candidate to fill the office were waiting at the door. A competent and proper person might render the city the highest service in this position. An incompetent or unsuitable appointment will bring the office and the subject into discredit.

#### MEDICAL NOTES.

—Dr. J. H. Carmichael, of Springfield, a homeopathic physician, recently read before a Worcester County medical society, a paper on "Nervous Exhaustion Consequent upon Concussion of the Spine," which was published *in extenso* in the medical

journal of that persuasion. It was subsequently discovered to have been copied almost verbatim and without credit from Erichsen's monograph on "Concussion of the Spine." An explanation seemed to be in order, which is made by the writer, thus: "The idea of nervous exhaustion being dependent upon a shock to the spinal cord was wholly original with me." And he naively adds: "Had Erichsen not written on the subject, I should have done so." "This explanation," he trusts, "will be satisfactory."

—We are happy to notice that the *amende honorable* has been made by the Massachusetts Society for Prevention of Cruelty to Animals for the attack made by them on the work of Professors Nichols and Sedgwick in connection with the experiments made by those gentlemen upon the effects of water-gas on animal life. Would that equal reasonableness characterized similar societies universally in their attitude toward such investigations. They say through their official organ: "A recent complaint was to the effect that parties in a suburban city were wantonly suffocating with gas dogs, cats, rabbits, and pigeons. It was found that, under the direction of the State Board of Health, an eminent chemist with a physiological professor had been conducting a series of experiments to determine the comparative danger in the use of gas made from coal and that made from water. As the investigations had been concluded we were unable to personally observe and judge of their character. We are, however, more than assured that no wanton cruelty had been practised, and that only a minimum of suffering had resulted from the experiments; that in view of their vital importance (exclusively for the protection of human life), as represented by one of the learned gentlemen who conducted them, we were fully persuaded that the end justified the means, and there had been no wanton violation of either the laws of humanity or of the Commonwealth."

#### Correspondence.

AD UNCAS.

MARCH 20, 1885.

Mr Editor. — In writing prescriptions, one often finds it convenient to end off as follows: —

Aque, ad ℥ iv  
or aque, q. s. ad ℥ iv  
or aque, q. s. ut ft ℥ iv

Having had some doubt as to the classical correctness of these formulas, or at least of the first two, I addressed a letter the other day to Prof. George M. Dam, of Harvard College, who referred the matter to a pupil, Mr. Morris H. Morgan, and has sent me an interesting reply containing the result of Mr. Morgan's investigations and his own indorsement. Mr. Morgan finds each of the forms above given to be correct, and gives the following examples from classical writers to prove it.

In the work "*De Re Culinaris*," said to be written

by the noted epicure Apicius, is a receipt for mullet auge, part of which is as follows:—

"*Cuminum tantum quantum quinque digitis tallis, iperiti ad demidium ejus.*"—Apicius ix. 13.  
"*Aedem Junoni ad partem demidiium detegit.*"—Livy 2, 3, 2.  
"*Quasi ad talenta quindecim coegi.*"—Ter. 1, 1, 33.  
"*Terra ingentis humore egeat cit ad perennes sufficit unnes.*"—Livy 4, 30.  
"*Ad quod ei vires non suffecerint.*"—Quinct. 12, 1, 12.

The examples of *at* with the subjunctive are of course numerous and need not be quoted.

The question is certainly more curious than important, but not without interest to those who like to write correctly.

Yours respectfully,  
EDWARD H. WILLIAMS.

POOR FOOD AT THE MASSACHUSETTS MEDICAL DINNER.

BROCKTON, MASS.

Mr. Editor,—If the Massachusetts Medical Society is unable to obtain a better dinner than has been its fortune this year, at its annual meeting, I would suggest for the next season that each member shall repair to the quarters of the Society with a picnic-basket, filled with food of home manufacture. Certainly they would be surer of neatness and variety, and perhaps style, than the exhibit of this year.

Truly yours,  
H. F. BORDEN, M.D.

REPORTED MORTALITY FOR THE WEEK ENDING JUNE 13, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrhoeal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	621	244	18.56	14.24	3.52	6.24	3.41 *
Philadelphia . . . . .	927,935	384	144	14.31	8.32	1.12	3.51	4.05
Brooklyn . . . . .	644,526	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	173	58	11.02	17.40	2.32	5.78	1.74
Baltimore . . . . .	108,520	107	31	8.37	19.53	2.79	.36	.33
St. Louis . . . . .	400,000	118	—	17.85	8.50	—	5.81	3.32
Cincinnati . . . . .	272,400	89	26	20.16	15.68	10.08	4.48	1.12
New Orleans . . . . .	231,000	154	57	20.15	11.05	13.65	.65	1.30
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	92	34	14.17	20.71	1.09	1.09	4.36
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,465	—	—	—	—	—	—	—
New Haven . . . . .	62,882	28	10	17.85	10.71	—	3.57	—
Nashville . . . . .	54,400	20	7	15.09	25.00	—	—	—
Charleston . . . . .	52,286	30	12	13.33	13.33	3.33	—	—
Lowell . . . . .	71,447	28	8	7.14	25.00	—	—	3.57
Worcester . . . . .	69,442	12	—	33.33	—	—	—	—
Fall River . . . . .	62,674	25	4	—	20.00	—	—	—
Cambridge . . . . .	60,995	21	5	—	28.56	—	—	—
Lawrence . . . . .	45,516	6	2	16.66	—	—	16.66	—
Lynn . . . . .	44,895	—	—	—	—	—	—	—
Springfield . . . . .	38,090	10	1	—	10.00	—	—	—
Somerville . . . . .	31,350	7	0	—	32.84	—	—	—
Holyoke . . . . .	30,515	12	6	25.00	25.00	—	8.33	—
New Bedford . . . . .	30,144	11	5	9.09	27.27	—	—	—
Salem . . . . .	29,503	14	3	14.28	7.14	—	7.14	7.11
Chelsea . . . . .	24,347	8	3	37.50	—	12.50	—	25.00
Taunton . . . . .	22,693	4	1	—	50.00	—	—	—
Gloucester . . . . .	21,400	6	5	33.33	16.66	—	33.33	—
Haverhill . . . . .	20,905	7	1	—	14.28	—	—	—
Newton . . . . .	19,421	6	1	—	50.00	—	—	—
Brockton . . . . .	18,322	3	1	—	—	—	—	—
Malden . . . . .	15,273	7	1	—	28.56	—	—	—
Newburyport . . . . .	13,947	3	1	—	33.33	—	—	—
Waltham . . . . .	13,568	6	1	33.33	50.00	—	—	33.33
Fitchburg . . . . .	13,433	2	1	—	—	—	—	—
Northampton . . . . .	13,165	7	2	14.28	—	—	14.28	—
88 Massachusetts towns . . . . .	57	8	—	7.00	22.75	—	5.25	1.75

Deaths reported 2,978; under five years of age 634; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 310, consumption 341, lung diseases 224, diphtheria and croup 86, diarrhoeal diseases 67, scarlet fever 56, malarial fevers 27, typhoid fever 17, measles 22, cerebro-spinal meningitis 15, whooping-cough 44, erysipelas seven, puerperal fever seven. From malarial fevers, New York eight, New Orleans seven, St. Louis five, District of Columbia, New Haven, and Charleston two each, Philadelphia one. From typhoid fever, Philadelphia five, New York four, Baltimore three, Boston, St. Louis, Cincinnati, District of Columbia, and Charleston one each. From measles, New York 13, Philadelphia three, Boston, Cincinnati, District of Columbia, New Haven, and Lowell one each. From cerebro-spinal meningitis, New York and Philadelphia three each, St. Louis and District of Columbia two each, Cincinnati, Nashville, and Holyoke one each. From whooping-cough, New York and Philadelphia two each, District of Columbia, Nashville, Holyoke, and New Bedford one each. Cases reported in Boston: measles 98, scarlet fever 36, diphtheria 22, and typhoid fever three.

In 108 cities and towns of Massachusetts, with an estimated

population of 1,403,971 (estimated population of the State 1,355,101), the total death-rate for the week was 16.51, against 15.43 and 18.19 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending May 23d the death-rate was 21.1. Deaths reported 3,504; infants under one year of age 825; acute diseases of the respiratory organs (London) 305, measles 182, whooping-cough 158, diarrhoea 42, scarlet fever 40, fever 37, smallpox (London 28, Manchester and Sheffield two each, Hull and Sunderland one each) 31. The death-rates ranged from 13.3 in Bolton to 31.5 in Blackburn; Birkenhead 23.5; Birmingham 20.9; Bradford 17.3; Hull 19.9; Leeds 20.2; Leicester 18.9; Liverpool 24.2; London 19.3; Manchester 21.4; Sheffield 20.8. In Edinburgh 18.1; Glasgow 24.8; Dublin 31.2.

For the week ending May 23d in the Swiss towns there were 38 deaths from consumption, lung diseases 30, diarrhoeal diseases 12, erysipelas four, typhoid fever three, whooping-cough two, smallpox one, puerperal fever one.

The death-rates were: at Geneva 15.2; Zurich 23.3; Basle 22.7; Berne 21.8.

The meteorological record for the week ending June 6th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.				Relative Humidity.			Direction of Wind.	Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.		7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	
Saturday, June 6, 1885.																
Sunday, 31	29.703	52.7	55.6	50.4	100	98	98	98.7	N	N	N	14	12	9	R	—
Monday, 1	29.654	53.8	58.6	50.1	90	80	87	87.7	E	E	S W	16	16	10	O	—
Tuesday, 2	29.622	52.9	57.2	49.8	60	45	81	85.3	N W	N W	E	16	16	10	C	—
Wednesday, 3	29.653	55.9	66.5	49.4	61	60	82	67.7	N E	S W	S	8	15	C	F	—
Thursday, 4	29.849	62.3	76.1	49.5	69	72	87	76.0	W	W	O	14	16	0	F	O
Friday, 5	29.682	50.7	62.6	45.3	98	100	87	95.6	N	N	S W	14	24	11	O	R
Saturday, 6	29.451	62.0	71.6	46.4	67	83	58	50.7	S	N	S W	14	12	4	C	C
Mean, the Week.	29.816	56.6	65.4	48.7				77.3								—

<sup>1</sup> O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 6, 1885, TO JUNE 12, 1885.

FRAYER, B. E., major and surgeon, U. S. Army. Ordinary leave of absence extended six months from July 1, 1885, on surgeon's certificate of disability. S. O. 129, A. G. O., June 6, 1885.

The order directing Major P. J. A. CLEARY, surgeon U. S. Army, to change station from Fort Union, N. M., to Fort Lyon, Col., is revoked. S. O. 81, Department of Missouri, June 8, 1885.

RICHARD, CHARLES, captain and assistant surgeon. Granted leave of absence for three days. S. O. 128, A. G. O., June 5, 1885.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Relieved from duty at Fort Sisseton, D. T., and ordered for duty at Fort A. Lincoln, D. T. S. O. 61, Department of Dakota, June 5, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE, FOR THE WEEK ENDED JUNE 6, 1885.

WYMAN, WALTER, surgeon. To inspect unserviceable property at Baltimore, Md. June 6, 1885.

CAITER, H. R., passed assistant surgeon. To inspect unserviceable property at San Francisco, Cal. June 6, 1885.

BATTLE, K. P., assistant surgeon. To inspect unserviceable property at New Orleans, La. June 6, 1885.

#### SOCIETY NOTICES.

AMERICAN LARYNGOLOGICAL ASSOCIATION.—The seventh annual congress of the American Laryngological Association will be held in Abstract Hall, Lafayette Avenue, Detroit, Mich., June 24, 25, and 26, 1885. The profession is cordially invited to attend the sessions of the congress.

June 24th. Morning session at 10 o'clock. Roll-call, reception of guests, etc. Address of Welcome, by Dr. David Inglis, President of the Detroit Medical and Library Association. President's Address. Papers: (1) E. L. Shurley, M.D., Detroit, "On the use of Galvanism in Pharyngeal Affections." (2) F. H. Hooper, M.D., Boston, "The Respiratory Function of the Human Larynx." From experimental studies made in the Physiological Laboratory of Harvard University. Appointment of Nominating and Auditing Committees. Election of Fellows. Adjournment at 1 P.M.

Afternoon session at 3 o'clock. (3) H. A. Johnson, M.D., Chicago, "On some of the Motor Derangements of the Larynx, with cases." (4) William C. Glasgow, M.D., St. Louis, "On certain Vaso-motor Disturbances of the Nasal Membrane." (5) John S. Mackenzie, M.D., Baltimore, "Reflections on the Etiology of the simple Inflammatory Affections of the upper Air-passages." (6) D. B. Delavan, M.D., New York, "Erysipelas of the Pharynx and Larynx." Evening: Reception by the President to the Fellows of the Association.

June 25th. Morning session at 10 o'clock, promptly. Business meeting, open to Fellows of the Association only. 1. Re-

port of the Secretary. II. Report of the Treasurer and Auditing Committee. III. Report of the Librarian. IV. Report of Committee on Nominations for 1885-86. V. Miscellaneous Business. At 11 o'clock the doors will be opened and the reading of papers commenced: (7) Frank L. Ives, M.D., New York, "Submucous Laryngeal Hemorrhage, complicated by Cyst." (8) Harrison Allen, M.D., Philadelphia, "The Galvano-cantury in Laryngological Practice," with exhibition of a new cantury-sure." (9) A. H. Smith, M.D., New York, "The Principles involved in the Construction of Spray-tubes." Presentation of Instruments, etc. Adjournment at 1 o'clock.

Afternoon session at 3 o'clock. (10) E. Fletcher Ingals, M.D., Chicago, "Leucoplacia Buccalis." (11) R. P. Lincoln, M.D., New York, "A Case of Melano-sarcoma of the Nose, cured by Galvano-cantury." (12) J. O. Roe, M.D., Rochester, "Anoma of the Nose." (13) J. W. Robertson, M.D., Detroit, "Deformity of the Nose as a factor in Nasal Catarrh." (14) C. C. Rice, M.D., New York, "Inflammatory Adhesions of the Soft Palate to the Wall of the Pharynx." Evening: Annual Dinner of the Association at the Russell House, at 7 o'clock.

June 26th. Morning session at 10 o'clock. (15) Beverley Robertson, M.D., New York, "Alimentation in Laryngeal Phthisis." (16) F. H. Bosworth, M.D., "An additional Note on the Therapeutical Action of 'Cocaine.'" (17) S. Solis-Cohen, M.D., Philadelphia, "Personal experience with some recent additions to the Materia Medica of Laryngology." (18) G. W. Major, M.D., Montreal, "A Case of Membranous Nasal Catarrh." (19) William F. Duncan, M.D., New York, "On the Influence of Diathesis on Mucous Membrane." (20) J. Solis-Cohen, M.D., Philadelphia, "On the Efficacy of Mild Measures in the Treatment of so-called Naso- and Naso-pharyngeal Catarrh." Ballot for officers, 1885-86, and their induction into office. Adjournment at 1 o'clock.

Afternoon, at 2 o'clock. Boat ride on the river, by invitation of the Detroit Medical and Library Association.

#### BOOKS AND PAMPHLETS RECEIVED.

A Case of Extensive Recurrent Sarcomatous Disease. Read before the Philadelphia County Medical Society, May 20, 1885. By John S. Miller, M.D., Assistant in Surgical Clinic, Jefferson Medical College Hospital. (Reprint.)

Medical Legislation. The Annual Address before the American Association of Medical Editors. By Henry O. Marcy, A.M., M.D., Boston. (Reprint from Journal of American Medical Association, May 2, 1885.)

Medical Thoughts of Shakespeare. By B. Rush Field, M.D., member of the Shakespeare Society of New York. Easton, Pa.: Andrews & Clifton. 1885.

A Comparative Review of Quarantine and Maritime Sanitation. A Letter excerpted from the New Orleans Medical and Surgical Journal for June, 1885.

Report of the Board of Managers of the Pennsylvania Hospital to the Contributors at their Annual Meeting, held 5th Month 1th, 1885. Philadelphia.

Diagnosis and Surgical Treatment of Abdominal Tumors. By Sir Spencer Wells, Bart. Philadelphia: P. Blakiston, Son & Co. 1885.

Transactions of the American Gynecological Society. Vol. IX. For the Year 1884. New York: D. Appleton & Co. 1885.

## Original Articles.

A CASE OF TRAUMATIC LINEAR ATROPHY.<sup>1</sup>

BY VINCENT Y. BOWDITCH, M.D., OF BOSTON.

DURING the past year my attention was called to an affection of the skin, the symptoms of which were so marked and peculiar that I have thought it worth while to present the case to you this evening.

Mrs. A., a widow, aged sixty, with children, a person of decidedly sensitive and nervous temperament, has had for many years slight aortic disease, which in the last two years has shown somewhat more marked symptoms, together with a decided increase in bodily weight. Early in the past year she began to have an annoying paroxysmal cough, which, after repeated examinations of throat and lungs, with negative results, I came to the conclusion was of nervous origin, and, owing to her generally debilitated condition, I prescribed change of scene and air, and sent her to a relative's house in the country. On the twenty-sixth of February, a year ago, I was called to see her, and found the cough was still quite severe, at times causing vomiting and much dyspnoea. The patient complained also of an extreme sensitiveness confined to the lower abdomen. Upon examination nothing abnormal was to be seen, but, upon palpation, the walls of the abdomen, which was large and pendulous, were very sensitive, which symptom I regarded as rather hysterical than otherwise. I prescribed, however, a liniment containing aconite root and chloroform, with soap and opium, and did not see her until the following week, when she sent me word that several small puffy excrescences had appeared upon the abdomen, accompanied by a feeling of great heat and distension. Upon examination, the lower quarter of the abdomen down to the pubes and Poupart's ligament was very hyperæmic, and, ramifying in every direction upward, were curious, whitish, oedematous-looking elevations from one eighth to one fourth of an inch in width, most marked near the pubes and median line, and gradually disappearing toward the line where the hyperæmia ceased; the whole having in arrangement the appearance of the branches of a tree, and giving to the finger the sensation of very soft, crumpled rice-paper. I ordered the liniment to be discontinued, and a lotion containing the acetate of lead was substituted. The following week the hyperæmia increased, and the elevations had increased in size, in some places having coalesced so much as to make lumps as large as half of a pullet's egg. There was no marked tenderness, but a feeling of heat and puckering all the time, with a sense of distension of the parts, which caused much discomfort to the patient when sitting upright in a chair. The general symptoms were not materially changed.

Not being satisfied with the course of the trouble I called in consultation Dr. J. C. White, who considered it a very marked and rare case of either linear atrophy or keloid, and recommended leaving off all applications and using an abdominal supporter to relieve the tension of the skin. Owing to delay in obtaining the supporter it could not be

applied until some two weeks later, and as the hyperæmia and the elevations seemed to be slowly disappearing, I decided not to use the supporter, and see if the abdomen would not regain its natural appearance without aid of any sort. Two weeks later the hyperæmia and swelling had entirely disappeared, leaving only numerous cicatrices similar to those noticed on the thighs and abdomen of a woman who has borne children, or whose abdomen is large and pendulous.

In the *Journal of Cutaneous Medicine* (vol. i. p. 140) Sir. Erasmus Wilson speaks of "Striæ et Maculæ Atrophicæ Cutis, or false cicatrices of the skin." By these names he designates the whitish, slightly curved, puckered streaks so well known to us as seen on the abdominal walls and thighs of women who have borne children. He considers that these marks are due to rupture of the corium, with loss of the subcutaneous fat, of the papillary layer of the derma, of its vessels and nerves, leaving a smooth and unmoulded epidermis. From this loss of substance arises the name of striæ atrophicæ, or linear atrophy. He mentions, also, the existence of similar false cicatrices in the skin which have arisen under different conditions from those of pregnancy, and divides them, according to the nature of their origin, into three classes of linear atrophy, namely: (1) neurotic, (2) traumatic, and (3) idiopathic.

Under the first head come the lines sometimes noticed over the course of cutaneous nerves which have been paralyzed. For instance, in cases of paralysis of the supra-orbital, the course of the nerve can be traced by the whitish line which marks the position of the nerve, and which, some time later, loses its sensibility and becomes atrophied, resembling the scar of a sword-cut, the line in this case being more firm and condensed than in the other forms.

Under the second head, namely, the traumatic form, Wilson considers all those cases which arise from overdistension of the skin from causes acting from within, and mentions the conditions of pregnancy, of dropsy, and obesity. He likens this condition to that of a rubber bag which is overdistended with gas; it first yields, and then gives way at the weaker places. He concludes: "In the corium this violence is accompanied with hyperæmia and followed by exhausted nutritive power and atrophy."

The third, or idiopathic, form he considers appears without apparent cause, although the nutrition of the skin is evidently affected by an unhealthy general condition. Unlike the traumatic form, moreover, it appears in parts of the body not subjected to distension of any sort.

This case I class under the second head, namely, linear atrophy of traumatic origin. We have the history of long-continued paroxysmal cough, causing frequent and violent distension of the abdominal walls, which, owing to the debilitated condition of the patient, yield in the manner mentioned above, and after two or three weeks of acute hyperæmia and swelling a gradual diminution of the symptoms occurs, until no vestige of the trouble is left except the small cicatrices of the ruptured corium.

In this case the symptoms were all unusually well marked, and to one whose attention had never been

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, March 11, 1885.

called before to the affection the appearance was decidedly puzzling, not to say alarming.

*Diagnosis.*—The only other disease with which linear atrophy could be confounded is the so-called "keloid," and several authorities speak of the marked similarity between the two affections, and the frequent difficulty of distinguishing one from the other. Cases of the latter are divided by most authors into two classes, namely, the true and the false keloid, according to the idiopathic or traumatic origin of the affection.

True keloid is the name applied to an affection characterized by a collection of small red tubercles, usually found upon the sternum, sides of the body and back, which increase in size slowly until they coalesce, forming oval or cylindrical-shaped tumors, dry and puckered in appearance, with spur-like processes, somewhat tender upon pressure, and firmly rooted in the skin. This process of growth may go on for months or years with more or less discomfort to the patient from a sense of burning or itching, and the affection rarely disappears, although exceptional cases are reported in which entire disappearance of the tumors was noticed.

False keloid is a term used to designate the exaggerated cicatricial tissue noticed in places where a wound has previously existed, and differs from the true form in that it is usually smaller, longer, bifurcating, and follows the course of the original lesion. The difficulty oftentimes of drawing the line between true and false keloid is spoken by Kaposi in his article on "Keloid," *Lehrbuch der Kinderkrankheiten*, vol. ii.

The course of the disease, its sudden appearance and comparatively rapid disappearance, the absence of tenderness in the tumors themselves, are facts which enable us to decide against the presence of keloid in the present case. The slight elevations noticed resembled the tumors of that disease, but their rapid shrinking, leaving nothing but the ordinary atrophic lines, is another proof of the non-existence of keloid.

Treatment is of little avail in these cases, and the disease will, as a general thing, run its course uninfluenced by medication. Attention to the general health and an attempt to remove the exciting causes are chiefly indicated, as in this case, for instance, where an attempt was made to relieve the pressure on the walls of the abdomen by means of a supporter, medicines to relieve the paroxysmal cough were given. Sedative applications are of little or no use in checking the course of the affection.

In conclusion, the question might naturally arise, Could the affection described have arisen from the application of the liniment containing aconite-root and chloroform, with soap and opium? Such a supposition can hardly be sustained: *first*, from the fact that no case has ever been recorded of similar trouble arising from the use of this very common remedy; *second*, because attention had been called to the extreme sensitiveness of the lower part of the abdomen before any external applications were made; and *third*, because similar affections, in which the general symptoms were like those mentioned in this case, have been recorded by various authorities.

## REFERENCES.

- (1) Sir Erasmus Wilson. *Journal of Cutaneous Medicine*, vol. i. p. 140.
- (2) Kaposi. *Lehrbuch der Hautkrankheiten*, vol. ii.
- (3) Neumann. *Handbook of Skin Diseases* [Bulkley].
- (4) Niemeyer. *Textbook of Practical Medicine*, vol. ii. p. 397.
- (5) Reynolds's *System of Medicine*, p. 908.
- (6) Guy's Hospital Report, Third Series, vol. vii. p. 297.
- (7) Sir E. Wilson. *Students' Handbook of Cutaneous Medicine*.

## MULTIPLE SARCOMA OF THE SKIN: TREATMENT BY HYPODERMIC INJECTIONS OF FOWLER'S SOLUTION: RECOVERY.<sup>1</sup>

BY FREDERICK C. SHATTUCK, M.D.,

*Instructor in Theory and Practice in the Harvard Medical School; Physician to Out-Patients at the Massachusetts General Hospital.*

JULY 26, 1883. K. B., thirty-one years old, was admitted into the Massachusetts General Hospital. Her health had usually been good, and she had worked at dressmaking up to the time of admission. Seven months before that date she began to suffer from pain along the lower jaw, and soon after noticed swelling behind the angles of that bone. About two months later nodules appeared in the skin over her right shoulder, then on her right arm, next on the left, next on the abdominal wall. She thinks that the appearance of the nodules was preceded by local tenderness and followed by discoloration. About three weeks ago she noticed that her face was fuller than normal, and she began to suffer from pain in the cardiac region. She was somewhat short of breath on exertion, and reported that she had lost decidedly in strength, though not in flesh. The bodily functions were in fairly good order. The pulse was 120, regular, rather weak.

On examination, it was noted that the patient was pale, with some edema of the eyelids and face, preponderating on the right side. Scattered throughout the skin of the upper extremities and the body as far as the umbilicus were hundreds of nodules, mostly about the size of a pea. Over the inner aspect of the arms the nodules were discrete, not raised above the surface, slightly tender on pressure; the skin could be wrinkled over them, and was not discolored. On the outer hand, over the shoulders, outer aspect of the arms, breasts, upper abdomen, and back — though in the latter situation to a less degree — the nodules were so thickly sown as to form large masses or plates, very hard and but very slightly tender; the skin covering these could not be pinched up or wrinkled, and was markedly erythematous, with slight scaly desquamation of the epidermis. In the legs a very few nodules could be felt, and there was no erythema. The glands at the angles of the jaw were enlarged, but those of the axilla and groin were apparently normal. Thorough examination failed to reveal any material modification of the great viscera. I made the diagnosis of multiple sarcoma of the skin, and soon after Drs. White, Wigglesworth, and Tilden were kind enough to accede to my request to see the patient, concurring in the diagnosis.

General tonic treatment was prescribed at first, but Köhner's brilliant success in a similar case with the subcutaneous use of Fowler's solution induced me to adopt his plan toward the end of August.

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, March 11, 1885.

An injection of four minims, diluted with an equal quantity of water, was given once daily, deep in the thigh. September 15th Dr. Tarbell resumed charge of the wards, and soon after increased the injection to six minims. The general health of the patient improved, a few fresh nodules appeared, but the old ones disappeared in much larger numbers, and November 3d she was discharged from the hospital, in order that she might work a portion of her time. She came daily to the hospital, however, for her injection until she was furnished with a syringe and taught its use, and treatment was persisted in steadily till the middle of March, when I opened an abscess in the thigh, the only one which formed during the whole time. A few nodules still remained, but the masses which filled the skin over the breasts, abdomen, and outer side of the upper arm had entirely disappeared, and during the past year she has been under observation from time to time without any treatment whatever, and has worked steadily at her trade. I have seen her within a few days, and she remains perfectly well to all appearance.

Early in 1884 I showed her at a meeting of the Medical Improvement Society, but have purposely allowed a year to elapse before reporting the case, in order that there might be no doubt as to the result.

Cases of multiple sarcoma of the skin are rare, and the authorities on diseases of the skin have little to say on the subject. All agree that the prognosis is absolutely unfavorable, and the course generally a rapid one. Köbner's is the only case recorded up to date, so far as I am aware, in which recovery took place. I now regret that one of the tumors was not excised and examined microscopically, as was done by Köbner. The patient was extremely averse to the operation and preferred to wait, promising that she would make no objection if she got worse. To this delay I consented, having very little faith that treatment would prove of any avail. Still, even without the evidence of the microscope, I think there can be no doubt as to the diagnosis. The experts were unanimous and I had previously seen two other cases very similar, except that they ended fatally. Was the cure really attributable to arsenic? If so, would the drug have acted as well administered in the usual way by the stomach? These are questions which can only be answered by extended experience. It is interesting to state that ten days after the arsenic was stopped the urine was examined for its presence by Professor Wood with a negative result.

#### INCREASED FREQUENCY OF SCABIES.

BY F. B. GREENOUGH, M.D.,

*Physician to the Boston Dispensary, Department for Diseases of the Skin.*

Not only my own experience, but also that of my colleagues who see cutaneous disease in our public medical services, show that the frequency of scabies has of late increased in the most extraordinary manner. During, and just after, the war, scabies was by no means uncommon, but the cases gradually diminished in frequency, and in the decade 1870 to 1880 a case of itch was exceptional enough to be of especial interest, even in special practice.

The following figures, taken from my Dispensary casebooks will speak for themselves: In the first 5,000 cases of skin disease which I collated, there were 55 cases of scabies, making an exact percentage of 1.1. These 5,000 cases were observed in a period of time extending from July 1, 1873, to November 25, 1876. My next series extended from November 26, 1876, to June 30, 1878, and numbered 2,494. In this number only 8 cases of scabies were seen, or about .3 of 1 per cent. From this date my cases are numbered and classified yearly, the year beginning on July 1st and ending on June 30th. For the year ending June 30, 1879, the percentage of scabies was about .4; for 1880 a little over 1; 1881, .8; 1882, 2; 1883, 5, and 1884, 8.5. As the year ending June 30, 1885, is not yet completed, I have not my condensed report to refer to, but I find that from last January 1st, to June 15th, 85 cases of scabies are recorded in a total of 477 cases of skin disease seen, making nearly a percentage of 18! I have not been able to explain this great spread of the disease in any other way than by referring it to the natural contagion by contact in crowded centres, and to the fact also that it had become so comparatively rare as not to be generally recognized. It certainly is not due (primarily at least) to importation, as a very small number of the patients were recent arrivals from abroad. The cases, for the most part, have been children and mechanics. The former undoubtedly get infected at school, and the latter in their workshops or lodgings, as it is quite common for our young mechanics to share a room together. A certain number of cases were, as a matter of course, seen in tramps, the outcasts who sleep in the station-houses, but I have been astonished to see how many of them were comparatively clean, hard-working young men. Whatever the source of the trouble may be, it is certain that if it continue to spread in anything like its present ratio, it will be a serious public misfortune. At this time of the year an exodus from the city takes place, and should scabies get well distributed in our manufacturing centres, agricultural districts, and lumbering camps of our neighboring States, it will not be easily kept in check.

The contact between the different classes, moreover, is such that it will not be confined to the lower strata of society. In fact, I have already this year seen some half-dozen cases, in my private practice, in individuals whom one would suppose exempt from such contagion. These facts have induced me to call the attention of the profession to this matter, more especially, as scabies from its nature, unless recognized and properly treated, is sure to increase in severity and attack those with whom the subject is brought in contact.

It would be a question if the disease continue to increase in the city, whether it would not be of sufficient importance for the Board of Health, or city physician to instruct the public-school teachers, police station captains, visitors for the various benevolent and religious societies, to see that all suspicious cases are examined and treated if found to be infected.

The diagnosis of scabies is by no means always easy, and I have been especially struck with the

comparatively few cases in which the typical "burrow" is to be found. But where the disease is prevalent, the existence of vesicles or pustules between the fingers, about the wrists, especially about the end of the ulna, signs of scratching on the forearm, with an eczematous eruption at the elbows, and a history of increased itching after getting to bed, the diagnosis of scabies may be made with safety. In such cases the nightly use of a very inexpensive ointment, made of one part of carbonate of potash, two of washed sulphur, and three of lard, washed off in the morning with soap and water, will certainly benefit the patient, and diminish his infecting power, if it does not cure him. This sulphur ointment should not, however, be applied to places where there is much irritation of the skin.

Even such simple routine treatment as this, used in schools, factories, or other collections of individuals, where scabies was spreading, would have a decided effect. It is, however, with no idea of writing on the diagnosis and treatment of scabies that I pen this brief article, but simply to make public certain statistical facts, which seem to me of importance with reference to the general welfare.

## REPORT ON DENTISTRY.

BY WILLIAM HERBERT ROLINS.

### (a) SIZE OF THE TEETH AS A CHARACTER OF RACE.

W. H. FLOWER divides mankind into three classes, according to the relation between the size of the skull and that of the teeth. He finds these divisions correspond with the three principal modifications of the human species. The white races belong to his microdont division, the yellow to his mesodont, the black to his megadont. To obtain his dental index, he takes two measurements. The first, called the dental length, is the length of the crowns of the five upper teeth of the molar series. The second is the cranio frontal, found by measuring the distance between the naso-frontal suture and the anterior edge of the foramen magnum. The dental index is found by the following formula:

$$\frac{\text{Dento}}{\text{BN}} = \text{dental index};$$

D representing the dental length; BN the cranio frontal. When the dental index is below 12, the skull belongs to the microdont class; if between 12 and 14, to mesodont; if above 14, to the megadont.

### A PARTLY LOST MOVEMENT OF THE JAW.

Thomas S. Solinsky<sup>1</sup> has examined the teeth of many skulls taken from the mounds in Missouri, and finds that the incisor teeth, instead of presenting cutting edges, are worn down until the tops are circular in outline. This, he thinks, is due to a pronounced forward and lateral swing of the jaw in chewing, during which the incisors, instead of overlapping, cross each other. He suggests that the abuse of this swinging movement of the jaw has tended to change the facial outline, increasing the length of the visage in proportion to its width.

### DENSITY OF THE TEETH.

V. Gallipe<sup>2</sup> states that the density of teeth varies from year to year in the same individual according to the general condition of the body. There is also from childhood to old age a gradual increase in density. The teeth of women are less dense than those of men. On the right side of the jaw they are more dense than on the left. He found, when the mean density of all the teeth was 2.0181, the density of those on the right side was 2.110, while on the left side it was only 2.09.

### TEETH OF PUEGIANS.

V. Gallipe<sup>3</sup> mentions the following interesting points: The wisdom teeth erupt at the age of twelve years. The temporary canines are frequently retained, the permanent ones coming outside the arch. The density of the teeth is greater than in Europeans. They are a right-handed people, and the teeth on the right sides of their jaws are more dense than those on the left. Both upper and lower jaws form *semicircular* curves. The arch of the palate is very low. The crowns of the molars diminish in size from the first to the last.

The last observation, Gallipe thinks, negatives Darwin's view that in the higher races the wisdom teeth were becoming smaller. Darwin also thought the Fuegians among the lowest types, an opinion which Gallipe does not share.

This early eruption of the wisdom teeth and the rapid diminution in size of the crowns of the molars, from the first molar to the wisdom tooth, is a very peculiar condition for the teeth in savages.

### DENTAL CONDITION IN CONGENITAL ALVEOLAR FISSURES.

Oakley Coles<sup>4</sup> finds as the result of an examination of a series of cases that none of them showed a fissure of the alveolus occurring between a true lateral incisor and a canine. In half of the cases the central incisor is wanting on the side where the fissure occurs. In one third of the cases a precanine is present on the same side as the fissure. In none of the cases was there an increase in the number of teeth in the precanine region.

### RELATION OF ALVEOLAR CLEFTS TO THE INCISOR TEETH AND INTERMAXILLARY BONES.

W. Turner<sup>5</sup> agrees with Albrecht, who thinks there are four intermaxillary bones instead of two, as taught by Goethe. In the majority of cases of alveolar cleft palates, the fissure is between the edognathion and mesognathion of Albrecht. The position of this cleft is an interesting point, as it throws light upon the question whether the lateral incisor in man is really a lateral incisor (<sup>12</sup>) or the third incisor (<sup>13</sup>) of the normal dentition of placental mammalia.

It has been assumed that all teeth in front of the canines were incisor teeth, and that these teeth were all in the intermaxillary bones. In many cases of cleft palate an incisor tooth is situated outside (to the canine side) of the cleft. Obviously,

<sup>1</sup> Brit. Jour. Dent. Science, p. 588, 1884.

<sup>2</sup> Brit. Jour. Dent. Science, p. 636, 1884.

<sup>3</sup> Brit. Jour. Dent. Science, p. 332, 1885.

<sup>4</sup> Jour. of Brit. Dent. Association, 1885.

<sup>1</sup> Dental Practitioner, p. 217, 1881.

therefore, if this tooth is in an intermaxillary bone, the cleft, which is toward the medial line from the tooth, must be a cleft in an intermaxillary bone itself, if we accept the old idea of one intermaxillary bone for each side; while if Albrecht's view is the true one, this cleft represents the suture between the two intermaxillary bones of that side.

In many of these cases of alveolar clefts there is but one tooth on the medial side of the cleft, and this tooth has the characteristics of a central incisor (<sup>11</sup>). It would seem, therefore, as if the view of Andrew Wilson (soon to be referred to) were the correct one. Otherwise the central incisor (<sup>11</sup>) and the tooth to the outer side of the cleft (<sup>13</sup>) should both be between the cleft and the medial line.

#### WHICH IS THE MISSING INCISOR IN MAN?

It has always been supposed that the missing incisors were the ones nearest the canines. Andrew Wilson<sup>6</sup> gives reasons for thinking that the suppressed incisor is not <sup>13</sup>, the one nearest the canine, but <sup>12</sup>; or, in other words, that the so-called lateral incisor in man is not a lateral incisor but a pre-canine, or <sup>13</sup>. He says where there are supernumerary incisors they erupt either between the central and lateral incisors or in the space immediately behind them. Cases in which three incisors are present on one or both sides in man are not very rare, and the middle one follows the lateral type. In a number of cases of alveolar clefts, where an extra incisor was present, it was invariably in the portion of the alveolus to the medial side of the cleft along with the central incisor.

#### MEASUREMENT OF THE TEETH IN THE INSANE.

W. H. Rhodes<sup>7</sup> took the interbicuspid measurements of forty of the inmates of the Cambridge Asylum, and found the average to be 31.78 mm., while in a like number of hospital patients it was 33.3 mm. No measurements were taken of the lower jaws, as these were found to show no signs of contraction.

#### (b) DEATH FROM GERMS IN HUMAN SALIVA.

W. D. Miller<sup>8</sup> examined a patient whose tonsils were concealed by a thick yellow coating, which was found to consist of masses of fungi, some of which were surrounded by a delicate, gelatinous sheath. A little of the saliva was brought in contact with sterilized calf-broth, and allowed to stand at a temperature of thirty-six degrees for five hours. One cc. of this solution was injected into the lung of a full-grown rabbit. Death occurred in thirty hours. The blood was crowded with cocci and diplococci, surrounded with gelatinous sheaths.

#### PROLIFERATION OF EPITHELIUM IN THE SAC OF AN ALVEOLAR ABSCESS.

Sections through the sac showed a lining of epithelium from two to eight cells thick, which sent a series of sprouts into the tissue, forming a network of epithelium, the meshes of which were filled with connective tissue infiltrated with pus cells.

#### A CYST IN A TOOTH.

G. R. Thomas<sup>9</sup> figures a longitudinal section of a bicuspid in which the pulp-chamber is separated into two cavities with no opening in the intervening plate of dentine. The upper closed cavity was filled with the remains of decomposed tissue. He thinks that the plate of dentine was thrown out by the pulp to protect itself from its own suppurating coronal portion.

#### AFFECTIONS OF THE GUMS AS CAUSES OF OTHER DISEASES.

Dr. Kaczorowski<sup>10</sup> has noticed cases in which chronic gingivitis produced hallucinations, melancholia, and insanity. Extraction of the decayed teeth and treatment of the gums was followed by recovery in all the cases. He thinks that septic products are often taken into the system from chronic conditions of the teeth and gums.

#### (c) TREATMENT OF ROUGH ENAMEL.

Dr. Francis grinds away the enamel entirely, if necessary, to produce a smooth surface, and considers that the polished surface so produced is less likely to decay than the original one.

#### UNION OF FRACTURED TEETH.

Dr. Wingate<sup>11</sup> practises in Carbondale, where there is a large class of miners, among whom accidents are common. He reports eight cases of united fractures in teeth. As these teeth were all extracted for pain which was caused by their distorted shape, it is probable that united fractures in teeth are much more common than has been supposed, for these teeth represented the failures only; the successful cases, not giving trouble, were never recognized.

#### NEW METHOD OF USING RUBBER WEDGES.

Instead of immediate and severe pressure from a thick rubber wedge, Dr. Genese uses a series of wedges beginning with one which is thin.

#### TIN AND GOLD AS A FILLING.

This method is called Dr. Abbot's, but the inventor is unknown. It consists of folding a sheet of gold and one of tin together and doubling them into pellets, which are wedged into the cavity. According to a recent writer,<sup>12</sup> this method has advantages.

Only a few minutes are needed to make a large filling. The material is so soft, it adapts itself readily to the walls of the cavity. The filling should be put in without any attempt to keep the cavity dry, as the moisture produces a molecular change resulting in an expansion of the filling, thus making it watertight after a few days.

#### GOLD-FILLING BY BURNISHING.

To Dr. Shumway, of Plymouth, belongs the credit of discovering that cohesive fillings could be made by burnishing thin layers of gold together. Herbst, a German, has recently rediscovered Dr.

<sup>6</sup> Jour. Brit. Dent. Association, p. 241, 1885.

<sup>7</sup> Jour. Brit. Dent. Association, p. 413, 1884.

<sup>8</sup> Independent Pract., p. 19, 1885.

<sup>9</sup> Dental Register, p. 12, 1885.

<sup>10</sup> Southern Dental Journal, p. 521, 1885.

<sup>11</sup> Independent Pract., p. 35, 1885.

<sup>12</sup> Müller, in Jour. Brit. Dent. Association.

Shumway's method, and all over the world burnished fillings are attracting great attention. The only new point in Herbst's rediscovery is the use of revolving burnishers. Shumway used hand instruments, a slower but far more delicate plan. The method should be named for Shumway, not for Herbst.

#### METAL CROWNS FOR MOLARS.

These, although so recently introduced, are rapidly supplanting the old laborious method of restoring with cohesive gold. They save the patient a large amount of nervous exhaustion necessarily attendant to the old method.

#### (d) CANNABIS INDICA IN EXTRACTION.

A. Aaronson<sup>13</sup> finds the tincture, when diluted to one-fourth strength, a perfect obtunder when applied to the gums before extraction.

#### COCAINE.

The most extravagant claims have been made for this alkaloid as an obtunder of sensitive dentine. It has no marked value for this purpose as a local application. When injected into the tissue near the inferior dental nerve, sensibility in the teeth supplied is diminished, but already several cases of injury to the nerve are reported. Besides, that way of applying it is about as severe as having an ordinary tooth filled without any obtunder. Its chief use about the mouth seems to be as an application to the gums; before adjusting the rubber dam, where the cavities are so deep that the rubber must be carried under the gum; before trephining in setting banded pivot teeth; and other similar operations.

#### GRANULATED BONE FOR THE TEETH.

A writer in the *Dental Practitioner* selects fresh bones, dries them, and grinds to a fine flour. These he prescribes to his patients in "soups, gravies, bread," etc., in the proportion of one to three "spoonfuls" to each pint of soup, gravy, or flour.

#### SULPHIDE OF CALCIUM IN ALVEOLAR ABSCESS.

Dr. Geo. B. Snow<sup>14</sup> recommends doses of one tenth of a grain of sulphide of calcium three times a day. It diminishes the pain and promotes rapid suppuration and healing.

#### NITROUS OXIDE AND OXYGEN.

Dr. E. P. Howland<sup>15</sup> mentions the advantages of Bert's mixture. Insensibility is complete in a few seconds; there is no danger of asphyxia; recovery of consciousness is rapid; there is no nausea.

#### BROMIDE OF POTASH IN TAKING IMPRESSIONS.

Dr. E. M. Sanger<sup>16</sup> gives thirty grains of this salt half an hour before the impression is to be taken. It prevents the spasmodic contraction of the muscles, which, in many persons, renders the operation impossible.

#### (e) ARTIFICIAL TEETH.

We have always supposed artificial teeth to be of modern origin, but Dr. Van Martin<sup>17</sup> has recently

figured and described two cases of carved ivory teeth, held in position by gold bands fastened to the natural teeth, which he found in the museum in Corneto-Tarquinius. He considers that there can be no doubt of the antiquity of these specimens of bridge-work which were taken from Etruscan tombs opened under the direction of authorities of the town of Corneto.

#### ADAPTING ARTIFICIAL PLATES.

Dr. C. H. Land<sup>18</sup> does not believe that plates are held in contact with the roof of the mouth by atmospheric pressure, but by capillary force. This he estimates to be equal to two pounds to the square inch.

#### CONTINUOUS GUM FACINGS.

These were spoken of in a recent report as a valuable modification of artificial plates. Dr. Haskell claims that Mr. Verrier is not the originator of the method, which is thirty years old; and worthless, because the case cannot be repaired without just as much labor as in making a new one.

#### GAS AS A FUEL FOR THE DENTAL LABORATORY.

It is surprising how difficult a matter it is to change the traditional customs in the laboratory. In the operating-room a new invention is considered better than the best old one, so progress here is rapid; but improved laboratory apparatus is rarely purchased.

Gas which in my laboratory is found capable of entirely taking the place of coal, coke, and charcoal gains few converts. With proper gas furnaces a dentist can himself do all that portion of dental ceramics needing artistic skill, while with coal and other solid fuels this delicate work must be done by a laboratory man, if done at all, on account of the labor and time needed.

## Reports of Societies.

### MASSACHUSETTS MEDICAL SOCIETY.

#### COUNCILORS' MEETING.

The annual meeting of the Council was held at the Medical Library, Boston, on the evening of Tuesday, June 9, 1885. One hundred and twenty-five Councilors were present. The meeting was called to order by PRESIDENT HOMANS at seven o'clock.

After the reading of the record of the previous meeting by the Secretary, and its acceptance, the roll of those composing the Council for the year 1885-86 was read. The Secretary announced the names of one hundred and three Fellows who had been admitted during the year, and of thirty-one who had died.

#### FINANCES.

The Treasurer's report showed the year's receipts—including a balance of \$1,562.86 from the previous year's accounts—to be \$10,022.75. The disbursements amounted to \$8,312.02, leaving a balance of \$1,710.73. The invested funds of the Society amount, as in the previous year, to \$32,420.17. The Society now bears upon its catalogue the names of 1,578 members.

<sup>18</sup> Ind. Pract. p. 17, 1885.

<sup>17</sup> Brit. Jour. Dent. Science, p. 1630, 1881.

<sup>14</sup> Dental Advertiser, p. 37, 1884.

<sup>15</sup> Dental Advertiser, p. 77, 1881.

<sup>16</sup> Dent. Pract. p. 256, 1884.

<sup>13</sup> Ind. Pract. p. 1, 1885.

In accordance with the recommendation of the Committee on Finances, reporting through Dr. Minot, it was voted that \$1,368.58, being eighty per cent. of the balance remaining in the treasury, be distributed among the District Societies.

#### REPORT OF COMMITTEE ON MEMBERSHIP.

DR. AYER, for the Committee on Membership and Resignations, reported a list of names of those desiring to become retired members, and of those wishing to resign. The Council voted in accordance with the recommendations of the committee.

#### THE REPORT OF THE COMMITTEE ON THE LIBRARY

was made by DR. Z. B. ADAMS, that the library consists mainly of reports of various medical societies. It was recommended that this property, and all similar publications hereafter received, be given to the Boston Medical Library, on condition that they be accessible to members of the Society. It was also recommended that the sum of fifty dollars be appropriated from the proceeds of the Society to aid in binding the pamphlets donated. The report of the committee was accepted and its recommendations adopted.

#### ELECTION OF OFFICERS.

The Committee on Nominations reported the following list of candidates for the offices of the Society for the ensuing year, and the same were elected by ballot: Dr. Charles D. Homans, Boston, President; Dr. George N. Munsell, Harwich, Vice-President; Dr. Frank W. Draper, Boston, Treasurer; Dr. Charles W. Swan, Boston, Corresponding Secretary; Dr. Francis W. Goss, Roxbury, Recording Secretary; Dr. Edwin H. Brigham, Boston, Librarian.

Dr. Richard M. Hodges, of Boston, was chosen Orator, and Dr. Edwin B. Harvey, of Westboro', Anniversary Chairman, for the next annual meeting.

#### THE NEXT MEETING.

It was voted that the next annual meeting be held in Boston on the second Wednesday of June, 1886.

#### APPOINTMENT OF COMMITTEES.

The President nominated, and the following were appointed to constitute, the standing committees:—

Of Arrangements.—Drs. H. C. Haven, C. H. Williams, J. W. Elliot, F. H. Hooper, J. B. Swift, H. C. Ernst.

On Publications.—Drs. G. C. Shattuck, R. M. Hodges, B. E. Cotting.

On Resignations.—Drs. J. Ayer, D. W. Cheever, J. Stehman.

On Finances.—Drs. F. Minot, B. S. Shaw, E. G. Cutler.

To procure Scientific Papers.—Drs. C. W. Swan, G. S. Stebbins, J. R. Chadwick, R. H. Fitz, H. P. Walcott.

On Ethics and Discipline.—Drs. G. J. Townsend, G. E. Francis, A. H. Johnson, C. Howe, F. C. Shattuck.

On Medical Diplomas.—Drs. W. L. Richardson, A. H. Cowdrey, E. J. Forster.

#### COLLEGE OF PHYSICIANS AND SURGEONS OF BOSTON.

The Committee on Medical Diplomas, to whom was recommended, February 6, 1884, the petition of the College of Physicians and Surgeons of Boston to be placed on the list of colleges whose diplomas are recognized by the Society, presented the following report:—

“The committee have carefully reconsidered the evidence then in their possession, and, during the eighteen months which have since passed, have accumulated an additional amount of information in reference to the manner in which the College has been conducted. In accordance with the instructions of the Council a second hearing was given, at which Dr. Dearing, the dean, and a committee consisting of Drs. Dudley, Wilson, and Gleason were present.

“After a careful consideration of the old and new evidence, the committee would report that, while they believe that some of the members of the Faculty have been, and are, acting in good faith, they as firmly believe that others of the Faculty have not so acted, and that, in some cases at least, the examinations have not been honestly conducted.

“They would therefore recommend that the degree of this College be not recognized by the Massachusetts Medical Society.

“WILLIAM L. RICHARDSON,  
A. H. COWDREY,  
EDWARD J. FORSTER.

“BOSTON, June 8, 1885.”

After a prolonged and animated discussion the report of the committee was adopted.

#### CHANGES IN DISTRICT BOUNDARIES.

A petition from physicians in Stoughton that their town be transferred from the Norfolk to the Plymouth District was referred to the Presidents of the Suffolk, Norfolk, and Plymouth District Societies to report at the next meeting.

Voted, That the town of Hull be included in the limits of the Norfolk South District.

#### AMENDMENTS TO BY-LAWS.

The following amendments to By-laws were passed by the Council and referred to the Society for concurrence:—

By-law XX., lines 14 and 15, instead of the words “Thursday before the last Saturday of September and February,” read “third Thursday of September and December.”

By-law XX., lines 31–33, omit the words “provided, however, that the whole amount paid to any one Board shall not exceed the sum of sixty dollars for any single year.”

By-law XXIX., line 29, omit the words “a Committee, who shall report the same to.”

Adjournment was voted at 9.15 p.m., after which, by invitation, the Councilors proceeded to the residence of the President, Dr. C. D. Homans, where they were hospitably entertained.

—The bill for regulating the practice of medicine, reported by the Committee on Public Health to the Massachusetts Legislature, was defeated by an overwhelming majority.

## SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MARCH 11, 1885. Section called to order at eight o'clock. Dr. R. T. Edes in the chair.

The records of the last meeting were read and approved.

The first paper was by Dr. V. Y. Bowditch, entitled

## A CASE OF TRAUMATIC LINEAR ATROPHY.

The first speaker was Dr. WHITE, who stated that the process is not a true atrophy, but an overstretching of the skin by which its elastic fibres lose their contractility, and the bundles of fibrous tissue forming the skeleton of the corium and normally interwoven in the form of a network are pulled out straight and left in a permanently parallel direction. The papillae and the glandular structures are pulled farther apart and the former flattened down. The stretching of the corium might result in real fracture of its tissues. The process is at times accompanied by hyperæmia, so that the streaks looked redder than the surrounding skin seen through the stretched and thinned epidermal layers. The cause is always a distension of the integument by some power acting beneath it, as pregnancy, a rapid accumulation of subcutaneous fat, ascites, and the like, and occurs principally over the abdomen, breasts, and thighs. It affects men as well as women, and may possibly be caused by rapid increase in size in young people. The present case presented some very uncommon features. The hyperæmia and tenderness of the parts were as pronounced as in an active dermatitis. The elevation and firmness of the radiating ridges resembled keloid or hypertrophied scar formation, and must have been due to the presence of the products of inflammatory infiltration. The exciting cause was apparently the rapid accumulation of subcutaneous fat and the rending action of the spasmodic cough.

Dr. Edes asked the distinction between the scars of linear atrophy and those of pregnancy, and how the distinction can be recognized.

Dr. WHITE stated that at times hyperæmia may accompany oedema.

Dr. H. I. Bowditch asked if the liniment applied could have caused or increased the hyperæmia? to which the reader replied that in his opinion this could have had nothing to do with it.

Dr. LYMAN observed that we see similar cicatrices on the thighs of virgins and others who have never borne children.

Dr. WHITE admitted that this may occur, but it is generally in persons who have a large amount of fat, and results from simple distension. It is at times seen in the breasts of fleshy women. It is not a true atrophy, but results from a mechanical pulling out of the tissues from simple distension.

Dr. F. C. SHATTUCK read a paper upon

## A CASE OF MULTIPLE SARCOMA OF THE SKIN: TREATMENT BY SUBCUTANEOUS INJECTION OF FOWLER'S SOLUTION; WITH RECOVERY.

Dr. WHITE stated that two years had passed since the last report on Professor Köbner's case,

and, so far as he knew, the patient remained well. He saw no reason why the internal administration of arsenic should not work as favorably as the subcutaneous injection. He had at present a similar case of multiple sarcoma under treatment by Fowler's solution given by the mouth, but it was too early as yet to report results. Some forms of sarcomatous growths in the cutaneous tissues showed a marked tendency to spontaneous involution, that is, if we regard the so-called mykosis fungoides, or granuloma fungoides, or lymphadenoma, etc., as it is variously entitled, of this nature. In this affection, of which he had had recently two examples under observation, tumors the size of a hen's egg or larger will rapidly disappear, notwithstanding its malignant character. The pathology of this form of disease was not yet fully established, and, although several excellent microscopists had determined the presence of a sarcomatous structure in it, clinically it was distinct from the form presented in Dr. Shattuck's case. Pigmented sarcoma did not appear to undergo involution with or without treatment. In reply to Dr. Blodgett's comments he stated that he saw no reason why a sarcoma should not confine itself to the cutaneous tissues in some cases, just as carcinoma may be restricted for an indefinite number of years to the same structures without manifesting a tendency to invasion of other parts of the system or to general malignancy.

Dr. TILDEN showed the photographs of a case interesting in connection with Dr. Shattuck's paper. The case had been under Dr. Tilden's observation, having been sent to him by Dr. Vincent Bowditch and had been referred to by Dr. White as a variety of cutaneous sarcoma. The disease was more common than that which Dr. Shattuck had reported, there being recorded in medical literature from thirty-five to forty cases. In the majority of cases it occurred in the male sex, and most commonly in advanced middle life from forty to sixty years. The malady had no connection with syphilis and most of its victims had always been in good health. It began with fugitive, erythematous, and inflammatory lesions of the skin attended with great itching and desquamation. After this condition of the skin had lasted for some time, a year or more, there appeared the lesions which were characteristic of the disease, namely, cutaneous tumors appearing either on normal skin or in regions which were already affected by the inflammatory lesions already mentioned. These tumors increased in size until often the epidermis covering them was cast off, exposing to view the pathological tissue of which they were composed, from which exuded a thin fluid which dried and formed crusts. The most remarkable feature of these tumors, and one which had been mentioned by Dr. White, was that they often spontaneously and completely disappeared, apparently by reabsorption, at the same time that other lesions of a like nature were showing themselves in other parts of the body. The disease is of chronic course and fatal termination, and its clinical features are well understood. Bazin's excellent description leaving nothing to be desired in this connection. Its pathogenesis, however, has yet to be determined. It is regarded by Kaposi and also in this country as multiple sarcoma of the skin, while several German

authorities look upon it as a granular tumor of the skin, giving to the disease the name of granuloma fungoides. The French dermatologists regard the affection as belonging to the same category as Hodgkin's disease or pseudo-leukemia, where, without marked or permanent increase in number of the white corpuscles of the blood, there occurs general hyperplastic enlargement of the lymphatic glands and spleen, together with the formation of so-called cytogenic or lymphatic tissue in various parts of the body. Microscopic examination showed the tumors to be made up of a dense infiltration of the corium with round cells resembling lymph cells which, according to Ranvier, were contained in a fine, fibrillary network, presenting stellate connective tissue cells at the points of intersection of the fibrille, the presence of this network showing the new formation to be one of cytogenic tissue, and not sarcomatous in nature. Dr. Tilden had excised two of the tumors from the case in question, but had not yet had time to give them a thorough examination, and was of the opinion that if the presence of this lymphatic reticulum could be satisfactorily made out, that it would go far toward showing the cytogenic nature of these tumors. In determining the pathogenesis of any malady also, its clinical course should be taken into consideration as well as the minute anatomy of its pathological products, and the malady in question had many of the clinical features of pseudo-leukemia. In none of these cases had there been observed sufficient increase in number of the white corpuscles of the blood to constitute typical leucocythemia, and at the autopsies, as a rule, there had been found enlargement of the lymphatic glands, and often also of the spleen. The last case which had been reported was by Auspitz, in Vienna, last December, and in this case the tumors, upon investigation, have been found to contain large quantities of micrococci. Considering, however, the extremely favorable conditions in the shape of warmth and moisture furnished by these fungous excrescences deprived of epidermis, any microorganism found in them can hardly be regarded as anything but an accidental phenomenon.

Dr. LYMAN stated that he had a case under observation in which the features were similar to those described by Dr. Shattuck. The patient was seen some twelve or thirteen years ago. The skin was covered with small tumors. The patient died, and on autopsy similar growths were found in all the internal organs. Dr. Lyman asked if arsenic is usually given in doses so small as those reported.

Dr. WHITE replied that the amount given is never more than three minims at each injection.

Dr. SHATTUCK stated that the amount of the injection in the present case was increased to nine minims. There is an objection to large or bulky injections in that they sometimes produce severe pain at the seat of the injection.

Dr. BLOGGERT considered it a matter of regret that a portion of one of the suspected growths was not removed and subjected to microscopical examination. The clinical history of the sarcomata is generally that of a most malignant form of disease, which tends to advance locally, and is often followed by degenerative changes in the growth, by which loss of substance and an ulcerating surface is

produced. One of the most uncontrollable and persistent features of sarcomatous disease is also found in the tendency which these growths possess of forming metastatic deposits in remote portions of the body and especially in the structure of the visceral organs. Each local deposit forming a new and independent local development of the original disease.

The specific treatment of sarcoma would seem to offer, *a priori*, less promise of success than would that of carcinoma, as the latter is confined originally to epithelial structures and is essentially an affection of an external surface of the body, while sarcoma is developed in the connective tissue, the *universal* tissue of the interior of the animal body.

Dr. BLOGGERT suggested the possibility of the existence of a disease in the connective tissue which might resemble sarcoma in appearance, as the innocent verruca or common wart resembles a form of malignant carcinoma called papilloma, so closely that by the microscopical examination alone one might not be able to say which is malignant.

For this additional reason it would be of great advantage to secure a careful microscopical examination of the tissues in cases of this kind.

Dr. WHITE added that there is at present no known method of treatment which offers any promise of relief or cure in sarcoma. In ordinary cases the disease progresses in a way which shows the powerlessness of all medicinal measures for its restraint or cure.

Dr. WHITE suggested that in the absence of microscopical examination of the tissues it is possible that some other condition than sarcoma may exist.

The Secretary called the attention of the Society to a card which had been sent him announcing the presence in the city of a so-called "hermaphrodite," and stated that in company with three prominent members of the profession from Park Square he had visited the individual for the purpose of offering at the meeting of the Section a favorable opportunity for introduction to the profession as the most useful method of attracting the notice of persons interested in such a malformation.

The efforts of the Committee were not crowned with success owing to the high pecuniary consideration which was demanded before even an ocular view of the deformed region could be obtained by the Committee.

The contradictory statements made by the individual led the Committee to doubt the existence of hermaphroditism, and they consider it probably an abnormal or unfinished condition of male development.

Dr. JAMES J. PIERCE described briefly a case of typical hemianesthesia, involving all the special senses, which had developed in a strong, healthy man, as the result of a concussion accident two years before.

Conclusive evidence against malingering was furnished by the fact that the lines bounding the anæsthetic region of the skin and the diminished field of vision were preserved throughout a protracted examination.

No outward sign of disease existed, and the medico-legal value of the symptoms described was obviously great.

Dr. Edes remarked that he had a male patient at the hospital last year who, after a fall with loss of consciousness and temporary hemiplegia, had hemianæsthesia of the most distinct character.

The field of vision was very much diminished on the affected side, and also the color fields, almost as exactly as if the man had studied and remembered Charcot's description of similar cases. Smell, taste, and hearing were diminished on the same side.

#### INFANTILE DIABETES.

Dr. WHITE stated that he had recently seen a female child, aged two years and three months, the inner surface of whose vulva, as well as the perineum as far back as the anus, was intensely inflamed, being uniformly excoriated and in parts in a condition of superficial ulceration. Being reminded of similar forms of dermatitis of these parts in adult life, he made inquiry which showed that micturition was too frequent and that the diapers stiffened on drying. Analysis of the urine subsequently made revealed a large percentage of sugar, specific gravity 1012.

The inflamed parts were rapidly improving under black wash and a protecting ointment.

#### SEWAGE IN FARM POND.

Dr. BARNES said that in a paper read before this Society in December, 1881, he expressed the opinion that faulty construction of the upper basins of the Sudbury-river system caused the pollution of the water of Farm Pond. A careful inspection of the entire margin enabled him to eliminate sewage as a factor. To-day the conditions are changed at South Framingham, by filling a swamp for railroad purposes, where four years ago a limited amount of sewage was taken care of by the rank vegetation and free exposure on the surface. The increased volume of sewage and the encroachments on the swamp resulted in an offensive odor last summer. To obviate this difficulty a sewer is now being built, and is discharging a stream of filth within about two hundred feet of the gatehouse used to admit water into the city conduit. This spectacle is not only disgusting but is likely to excite serious apprehension, for should an emigrant with cholera chance to stop in the water-closet of the South Framingham station, direct contamination of our water-supply is possible.

Dr. H. I. BOWDITCH called the attention of the members of the Section to the fact that a small sum of money had been expended for the purposes of the Section, and moved that some steps be taken to reimburse the Secretary. The Chairman appointed a committee—consisting of Drs. H. I. Bowditch, Frederick C. Shattuck, and Vincent Y. Bowditch—to take the subject into consideration and report a plan for its action at the next meeting.

Adjourned at 10.10 o'clock.

*The Lancet* (May 2d) reports a uric-acid calculus without any phosphatic incrustation, weighing fourteen ounces and measuring 4½x3½x2½ inches, recently removed by Sir Henry Thompson by the high operation.

#### MAINE MEDICAL ASSOCIATION.

##### FIRST SESSION.

THE Thirty-third Annual Meeting was held in the chamber of the Common Council of the city of Portland, the first session opening at ten o'clock, Tuesday morning, the ninth of June, with the President, Dr. Thomas A. Foster, of Portland, in the chair.

After the ordinary business of a routine character the Treasurer, Dr. A. S. Thayer, of Portland, reported the receipts and expenditures for the past year, and it appeared that a balance of \$717 remained in his hands.

Dr. A. J. FULLER, of Bath, one of the visitors to the Medical School of Maine, reported that he had attended a number of the lectures and final examinations, that the School is doing excellent work in educating students and sustaining the standard of the profession, and that it is worthy of the confidence and support of the physicians of the State.

Dr. C. R. CRANDALL, of Portland, read a paper on "Abdominal Surgery: Its Growth and Triumphs."

Dr. J. M. JONAH, of Eastport, read an essay on the "Diet of Infants," a subject to which he believes too little attention is paid by physicians. In his opinion many mothers injure their babies by nursing them, and, in very many cases, artificial feeding is far preferable to breast-milk.

##### AFTERNOON SESSION.

Delegates from sister societies were introduced as follows: Dr. W. E. Boardman, of Massachusetts, Dr. Edw. B. Frye, of New Hampshire, Dr. H. L. Hammond, of Connecticut, and Dr. Ariel Ballou, of Rhode Island, and were invited to participate in the discussions; and at appropriate times during the meeting several of them took part in the debates, to the pleasure of all their hearers.

The President then read his inaugural address, choosing for his subject: "The Relations of the Profession to other Professions and to the Community at Large." He urged the adoption of a system by means of which all the educated physicians in Maine should be drawn into membership in the Association. Some steps should be taken to prevent the injustice to physicians and injury to the public resulting from the frequent, unauthorized compounding of prescriptions. The removal of the Medical School of Maine from Brunswick to Portland was advocated. Other matters touched upon were expert testimony by physicians; the increase of crime, and the method of diminishing it; and the duty of the profession in regard to alcohol and opium. The address discussed many important problems, and the arguments were enforced by the presentation of statistical tables which Dr. Foster had prepared carefully. Its recommendations were referred to a special committee.

Dr. J. A. SPALDING, of Portland, introduced the subject of forming a Maine Physicians' Mutual Aid Association, on the basis of those which have been in operation in New York and elsewhere for many years, and it was referred to a special committee.

Dr. B. T. SANBORN, of Augusta, Superintendent

of the Maine Insane Hospital, read a paper on "Acute Melancholia."

Dr. E. H. HILL, of Lewiston, reported a case in which, on account of cancer of the penis requiring amputation, he established a permanent opening in the urethra by an incision through the perineum. The result was most satisfactory.

Dr. S. C. GORDON, of Portland, gave a description of a new operation for the cure of ruptured perineum. The object is not only to shorten the vagina, as in the ordinary procedure, but to diminish its lateral diameter. Silver wire is altogether discarded, and the continuous suture with catgut is employed instead. The pain is much less than when the usual method is pursued, and there is none of the annoyance attending the removal of metallic stitches.

#### EVENING SESSION.

Dr. F. H. GERRISH, of Portland, read a paper on the "Hypodermic Administration of Morphine as a Substitute for Hanging in the Execution of Criminals," taking the ground that, while hanging is often rapid and painless, it is sometimes slow and cruel; and that the medical profession should suggest to the State a method of killing free from objectionable features. A resolution recommending the plan proposed was tabled, on motion of Dr. W. A. Albee, of Camden. Immediately Dr. Albee moved to take the resolution from the table, and, the motion not prevailing, the measure was effectually crushed.

Dr. I. T. DANA, of Portland, made extended remarks on the "Treatment of Bright's Disease," which were followed by a long discussion in which many members participated.

#### WEDNESDAY.—MORNING SESSION.

Telegrams bearing the fraternal greetings of this Association were sent to the State Societies of Massachusetts, Rhode Island, New Jersey, Michigan, and Oregon, who were in session at the same time.

It was voted that the Association hereafter send delegates to the medical societies of the provinces in the Dominion of Canada.

A Nominating Committee was appointed, consisting of Drs. Bates, of Yarmouth, Loughton, of Bangor, J. B. Walker, of Thomaston, M. C. Wedgewood, of Lewiston, A. J. Fuller, of Bath, Hersey, of Oxford, and Hill, of Saco.

Dr. SPALDING, of Portland, Chairman of the Committee on the Formation of a Maine Physicians' Mutual Aid Association, reported that the project was one of too great magnitude to be decided upon before the close of the meeting; and it was, therefore, recommended that the whole subject be referred to a committee with instructions to report in 1886.

Dr. E. E. HOLT, of Portland, presented a report of a first series of one hundred cases of cataract, which he had observed in his practice, and occupied his allotted time with remarks on the natural history and treatment of the disease. An interesting discussion followed, participated in by Drs. Spalding, Weeks, and others.

Dr. A. S. THAYER, of Portland, read a report of a number of cases of acute rheumatism treated with

salicine. These were presented merely as illustrating the method which he had for years found to be the most successful in controlling the disease, and showed very gratifying results. The discussion which followed developed a considerable disagreement as to the value of salicine in this affection.

Dr. C. O. HUNT, Superintendent of the Maine General Hospital, invited the members to visit the Hospital, and particularly to inspect the new amphitheatre and wards.

Dr. H. F. TWITCHELL, of Freeport, read the history of a case of placenta prævia, which possibly may have been caused by a shifting of the location of the placenta, occasioned by a severe jolt. A wide difference of opinion was displayed in the subsequent discussion as to the best method of treating a case of this kind.

#### AFTERNOON SESSION.

Dr. S. H. WEEKS, of Portland, Chairman of the Committee appointed last year to decide the question of inviting the American Medical Association to meet in Portland in 1886, as the guests of the Maine Association, reported that the original committee had enlarged its membership, as authorized, by selecting a new member from each of the sixteen counties of the State. This Committee had issued a circular in August, which was sent to every member, requesting the promise of a contribution to defray the expenses of entertainment. As not a third of the requisite amount had been subscribed by March, the Committee reported to the President and Censors that further action was inexpedient.

The election of officers for the ensuing year resulted as follows: President, Dr. S. Loughton, of Bangor; First Vice-president, Dr. C. G. Adams, of Portland; Second Vice-president, Dr. F. E. Hitchcock, of Rockland; Corresponding Secretary, Dr. J. C. Caldwell, of Buckfield; Publication Committee: the Recording Secretary, *ex-officio*, Drs. C. O. Hunt, of Portland, A. M. Peabes, of Auburn, C. E. Webster, of Portland, and O. St. C. O'Brien, of Bristol; Business Committee: Drs. S. P. Warren, of Portland, and the Recording Secretary; Board of Censors: Dr. G. H. Cummings, of Portland, B. F. Sturgis, of Auburn, E. Adams, of Litchfield, H. E. Hill, of Saco, and A. L. Hersey, of Oxford. Dr. C. D. Smith, of Portland, is Recording Secretary, and Dr. A. S. Thayer, of Portland, Treasurer, each for a term of years.

Dr. S. H. WEEKS, of Portland, made remarks on fractures of the neck of the femur, and showed two specimens which illustrated union by bone after this injury.

Dr. J. O. WEBSTER, of Augusta, read a paper on "Local Boards of Health." His conclusions were that a local board should be established in every city and town; that it should be an independent board, and all its members chosen with special reference to their fitness for the work; that the working member or members should receive reasonable compensation; and that necessary health regulations should be adopted as by-laws by the town or city.

Dr. W. A. ALBEE, of Camden, reported a case of retroflexion of the uterus, prolapse of one ovary, and phantom tumor.

Dr. S. C. GORDON, of Portland, reported the

results of a number of cases of Tait's operation. As necrologist, Dr. Gordon reported the deaths of Drs. Eaton, of Wilton, Sturtevant, of Scarborough, Parcher, of Ellsworth, Manson, of Springfield, Brooks, of Portland, and Harlow, of Auburn.

#### EVENING SESSION.

The annual oration was pronounced by Dr. S. H. Weeks, of Portland, who took for his subject the question, "What can we do to Advance the Medical Profession?" He dwelt with particular emphasis on the necessity for a higher education, and better preliminary training of medical students. Industry and patience were inculcated as essentials to success, even if there be a groundwork of talent.

#### THURSDAY. — MORNING SESSION.

Drs. SMITH, LAUGHTON, and CALDWELL were appointed a Committee on Inter-state Representation.

Dr. F. H. GERISON, of Portland, chairman of the committee appointed to obtain a State Board of Health, reported that the labors of the committee had been successful, the proposed act passing the Legislature almost without opposition.

Dr. J. O. WEBSTER, of Augusta, reported for the committee appointed to secure a law regulating the practice of medicine, that, as certain defeat would have followed the attempt to press their bill through the Legislature this year, the committee preferred to have it referred to the next Legislature, when it will have a much better chance of success.

Dr. J. M. BATES, of Yarmouth, chairman of the Committee on the Recommendations of the President's Address, reported advising that a special committee be appointed to devise a plan for the prevention of unauthorized refilling of prescriptions by apothecaries; and that the recommendations of the President for increasing the membership of the Association be adopted.

Drs. J. M. Bates, of Yarmouth, G. E. Brickett, of Augusta, and A. J. Fuller, of Bath, were appointed a Committee to Secure the Passage of the Medical-registration Bill.

The Board of Censors reported that the next meeting would be held in Portland, on the first Tuesday in June, 1886. Dr. F. C. Thayer, of Waterville, was appointed orator. Numerous appointments of delegates to various medical societies, and essayists for next year, were made. The delegates to the Massachusetts Society are Drs. F. H. Gerrish and C. D. Smith, of Portland.

The usual votes of thanks were passed to the retiring President; to the city government of Portland for the use of rooms for meeting; and to Dr. I. E. Kimball, chairman of the Business Committee, to whose efficiency so much of the success of the meeting was due.

The Association adjourned before noon.

The attendance at the meetings was unusually great. The enforcement of the rule by which essayists and reporters are limited to twenty minutes contributed very noticeably to the animation and activity of the sessions. The discussions were lively and, in the main, interesting. A good number of new members were admitted, and signs of prosperity abounded on every side. The most marked social features were entertainments on

Wednesday evening, after the oration, by the President at his house in High Street, and by Dr. E. E. Holt at his residence in Congress Street. Both of these were numerous attended, and the guests found in them much pleasure and diversion.

#### NEW HAMPSHIRE MEDICAL SOCIETY.

THE Ninety-fifth Annual Meeting of this Society convened in White's Opera House, at Concord, on the sixteenth of June. There was a fair attendance, some 150 members being present at the opening session.

#### THE COUNCIL.

A meeting of the council had been held the previous evening, and applications from seventeen persons were acted upon, all favorably. Two members were retired upon their own application. The request of the officers of the Women's Christian Temperance Union, that the Society would take cognizance of the evils of intemperance, was discussed, and the following resolution was adopted by the council:—

*Resolved*, That the members of the New Hampshire Medical Society fully endorse the position taken by the American Medical Association at St. Paul, in 1882, regarding "the conscientious caution in prescribing alcoholic stimulants," and regard the same to be one of the primary principles of the profession, to which the members of this Society have adhered and always will adhere.

#### PRELIMINARY EDUCATION.

The request of the Medical Society of New Jersey for coöperative measures in an effort to elevate the standard of medical education, was referred to a committee of three who reported that the New Hampshire Medical Society approves of the report of the Medical Society of New Jersey, on "Preliminary Education," and that a committee be chosen to consider the same more fully and report at the next annual meeting. The report was accepted and adopted.

#### STATE EXAMINING BOARD.

The same committee considered the proposition or recommendation of the American Medical Association, made at its last annual meeting, at New Orleans, that each State enact a law to establish a State Board of Medical Examiners and Licensers, and defining the duties of said Board, and reported a recommendation that a committee be appointed by the President to memorialize the Legislature for the passage of such an act in accord with the recommendation of the American Society. The report was adopted.

#### MISCELLANEOUS.

It was voted to pay one half of the legal expenses of the New Hampshire Eclectic Society in defending the celebrated suit of "Doctor" O. C. Gage, and to secure the printing of the decision of the court for free distribution to the Eclectic and Homeopathic Societies of the State.

The resolutions of the superintendents of Ameri-

can institutions for the insane, relative to the immigration of the defective classes, were referred to a committee for investigation and report at some future time.

The Board of Censors reported the granting of twenty-three licenses since the last annual meeting.

#### FIRST DAY.

The meeting was called to order by the President, Dr. JOHN WHEELER, and prayer was offered by Rev. C. B. CRANE, D.D., of Concord.

The usual committees on reception, patients, etc., were appointed.

The following delegates were introduced: Drs. T. A. Foster and E. A. Crandall, of Portland, Maine, from the Maine Medical Society, and Drs. C. C. Pike, of Peabody, and C. C. Odlin, of Melrose, from the Massachusetts Medical Society.

The President then delivered his annual address, his subject being, "Some Professional Relations and Medical Mutations." He dwelt upon the grave personal responsibility assumed by the physician. That of the clergyman is truly grave, but its results are not seen in this world. The laws of the State impose no particular duties upon, or exercise no particular control over, the minister.

The lawyer by his zeal and talent may ascend to the highest places of official trust or emolument, but his responsibility toward his race is also limited, and of opposing counsel only one can be wholly right and only one is expected to be.

Our own profession is more essential than either of these, or both of them, to the present well-being of our race, by its efforts to cure and prevent disease, remedy injury and deformity, and alleviate suffering. Every sense must be alert, the judgment quick and accurate, for the medical man has to decide quickly and often under the most unpropitious circumstances. All hours and all seasons are his times of duty and all classes and conditions are his clients.

The speaker referred to the liability to suits for malpractice to which even the most skilful is liable—a thing the other professions are free from; and spoke of the heroism of the medical profession in the army and navy, in Arctic explorations, and in time of epidemic.

He eulogized the true physician for his freedom from conviction for anything unlawful or unskilful, in spite of the peculiar means within the designing patient's power of misrepresenting his case and of moving jurors by appeals to their sympathies rather than by an array of facts. Theoretically the physician is liable only for want of skill or for negligence; practically he is in danger from the sympathy of the jury; hence another prolific source of personal responsibility not incidental to any other profession; and the partial immunity from fleeing by this means is another tribute to the general skill of the educated physician of our day.

The address suggested certain changes in the law to prevent malignant prosecutions or suits, and a belief was expressed that public opinion as it became more enlightened was already demanding these changes.

Under the second head of the address the speaker gave a history of the profession from its mythical

origin down to recent times, necessarily hurried, referring in its course to the more remarkable discoveries, and after a brief historical account of this Society since 1791, as found in its limited records, closed eloquently by a reference to the great men of the profession in this State who had gone to their reward.

The address was ordered to be printed.

#### MEDICAL SHAMS AND SHADOWS.

an essay by Dr. WILLIAM CHILD, of New Hampton, followed, of which the following is a brief abstract:—

New remedies and methods are not always an improvement on the old. The regular school affords the true foundation for the coming practice, whatever that may be, but there are certain conditions and influences which are harmful to true progress and usefulness. The fallacies in modern practice include, among many others, the number of drugs, the number of remedies for particular diseases, the use of half-secret remedies, absurd credulity of many physicians in new remedies, use of remedies from fashion, fear, pride, or prejudice, great number of specifics, many best remedies abandoned, etc. etc. The speaker declared that disinfectants and antiseptics in their present extensive use constituted a great sham, the *cause* which makes them necessary being too often lost sight of, or allowed to have its way to such extent as to require hogsheads of the articles to do any appreciable good.

The greatest humbug of all, however, is the present condition of practice in diseases of women. The speaker declared that the recently born school of specialists were too much in the habit of finding womb diseases when they did not exist, or when nature was the best doctor. To his attack on modern gynecology, a number of the members objected strongly.

#### EPILEPSY.

Dr. T. B. SANBORN, of Newport, read a brief paper on "Epilepsy." He believed there was too much use of the bromides, causing, when used to excess, degeneration of the cerebral cells. The bromide of sodium is least objectionable, and particular attention should be paid to the diet, for he had almost always found these patients to be great gourmandizers.

#### GYNECOLOGICAL DIAGNOSIS.

Dr. C. B. NICHOLS, of Franklin, read an instructive paper upon this subject, describing the use of the speculum, sound, and bistoury. He referred to the paper read by Dr. Child and dismissed it with a reminder to the author that ridicule was not argument. The speaker dwelt upon the proper positions of the patient while the instruments or appliances were in use, the great necessity of avoidance of exposure, the avoidance of undue haste, and described at length his method of procedure to ascertain and locate the disease. He spoke highly of Emmett's operation for lacerated cervix; lacerations taking place in over thirty-two per cent. of those who have been impregnated.

Dr. HENRY M. FRENCH spoke briefly on nasal catarrh, describing his treatment of it by the use of the Lassar spray, which he considered better than

anything yet brought to the notice of the profession. In answer to inquiries as to his constitutional treatment of this disease, he suggested the use of sponge baths, tonics, and good food. He closed with congratulating his brethren upon the progress of laryngeal study, and upon the fact that the first successful photograph of the larynx was made by an American, it being the one exhibited in Copenhagen at the International Congress by Dr. French, of Brooklyn.

#### REPORT ON SURGERY.

The Report on Surgery, prepared by Dr. G. H. BRIDGEMAN, of Keene, was read, in his enforced absence, by Dr. CHARLES R. WALKER, of Concord.

Dr. BRIDGEMAN described the antero-posterior splint adopted somewhat recently, and stated that it was suggested to him, while house surgeon in the Boston City Hospital, by Dr. Goodhue, of New York, who described the method of applying a piece of coarse blanket saturated or dipped in liquid plaster-of-Paris, and the bones held in place while the plaster hardened; this application was to the posterior portion of the leg and the ball of the foot. This he adapts to the anterior aspect of the leg, using gauze or erioline in a sufficient number of thicknesses, and by turning the edges over the pad he had at the first application what was needed, namely, an easy, perfectly fitting, well-padded splint with cushioned edges. For fracture of both bones and the ankle-joint he regarded it as invaluable, in that it will hold the foot at a right angle far more effectively than can be accomplished by side splints, and allow a considerable degree of extension to be made in the foot.

The late Dr. W. D. Robertson, in 1877, invented an appliance which the writer believes has never been described in print, and is thus described: It is peculiarly applicable to those cases of fracture of both bones of the lower leg where a considerable degree of extension may be necessary. A patient who, in July or August, has his leg wedged into a fracture box, with an extension weight added, is about as uncomfortable a mortal at times as can well be imagined. We all remember the comfort afforded patients by the Smith anterior splint, by which the leg is suspended above the bed and allowed free motion from side to side, and the ease to physician and patient with which a compound fracture can be irrigated and dressed after application of this splint. The objection to applying extension by the ordinary method to the limb supported by the Smith anterior is, of course, obvious; the pulley attached to the foot of the bed, being a fixed point, tends to alter the line of bone at the seat of fracture whenever the limb moves in the swinging support. Dr. Robertson obviated this difficulty by the simple device of fastening the pulley to a stout cord stretched taut from floor to ceiling just below the foot of the bed.

An opinion was expressed that the members could not devote an hour to better purpose than by arranging this splint for the next case of fracture of both bones of the lower leg where the fragments tend obstinately to override, and that they would be amply repaid by the comfort afforded.

The following instructing account of a rare injury

noted in medical history—gunshot wound of the knee with perfect recovery of the joint—was given in this report. Reference was made to the tabulated reports from the battlefields and hospitals of the late Civil War, and the fact that Gross declares that in but one case was the limb saved in the Crimea, in none in India, while in the Franco-Prussian and the late Civil Wars, 451 cases of this kind of injury yielded success in only twenty per cent. when treated by excision, and twenty-seven per cent. when treated by amputation. These figures are given to show the gravity of wounds of this part of the body. Now the possibility of complete gunshot wounds of the knee occurring without attendant fracture was for a long time denied, but the army reports furnished a few cases, to which another is added.

Early in September, 1882, the writer was called to see a patient of fifty-two years of age, in Swansey, New Hampshire, who had been accidentally shot by his young nephew, the ball from a thirty-two calibre pocket rifle striking him in the inner aspect of the left knee, just as he was turning and had the joint partially flexed, the parties at the time having been engaged in target-firing. The wound of entrance was found situated about an inch below the lower inside margin of the patella, and on flexing the knee as nearly in the position it was in at the time of the accident as the patient could remember, the puncture appeared to be in a line between the articular surfaces of the bones. The probe entered the joint, but only a slight amount of synovia escaped. Examination of the knee on its outer aspect showed, after some search, a foreign body directly beneath the outer edge of the patella. On removal it proved to be the ball altered to an irregular pyramidal shape from the force of its contact with the structures of the joint. Remembering a wound some years ago from the tine of a pitchfork involving the knee-joint, where recovery was had, it was determined, with much misgiving, however, to treat this as a simple punctured wound of the knee. The battered appearance of the ball increased the hesitation about this course, for the same showed that much resistance had been encountered in its passage through the knee-joint, and indeed there was a groove in the lower edge of the patella where the missile had impinged in its partial exit. However it was decided not to interfere until symptoms demanded it. Constant irrigation of the knee with carbolic water was secured by suspending a pail over it with a candlewick hanging over its edge. During this time the pain and swelling were both moderate, no heat or redness, pulse and temperature normal. The splint was kept on for three weeks and use of the joint gradually allowed. In three months a slight amount of stiffness and weakness of the knee was the only complaint, and this chiefly after overexertion. In six months the knee was practically as sound and well as its fellow for ordinary use.

Numerous authorities tend to prove that at certain flexions of the knee solid bodies can pass in an antero-posterior, and, still more remarkable, in an obliquely lateral, direction through the joint, not only inflicting no fracture, but also scarcely more than grooving the articular surfaces. After a

perusal of several of the above and a note made of several experiments detailed by these authorities, the opinion became confirmed that it had been the rare good luck of this patient to escape serious or lasting injury by the chance of a particular flexion at the time of receiving his wound.

This report also gave an interesting account of ligation of the subclavian artery in its second part; the injury occurring in a woolen-mill where a fragment of the band of a "picker," making 1,200 revolutions a minute, shot off an irregular piece of steel one and one-fourth by three fourths inches and nearly an ounce in weight, which struck the patient three inches to the left and a little above the left nipple, penetrated in an inward and upward direction, tearing through and passing under the pectoralis major and minor, leaving a tract which easily admitted three fingers, pierced the pleura and apex of the lung between the clavicle and first rib, and inflicted a jagged wound in the second portion of the subclavian artery almost directly opposite the point of origin of the superior intercostal artery. Here followed an interesting account of the proceeding in the operation above alluded to. A fatal prognosis was agreed to with but slight reservation, and it proved correct, the patient dying on the third day after the injury. The similarity of this wound to a gunshot wound of the artery led to an examination of the records relating to the subject, which revealed the fact that the first ligation of this artery in its third part was by Sir Astley Cooper, in 1809, and successfully for the first time by Dr. Wright Post, of New York, all previous cases having proved fatal. The artery has been tied on the tracheal side of the scaleni in nineteen cases, all fatal. The artery was tied in second part twice during the Rebellion, both operations being unsuccessful.

Dr. C. R. GIBSON, of Woodsville, followed with a dissertation on Anesthetics, taking strong ground in favor of sulphuric ether, and condemning chloroform. A recent discussion before the London Medical Society has developed the fact that English surgeons were giving up the routine use of the latter. The paper was largely devoted to advice as to the proper, speedy, and comfortable administration of ether. The "tunnel" process was declared against in pointed terms, and the writer urged the necessity of allowing the patient all the pure air desired without forcing him to inhale any part of it the second time, and at the same time of having the air thoroughly saturated with the vapor of ether. This can be done by one thickness of a well-worn napkin or towel wet first with ether and gradually brought to cover the nose and mouth, but kept bagged so as not to come in contact with the skin, then allowing ether to drop slowly upon the cloth, so as to keep wet every point through which air can enter. The one thickness will not perceptibly obstruct the free passage of air to and from the lungs, and in from four to eight minutes the patient will be thoroughly anesthetized, *not asphyxiated*, as is proved by the deep, natural breathing and the perfectly natural color of hands, face, and lips. This method has, in the practice of the writer, *always* been attended with the most gratifying results.

At the evening session Dr. Julia W. Russell read the Report on Obstetrics.

Mention was first made of better results in our city hospitals as to high temperatures, puerperal fevers, etc., in the obstetric wards.

Corrosive sublimate, one to 1000 or one to 2000 is the preferred antiseptic in obstetrics, and its supremacy is due to its powerful and certain action, its almost absolute harmlessness, and its trifling cost.

Recovery of patients after extra-uterine pregnancy is much more common now than formerly, when the treatment was expectant, while now, if a positive diagnosis can be early made, electricity can be used to arrest development and destroy foetal life, when nature usually steps in and effects a cure. Many cases of extra-uterine pregnancy have been reported within the past year, Dr. Thomas reporting the largest number ever seen in his own practice and in consultation. In his reports the death-rate is below one half.

An instance of this kind, with recovery, within the observation of the writer, was given in detail, it being a case of extra-uterine double pregnancy.

#### MELANCHOLIA.

Dr. EDWARD FRENCH, of Concord, read a dissertation on melancholia, detailing the various kinds of the same, and his ideas of the treatment best in such cases. He did not believe in chloral and thought the bromides should be sparingly used. He had found opium alone, or combined with hyoscyamus the best in his practice, but the opium habit and the chloral habit often had to be combated together.

In his practice, in cases when patients had to be forced to take food, the nasal tube had entirely superseded the old œsophageal method.

Mechanical restraint is far preferable to chemical. The former is often more painful to friends, but is immeasurably better for the patient. Methods of mechanical restraint are now so perfect as to be in a great measure easy and comfortable to the patient, and the often deleterious effects of the continued use of drugs and potions is avoided.

The writer deprecated the prejudice against asylums, and believed the hospital was the place for all cases of melancholia except the very mildest.

At the beginning of the second day's session on Wednesday, June 17th, three more members were admitted, and considerable routine business was transacted.

A long discussion ensued upon the necessity of increasing the attendance upon the second day of the annual meetings, more than a dozen of the members taking part. The prevailing sentiment seemed to be in favor of limiting papers to fifteen or twenty minutes, with perhaps a similar time to discussions of the same, while it was urged that members who were to deliver dissertations or essays should furnish a synopsis or abstract of the same in advance of the meeting, so that discussion might be more readily had.

#### ELECTION OF OFFICERS.

The Annual Election resulted in the choice of the following Board of Officers for the coming year, the votes in each case being unanimous, except in case

of Vice-president, where there was a slight contest between the friends of Prof. C. P. Frost, of Hanover, and Dr. S. C. Whittier, of Portsmouth: President, George A. Crosby, M.D., Manchester; Vice-president, Prof. C. P. Frost, M.D., Hanover; Treasurer, D. S. Adams, M.D., Manchester; Secretary, G. P. Conn, M.D., Concord; Executive Committee: J. R. Kimball, M.D., Suncook; G. D. Towne, M.D., Manchester; C. R. Walker, M.D., Concord; Board of Censors: President, L. G. Hill, M.D., Dover; Secretary, Geo. Cook, M.D., Concord; Executive Committee: L. G. Hill, M.D., Dover; D. S. Adams, M.D., Manchester; Geo. Cook, M.D., Concord.

The meeting then adjourned to meet at Concord on June 17, 1886.

## THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting May 21, 1885.

DR. T. H. BURCHARD read a paper entitled,

### OBSERVATIONS ON THE TREATMENT, MEDICAL AND SURGICAL, OF ACUTE PERITONITIS.

In peritonitis, the most fatal of all acute inflammatory affections, he believed that the mortality was unnecessarily high. For its rational treatment it was essential to clearly recognize these points: the cause, the natural history, and the natural tendency of the disease. The textbooks gave the causes of death as, first, collapse and, second, asthenia. Clinical observation showed that the following should be recognized: (1) collapse, (2) asthenia (*a*) from cardiac failure, (*b*) from respiratory failure, (3) inflammatory changes in the lungs, (4) hyperpyrexia.

A knowledge of the cause in any case was essentially necessary for its satisfactory treatment. All the facts in reference to the disease pointed to the probability that there was no such disease *per se* as peritonitis. Having referred to the alleged difficulties of diagnosis and expressed the opinion that it was possible to make a diagnosis even when the difficulties were apparently very great, he cited certain instances occurring in his own practice to prove the correctness of his position. Sound surgical teachings demanded that we should endeavor to seek out and remove the source of irritation wherever it might be or whatever its nature, and surgical interference was to be made early whenever there was reason to suspect that any abdominal traumatism was giving rise to trouble. In these very halls Dr. Sims had sounded the keynote of the correct treatment.

The peritonium was exceedingly tolerant of surgical interference, if proper precautions were taken. During the last two or three years a very large number of Tait's operations had been performed with extremely satisfactory results, as a rule; and Tait himself had performed no less than forty laparotomies during commencing peritonitis, in which all the patients had recovered. Dr. Burchard then quoted a large number of operations which he had collected with great care from various sources, and added one of his own to the list. This was a case of omental abscess which he saw

in consultation with the late Dr. F. D. Lente, shortly before the death of the latter, and in which he performed laparotomy with a successful result. An incision was made in the median line from a point one inch below the ensiform cartilage to the umbilicus, under antiseptic precautions. A gallon of warm carbolized water was injected among the matted intestines, and the walls of the abscess were lightly dusted with iodoform; after which two drainage-tubes were placed in position. This case, with the others by different operators which he cited, made forty in all, with twenty-four recoveries, or sixty per cent. of recoveries in a class of otherwise hopeless cases. By way of contrast, he related a fatal case of ulceration of the appendix vermiformis which he saw in consultation. He recognized the fact that perforation had already taken place, and advised immediate operation, but the patient being at that time in comparatively good condition it was refused. Twenty-four hours after he was sent for and asked to operate, but by that time the golden opportunity had passed and the case was hopeless.

The latter part of the paper was devoted to some special points in the medical treatment. Opium had been rightly considered our sheet-anchor in peritonitis, but there were certain conditions in which it could be used only with the greatest caution. Such was the condition of initial collapse, which was dependent on vaso-motor paresis; so that larger doses of opium would be very dangerous in it, though in small quantities it might be used with advantage. Whenever there was danger of cardiac or respiratory failure it was always advisable to give opium or morphia in small doses and in combination with atropia, digitalis, ammonia, or alcohol.

He had found that by far the most accurate and satisfactory method of administering morphia was by hypodermic injection. Atropia was unquestionably the one drug which could be most implicitly relied upon in the treatment of collapse, and it might be given in doses varying from one sixtieth to one tenth of a grain, either alone or in combination with one of the agents just referred to. There was no rule for the quantity of opium to be given in peritonitis. Each case must be a law unto itself. Since adopting the hypodermic method, however, he had been surprised to find how comparatively small an amount was required in a large proportion of cases. In some instances, however, enormous quantities of the drug were called for. Punctices had no effect in controlling inflammation, but were sometimes of service in fulfilling special indications. The external application which was by far the most efficient in this disease was the ice-bag, and in this connection he exhibited one made by Messrs. Codman and Shurtleff, which, he said, was the neatest and most convenient apparatus of the kind which he had seen. The cold thus applied was directly efficient by causing reflex contraction of the blood-vessels. Peptonized milk was, as a rule, the best food that a patient suffering from peritonitis could take. In speaking of the treatment of tympanitis he said that pneumatic aspiration of the intestines was neither philosophical nor safe. The insertion of a rubber tube by the rectum was sometimes very

useful in relieving the patient of troublesome gas. Turpentine was to be condemned on account of its irritating effect upon the kidneys, and cases had been noted in which its employment gave rise to albuminuria. In closing, he remarked that the successful treatment of peritonitis involved a personal devotion on the part of the medical attendant which required nothing less than a complete abnegation of self.

## DISCUSSION.

DR. A. L. LOOMIS remarked that he was one of those who did not believe in such a thing as idiopathic peritonitis, and he therefore agreed with Dr. Burchard in the opinion that the first and most important point to be determined was what the exact cause of the trouble was. There were three principal varieties of cases: first, those of the constitutional variety, depending on blood-poisoning of some sort; second, those which resulted from an extension of inflammation from some viscus to its peritoneal covering; and, third, those depending on ulceration of the intestines, with perforation and discharge into the peritoneal cavity, or upon the rupture of an abscess or cyst of some kind. So far as his experience went, he had yet to see a case of recovery when there was unquestionably the presence of gases from the intestines in the peritoneal cavity. It was often very difficult to determine just when the perforation had occurred, and he did not believe that the exact portion of the intestine involved could always be made out. If, however, this could be determined, he heartily agreed with the author of the paper as to the advisability of operating. If he believed that he himself was the subject of ulceration of the vermiform appendix, he did not hesitate to say that he would at once seek out a surgeon who would promptly open the abdomen. In regard to the medical treatment, he thoroughly believed in opium, though with restrictions. Dr. Burchard's point had been well taken, he thought, and he also considered the indiscriminate use of the drug in the early stage of the disease often highly dangerous. Long ago he had adopted the plan of guarding his first doses of opium with atropia. Afterward the matter was not of so much consequence.

DR. R. F. WENT said that the arena of the abdominal cavity was that in which surgeons had been striving most actively during the last ten years. Dr. Loomis had touched the keynote when he said that there was no such thing as idiopathic peritonitis. He would go further than the author of the paper and say that, in his opinion, no patient suffering from peritonitis should be allowed to die without an exploratory incision. Perforation with collapse was the snag on which surgeons were apt to get caught. In a traumatic case they could not tell whether this collapse was due to the entrance of gas into the peritoneal cavity or resulted from hemorrhage. Here came in the value of exploratory incision, and in ninety-four such exploratory incisions Tait had had but three deaths. After the incision had been made it could be decided whether to proceed further or not, according to the condition of affairs discovered.

The President, DR. A. JACOB, said that in peri-

typhlitis there were some cases in which the inflammation remained purely local, while in others, although general peritonitis ensued, the patient recovered; and therefore it was a question of great responsibility whether to operate or not. Very recently he had seen a boy of fifteen who had all the signs of perityphlitis, and although the question of operation naturally presented itself, he had deemed it advisable to wait; the patient in the meanwhile being treated with morphia, atropia, and plenty of ice. The peritonitis afterward became general, but the symptoms were not very urgent, and so again he hesitated to operate, because the general condition was such as to justify waiting a little longer. It was certainly a very difficult question to decide; but he had seen a number of similar cases recover, without operation, as this boy did. He had found that whenever a case of peritonitis became well developed rapidly, the patient had almost invariably had one or more previous attacks. He would be inclined to lay down the rule that when perforation and peritonitis set in very suddenly and the trouble extended rapidly, the operation ought to be performed; but if the process was a slow one, it was advisable to wait.

DR. BURCHARD said that in six cases of typhlitis which he had seen ending fatally, — in five of which he made autopsies, — it was a fact that in every one of them there was a history of one or more preceding attacks. If he saw a patient in collapse, or partial collapse, with a history of previous attacks of typhlitis, he would say that there was a perforation, especially if the individual had recently been suffering from constipation and had taken cathartics freely to get rid of it. The rapidity with which the collapse developed also offered an indication as to whether there was perforation or not.

## Recent Literature.

*How to Drain a House: Practical Information for Householders.* By GEORGE E. WARING, JR., M.Inst., C.E.; Consulting Engineer for Sanitary Drainage (Newport, R. I.). New York: Henry Holt & Co. Pp. 222.

This excellent volume gives the information which every householder, whether in city or in country, should have within his reach. The physician who is alive to the welfare of his patients in regard to the preventable sources of disease, and who ought to have some knowledge of the principles of household hygiene, will here find valuable aid and counsel clearly and concisely stated. The illustrations are simple, and not so numerous as to confuse the reader, the descriptive portions being briefly expressed and devoid of useless technicality of detail.

The principal portion of the book treats of the interior of the house, the arrangement of plumbing, drains, traps, and other numerous appliances necessary to ensure perfect healthfulness and comfort to the occupants. The two closing chapters are devoted to the consideration of the sewage disposal outside the dwelling, and also to the subject of subsurface irrigation.

# Medical and Surgical Journal.

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## FERMENTS AND FERMENTATION.

THERE is no doubt that the rôle of the microorganisms in nature is one of great magnitude and importance and that all processes of decomposition, in the non-living products of organization, are largely under their control. While it is undoubtedly true that organized matter is always in a state of unstable equilibrium and ready under the action of incident forces to break up into more simple and stable combinations; that the living state is especially characterized by such destructive changes, though the losses are constantly made good by nutritive assimilation; that somatic death is, under ordinary conditions of warmth, moisture, and access of air, inevitably followed by that molecular and molar disassociation called putrefaction,—it is none the less true that the active agents of all destructive transformations in dead protein matter are microbes; whether these “infinitely little” beings have any part in the normal physiological changes taking place in a healthy body is doubtful.

An idea of the amount of work performed by these scavengers of nature may be gained by reflecting that a grain of yeast may transform more than fifteen times its weight of sugar; the *mycoderma acetii* converts daily into vinegar many hundred times its weight of alcohol; the *aspergillus niger* metamorphoses into gallic acid two thousand times its weight of tannin.<sup>1</sup>

One of the important acquisitions of chemico-biological science is that there is no hard and fast line between fermentation and putrefaction, both processes being incidents in the decomposition of ternary or quaternary substances, as brought about under the influence of similar agencies.

While the bacteria of putrid fermentation are probably of many different species, which have been described with great richness of detail in recent works by Ogston and Rosenbach: some appearing

as microbes in chains (streptococci), others swarming in putrefying fluids under the grape-bunch form called staphylococci—*leptothrix*, and *oidium albicans*, and *bacterium termo* being frequent forms: the various kinds of fermentation recognize their specific microphytic causal agents. Among these the best known is certainly the *saccharomyces cerevisiae*, the direct agent of alcoholic fermentation. We are chiefly indebted to Pasteur for first demonstrating (what everybody who has a microscope can now see for himself) that the presence of the torula in a saccharine solution, and the production of certain chemical phenomena, such as the disappearance of sugar and the formation of alcohol carbonic acid and water, are correlative.

While it is, then, a general truth that the breaking-up of saccharine liquids in simpler and stabler compounds is dependent on the action of a definite microorganism, it must be borne in mind that this is not the only way that such transformations may be brought about, for they may be equally well effected by the chemist in his laboratory by means of strong acids. Charles Robin has, moreover, shown that fermentation “is a constant fact in the nutrition of divers vegetables in a unicellular or pancellular state, and even of apples or other fruits in their evolutive period of maturation, and is but a particular instance of nutritive disassimilation with evolution of heat.”

What has been demonstrated with regard to alcoholic fermentation, has also been proved by Gayon (a pupil of Pasteur) with reference to putrefaction; this experimenter having indicated the formation in eggs of the products of the putrefaction of albuminoid matters (lencin and tyrosin) when it was impossible to find in these eggs the least trace of inferior organisms.

It has been of late years taught that the normal fermentations taking place in living bodies are the direct results of the agency of microbes of certain kinds. Thus the transformations effected in foods by saliva, gastric juice, pancreatic juice, etc., are accomplished through *living* rather than *soluble* ferments. This is a favorite view of many living writers, but is, we believe, unsubstantiated. Thus Béchamp has described with great minuteness certain organized ferments found in gastric juice and classed by him as *microzymes*. But Gautier has recently shown in a communication to the Academy of Medicine that these peptic ferments of Béchamp are not organized and are not living things; “they do not proliferate in suitable media; . . . they readily digest albuminoid substances in the presence of the most energetic poisons, such as prussic acid, which destroys all microbes. Moreover, these insoluble corpuscles of the pepsin slowly undergo transformation into a chemical digestive ferment without organization and without life which may be obtained crystallized.”

<sup>1</sup> Van Tieghem.

## THE FATE OF THE MASSACHUSETTS MEDICAL BILL.

THE Bill for Regulating the Practice of Medicine in Massachusetts was defeated in the Legislature on the passage to its third reading by an overwhelming vote. It provided for a board of nine examiners, of whom a minority only could be members of the regular medical profession. The impression seems to have prevailed in certain quarters that this measure was being pushed in some way by the Massachusetts Medical Society. While it is true that a committee was appointed consisting of a few zealous persons who, seeing clearly what the highest interest of the public really demanded, thought it belonged to physicians as conservators of public health to lead in the reform, yet as far as any personal feeling in the matter was concerned it is evident that the sentiment of the great majority of the Society was one of entire indifference. But a small portion thought it worth while to put themselves on record at all. As a matter of fact, the medical profession has much less at stake upon the passage of such a law than the public at large, for neither themselves nor their families are in any danger from unqualified practitioners. It is the non-medical public who are especially concerned in protecting themselves from ignorance and incapacity. The feeling of the physician in the matter should be, and is, no more than that of any other good citizen. In view of the persistent cry of "medical monopoly," which it suits the purpose of charlatanism to raise, it would be better, as we believe, for the medical profession, in order to avoid any possible aspersion of their motives, to stand wholly aloof from any such contest as may come up in the future, and to leave the responsibility for the protection of the public where it belongs, to wit, with the public itself.

## ODIOUS COMPARISONS.

AN English contemporary says a much-needed word regarding the loose and meaningless comparisons often made in medical and surgical writings to describe the size of an object. A favorite standard of comparison is some fruit or other natural product of the country, or else a coin. Now these things convey no definite idea to readers of another nationality. We remember, for instance, in our early student days, trying vainly to get an idea of what was meant by the size of a millet-seed. Our contemporary remarks that, while it was formerly very customary to compare an ulcer in size to a six-penny bit or a half-crown, since the florin has come into more general use ulcers also seem to have become smaller.

So long as one meets only the familiar comparisons of his own locality he is unlikely to realize the objectionable features of this method of description. But the English in their turn are now begin-

ning to be puzzled by the terms they find in the American journals. A description of a tumor as large as a "butternut," or of a slough of the size of a "quarter" (dollar), leaves a foreign reader about where he was before he read it.

We would hardly go so far as to condemn all comparison with natural objects, especially when, as in ante-mortem examinations, definite dimensions cannot be given. A "fetal head" gives a tolerably definite idea of size to the medical mind the world over. A "hen's egg" is of the same average dimensions whether it is produced among the grinding despotisms of the old world or under the free institutions of the new. Perhaps it is as well, when no definite measurement of an object has been possible, to avoid describing it in terms which might seem to imply that an accurate measurement had been made. If an abdominal tumor seem to be about a handbreadth in size, it is as well to say so as to describe it as about ten cm., when the tape-measure in the autopsy-room may show anything from six to sixteen cm.

Figures imply definiteness, and when that is not intended, a universally familiar object may really more accurately give the writer's impression. Nevertheless, the importance should be emphasized of giving definite statements in inches or centimetres, whenever measurements are possible, and of avoiding standards of comparison which are indefinite or of merely local significance.

## THE UNCONTROLLABLE VOMITING OF PREGNANCY.

THE name of Dr. Graily Hewitt, of London, has for several years been identified with that theory of the pernicious vomiting of pregnancy which ascribes this grave condition to flexions of the uterus as their usual cause. Since his first declaration of this view much has been said against it, one of the strongest arguments being that vomiting, in its less aggravated forms, is to be considered almost a normal concomitant of pregnancy. The same condition which causes the "uncontrollable" forms of vomiting must be present to a less extent as the occasion of that degree of vomiting met with in the ordinary cases of pregnancy. But it is unlikely that uterine flexion is present in the great majority of women. That Dr. Hewitt still remains of the same opinion, however, is shown by another paper on the subject, published in the Transactions of the Obstetrical Society of London (vol. xxvi.), and our readers, while not, perhaps, adopting his conclusions, can hardly fail to be interested in the cases cited. These are collected from various sources, and are comprised under two tables, the first consisting of cases wherein the conditions of the body of the uterus were observed and recorded, and the second where abnormal conditions of the

os and cervix only were noted. In the former series, consisting of thirty-two cases, some abnormality was found in the uterus in all but one, sufficient to account, without doubt, for the reflex phenomenon. A great preponderance of the displacements observed were anterior, only some twelve per cent. being posterior.

Impaction of the anteflexed or anteverted uterus within the pelvis was found in twelve of the twenty-three cases of anterior displacement. In only one of the four posterior displacements was the uterus incarcerated in the bony pelvis. In the cases where malposition was not noted other pathological conditions, such as puriform concretions between the uterus and decidua, were found postmortem. The cervix was thickened in six of the cases.

Of eleven deaths, three followed the induction of artificial abortion, seven occurred when no local treatment of the uterine displacement was adopted, and one was quite independent of uterine conditions, there being obstructive disease of the intestines. The twenty recoveries are thus classified: six after artificial abortion, one after natural abortion, seven after manipulative treatment and replacement of uterus, and six following positional treatment, rest, and anti-inflammatory remedies. Dr. Hewitt remarks that in all the cases where attempts were made to raise the uterus from its displaced position, and where the attempt was successful, the vomiting ceased, whereas in the cases where the attempt failed the vomiting continued and the patient died, except when abortion occurred. We observe, however, that nearly as many recoveries took place under "positional treatment," including rest, as under the active manipulative treatment. Moreover, it is a little difficult to distinguish between what is called "no special treatment of the uterus" in the fatal cases and what is described as "positional treatment with rest" in those that recovered. There were no deaths following "positional treatment" of the misplaced uterus, and no recoveries in cases where "no special treatment of the uterus" was adopted; yet we cannot help feeling that it might be difficult for one who did not know how the case was to turn out to decide which treatment was being undergone by a woman lying flat upon her back.

A second table gives a few cases of severe vomiting where the state of the cervix is noted as being hard and unyielding, but where no mention is made as to the existence of displacement of the body of the organ. Of course, these two conditions do not exclude each other. Copeman's treatment, namely, dilatation of the cervix, was practised in most of the cases of rigid cervix, with good results, and we notice no case in which it seems to have induced abortion. Dr. Hewitt, believing the two conditions of uterine flexion and hardness of the cervix to be in many cases concomitant, assumes that the treat-

ment by dilatation owes its success in a measure to the fact that the manipulation which it involves has the accidental effect of liberating an incarcerated uterus. Yet he points out that in one case the vomiting remained unrelieved, although the uterus was in fairly good position, until the rigid cervix had been dilated.

The greater frequency, as shown by the tables, of anterior displacements as a cause of severe vomiting, when compared with posterior ones, is explained by Dr. Hewitt on the ground that in the latter, while the fundus falls back into the cavity of the sacrum, the cervix is tolerably free to move upward to the top of the symphysis pubis, thereby lessening the flexion, even though later impaction, with its characteristic symptoms, may take place; while in anterior displacements the pelvis is not so well adapted for allowing the uterus to expand within its cavity and so readily to get rid of the flexion or tendency thereto.

The treatment recommended, as is the logical result of the views entertained by this writer, all centres upon the restoration of the misplaced uterus to its normal relations. As soon as the malposition has been recognized (and an examination, we are led to believe, will always reveal its existence and its nature), an attempt should be made at redressing the uterus by a proper system of rest. If there is, as is usual, anteflexion or anteversion, the patient should lie on her back; if retroflexion, she should lie prone or semi-prone, with occasional variation to the knee-elbow position. If these methods fail, manual reposition is to be attempted, the hips raised, and a crude pessary or a plain round air-ball pessary inserted. In posterior displacements a Hodge is required, to be removed at about mid-pregnancy.

If these proceedings are unsuccessful, the author advises Copeman's plan of cervical dilatation. Sometimes it can be accomplished by the finger, but often requires a metallic dilator. The author's recommendation of the sponge test in such cases we should regret to see generally followed. The chance that cervical dilatation may amount to an artificial abortion should always be kept in mind, and we believe that its use will be restricted to cases where, if it fail to check the vomiting, an abortion, procured by the additional step, if necessary, of introducing a catheter into the uterine cavity, is the only remaining resource for preserving the patient's life.

We think there can be no question that where marked flexions exist in cases of uncontrollable vomiting, the general plan of treatment advised by Dr. Hewitt is a most sensible one. Whether these malpositions will be found in the proportion of cases that he describes we think exceedingly doubtful.

## MEDICAL NOTES.

—The Secretary of the Treasury has issued the following circular revoking all former orders restricting the importation of rags:—

“Whereas, it has been conclusively shown to the department that, under existing laws, no general regulation can be legally framed whereby the disinfection of old rags can be accomplished in foreign ports to the satisfaction of the several health authorities, therefore it is ordered: (1) That all circulars of this department concerning the disinfection of imported old rags are hereby revoked, and that old rags hereafter imported from foreign countries shall be admitted to entry at the custom-house only upon the production of permits from the health officers at the ports of importation duly authorizing the landing of the same. (2) Vessels carrying old rags arriving at any United States quarantine will be detained by the quarantine officers and held subject to the order of the proper health authorities at the port of destination.”

—Dr. Noël Guéneau de Mussy, an accomplished French physician, has lately died. He was connected by marriage with England, and was a frequent attendant at the meetings of the British Medical Association, of which he was wont to say that it was the greatest professional body in the world. He did much to diffuse among his countrymen a knowledge of medical matters in Great Britain and to foster agreeable relations between professional minds of the two countries.

## NEW YORK.

—At the last meeting of the Society of Medical Jurisprudence, held June 11th, Dr. John C. Peters read a paper on “Some of the Nuisances which Affect the Health and Comfort of Citizens.” Among the sources of such nuisances to which he alluded were oil-factories, gas-works, saw and planing mills, stables and slaughter-houses. Every citizen, he said, was entitled to the protection of the law against every nuisance that rendered life upon his premises uncomfortable or injurious.

—Buddensieck, the proprietor of the row of poorly constructed houses which fell in Sixty-second Street, destroying the life of one of the workmen engaged upon the buildings, has been convicted of manslaughter in the second degree, the penalty for which is confinement in the state-prison for not less than one or more than fifteen years.

—Considerable excitement has been occasioned by the breaking out of two cases of smallpox on Ward's Island among the emigrants who recently arrived on the steamers Weser and Polynesia, which came into port with smallpox on board. The Commissioners of Charities and Correction objected very strongly to the transfer of these passengers from quarantine to Ward's Island, and Dr. A. E. Macdonald, superintendent of the insane asylum on

the island, is reported to have said: “I think that the Emigration Commissioners have done a most disgraceful thing in sending this army of infected immigrants and exposing the wards of the city, as they have done, to the dangers of an epidemic. The portion of Ward's Island allotted to their care was never intended for any such purpose. There have been but about 150 immigrants here at any time of late, and now we have 2,000 of them liable to be struck down with smallpox and other contagious diseases.”

## Miscellany.

## THE LONDON TIMES ON THE MIND-CURE.

We make room for a few of the comments of the *London Times* on what must perhaps be admitted to be a “Yankee notion,” but is, nevertheless, if we are correctly informed, finding a not uncongenial climate even in old England, as indeed wherever else the “gulls” are gathered together.

“The ‘hub of the universe’ is in the throes of a new birth. It is agitated to its centre by the appearance of a system which we find it hard to classify, since it is at once an art, a science, and a religion. The imperfect apprehension of the old world has sometimes failed to discover the unity, or even the compatibility, of these, but Boston has triumphantly effected their synthesis. Science has always been a rather troublesome element in European speculation, but it is so completely absorbed in the great Boston system that a careless observer might easily fail to discover that it had ever existed. . . . This beautiful discovery naturally sweeps away all the elaborate medical and hygienic nonsense of the profession. We are at once delivered from Koch and Pasteur, and other pestilential fellows who put us in fear of bacilli, and go about to have us inoculated with their nasty attenuations. The other class of nuisances who wag their heads solemnly at all the savory meats that our soul loveth, and mutter ‘gout’ when we bid them pass the port, are also put entirely out of court. When a healer can produce a chemical change in the fluids of the system he can, of course, render it tolerant of whatever the patient may fancy—can convert lobster salad into a tonic, and make alcohol, in its various seductive forms, as innocent as water. There are varieties of treatment and method in the new sect. One lady holds healing-power to be inseparable from Universalism, whatever that may be. Another insists that the minds of her patients must be entirely free from guile, and to effect their purification she makes them confess all their shortcomings. Her practice is likely to be amusing. Some use ‘will power,’ others simply ‘let the truth work through them.’ One lady practitioner sitting in Boston has cured a friend in Sacramento of inflammatory rheumatism, and another bridges distance by putting a doll in the chair in front of her to represent her absent patient. A very curious thing is that, although nothing evil exists and poisons operate only through the fears of the

patient, Mrs. Eddy, the head of the Christian Scientist section, holds that her husband was murdered by another Scientist, who 'thought arsenic into him.' This is really very alarming, and will reduce, in many people's eyes, the value of the new system. If the contemplation of truth and wisdom can be used to think arsenic into us, probably in a form which will entirely baffle existing medical jurisprudence, it is easy to understand why the Boston press deal gently with the new sect. Even a fighting editor is no protection against this sort of thing. The outraged Christian Scientist sits down for twenty minutes in her own room and 'thinks arsenic' at a doll representing the scoffer, who forthwith dies of 'hereditary fear.' Our correspondent tells us that the new system has not yet fallen into the hands of the 'scalawags.' Though we have no idea who they are, we are heartily glad to hear it, since from their name we should suspect that they are capable *de tout*. Rev. A. J. Gordon, D.D., a prominent Baptist clergyman, has examined the creed of the Christian Scientists, and pronounces it a mixture of Pantheism and Buddhism. He also says it is a 'witches' cauldron.' Perhaps he knows what he means, but we fear that his analysis will not add much to our knowledge on this side of the Atlantic. We have got Pantheists and Buddhists among ourselves, and anybody who wants to enjoy temporary delirium cannot do better than listen for half an hour to the apostles of either. When they are mixed up together in a witches' cauldron the result must be something too chaotic for the human reason to grapple with. Hundreds of young ladies are attracted to the new sect under the impression that they are getting a finer form of Christianity. On the whole, we are disposed to agree with Dr. Gordon in his belief that this is not the final issue. In America, especially, these hysterical quasi-religious absurdities are usually intimately connected with tendencies of a far from admirable kind. The saying that extremes meet is never more true than when one of the extremes is transcendental rubbish of the kind that seems to have captivated the good people of Boston."

### Correspondence.

#### IMPRISONMENT OF MEMBERS OF THE MASSACHUSETTS MEDICAL SOCIETY.

LAWRENCE, MASS., June 20, 1885.

*Mr. Editor*,—Will the Committee of Arrangements for the late annual meeting of the Massachusetts Medical Society have the kindness to inform the hundred or more luckless Fellows, who were imprisoned in the hall of the building in which the exercises were held, while the line of march to the banquet (?) building was forming, and who were refused egress until most of their more fortunate brethren had left the hall above, by authority of what law or precedent or canon of courtesy they exercised such extraordinary powers?

During a membership of nearly a third of a century, the writer recalls no other occasion on which such an affront was cast upon the Fellows of the Society.

If it sometimes happen that physicians are prevented by professional or other duties from reaching the place of meeting until after twelve o'clock, whereby they are denied the privilege of listening to the annual

address, is it meet that they be still further punished by being adroitly decoyed into a convenient *ent-de-sac* and there herded like so many outlaws, guarded by a rope and a line of sentinels, until the Chairman of the Committee of Arrangements, or some one else having a little 'brief authority,' shall signify his pleasure to restore them their liberty?

Surely, in the future, such a ridiculous precedent will be "more honored in the breach than in the observance" of it.

ONE OF THE IMPRISONED.

#### AD UNCIAS.

MARCH 20, 1885.

*Mr. Editor*,—In writing prescriptions, one often finds it convenient to end off as follows:—

Aque, ad 3 iv ;  
or, aque, q. s. ad 3 iv ;  
or, aque, q. s. ut ft. 3 iv.

Having had some doubt as to the classical correctness of these formulæ, or at least of the first two, I addressed a letter the other day to Prof. George M. Lane, of Harvard College, who referred the matter to a pupil, Mr. Morris H. Morgan, and has sent me an interesting reply containing the result of Mr. Morgan's investigations and his own indorsement. Mr. Morgan finds each of the forms above given to be correct, and gives the following examples from classical writers to prove it.

In the work "*De Re Culinaris*," said to be written by the noted epicure Apicius, is a receipt for mullet sauce, part of which is as follows:—

"*Cuminum tantum quantum quinque digitis tollis piperis ad dimidium ejus.*"—Apicius ix. 13.  
"*Aodem Junoni ad partem dimidiam detegit.*"—Livy 42, 3, 2.

"*Quasi ad talenta quatuordecim coeget.*"—Ter. I, 1, 93.  
"*Terra ingreditur humore egens etia ad perennes sufficit cineres.*"—Livy 4, 30.  
"*Ad quod et cires non suffecerunt.*"—Quint. 12, 1, 12.

The examples of *ut* with the subjunctive are of course numerous and need not be quoted.

The question is certainly more curious than important, but not without interest to those who like to write correctly.

Yours respectfully,  
EDWARD T. WILLIAMS, M.D.

[Owing to the intervention of a holiday (June 17th) in the routine of the printing-office, this letter, which we published last week, escaped editorial revision, and was considerably mangled by the compositor. This was especially unfortunate as the letter is in the interest of correct writing. We therefore republish it in its proper form.—Ed.]

#### SUMMER REGISTRY OF PHYSICIANS.

BOSTON, June 18, 1885.

*Mr. Editor*,—In the JOURNAL of the 11th inst. it was announced that members of the Suffolk District Medical Society might send their names, addresses, and the days and hours when they could be found during the summer, to the Boston Medical Library, and that, upon the receipt of a sufficient number of names, public notice would be given in the *Advertiser* and *Transcript*, as was done last year. As some misunderstanding of the purport and significance of this notice seems to exist, we have been requested to state that it was never intended that any names should be published, merely that the public should be informed of the fact (see papers of last year) that, where they had previously sought nurses only, they might, during the summer, seek physicians as well, if their regular attendant was absent upon his vacation.

Of course, if a "sufficient number of names" was not received to make the plan advantageous to the

public, it would be of no use to notify said public of the existence of such a plan.

Facts warrant us in believing that there exists a demand for a summer registry of physicians for the protection of people who, for any reason, are detained in the city during the summer. To avoid making invidious distinctions, when asked for the names of physicians attainable during the summer months, it seemed best to inaugurate a registry and to thus allow individuals to make their own selections.

Very respectfully,

EDWARD WIGGLESWORTH, M.D.,

FREDERICK I. KNIGHT, M.D.,

Subcommittee Boston Medical Library Association.

## POOR FOOD AT THE MASSACHUSETTS MEDICAL SOCIETY DINNER.

*Mr. Editor*,—The task of any Committee of Arrangements is apt to be a thankless one; and often their best endeavors fail to give satisfaction. There is good reason for complaint of the dinner at the Massachusetts Medical Society this year, although your correspondent of last week is wrong, I think, in attributing it to the quality of the food, which was as good as

the funds at the disposal of the committee allowed, and differed in no respect from that of the last few years, except in being better.

The service and the quantity of the food are just causes for complaint. The reason is that there was an unusually large attendance at the dinner this year, larger than the committee had any reason to expect; there being 775 tickets sold, a number greatly in excess of previous years, and a very much larger number than usual. About 125 were sold during the hour immediately preceding the dinner: too late to make the necessary arrangements for increase of service and food. We are obliged to give a guaranty for a number of plates, not less than fifty in number, of those who are to be fed; and with the amount of money appropriated for the expenses of the dinner, the committee are obliged to exercise strict economy. If the attendance had not been so exceptionally large, I do not think there would have been any cause for complaint. If in the future members will try to purchase their dinner-tickets early in the day instead of at the very last moment, it will enable the committee to meet any unexpected draught on the resources of the caterer.

H. C. HAVEN, M.D.,

Chairman Committee of Arrangements.

## REPORTED MORTALITY FOR THE WEEK ENDING JUNE 20, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrheal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	593	216	19.71	11.45	3.09	4.48	1.65
Philadelphia . . . . .	927,995	351	129	15.96	10.36	2.80	5.32	2.52
Brooklyn . . . . .	614,526	243	96	20.69	15.94	4.51	6.15	3.68
Chicago <sup>1</sup> . . . . .	632,100	220	97	27.45	10.35	7.20	4.35	2.25
Boston . . . . .	423,800	172	45	13.34	21.46	2.32	6.96	1.16
Baltimore . . . . .	408,520	131	57	12.92	11.40	4.56	3.80	2.28
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	89	32	13.44	17.92	3.36	3.36	2.24
New Orleans <sup>1</sup> . . . . .	234,000	153	55	24.70	3.90	16.25	.65	.65
Buffalo . . . . .	201,000	69	26	14.49	—	1.45	5.80	2.90
District of Columbia . . . . .	194,310	109	50	26.00	10.00	11.00	1.00	5.00
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	45	13	8.88	20.00	2.22	2.22	—
New Haven . . . . .	62,882	26	—	19.25	19.25	—	3.85	—
Nashville . . . . .	54,400	19	7	15.78	36.82	15.78	—	—
Charleston . . . . .	52,286	32	14	12.52	15.65	12.52	—	—
Lowell . . . . .	71,447	13	0	7.69	23.07	—	—	—
Worcester . . . . .	69,442	21	9	4.76	—	—	4.76	—
Fall River . . . . .	62,071	16	4	6.25	25.00	—	6.25	—
Cambridge . . . . .	60,995	18	6	11.11	16.66	—	11.11	—
Lawrence . . . . .	45,516	7	—	14.28	28.56	—	—	—
Lynn . . . . .	44,895	12	4	23.07	23.07	7.69	7.69	7.69
Springfield . . . . .	38,090	13	5	15.38	7.69	—	—	—
Somerville . . . . .	31,250	8	1	—	25.00	—	—	—
Holyoke . . . . .	30,515	11	—	—	—	—	—	—
New Bedford . . . . .	30,144	11	6	18.18	—	9.09	9.09	—
Salem . . . . .	29,503	10	—	20.00	10.00	—	20.00	—
Chelsea . . . . .	24,347	5	1	20.00	20.00	—	—	20.00
Taunton . . . . .	22,433	5	0	—	—	—	—	—
Gloucester . . . . .	21,400	8	4	37.50	—	—	12.50	—
Haverhill . . . . .	20,305	7	1	28.56	28.56	14.28	—	—
Newton . . . . .	19,421	5	0	40.00	—	—	20.00	—
Brockton . . . . .	18,323	8	5	25.00	—	—	12.50	—
Malden . . . . .	15,273	4	0	25.00	25.00	—	25.00	—
Newburyport . . . . .	14,047	1	—	—	—	—	—	—
Waltham . . . . .	13,568	2	1	—	50.00	—	—	—
Fitchburg . . . . .	13,433	—	—	—	—	—	—	—
Northampton . . . . .	13,165	—	—	—	—	—	—	—
Massachusetts towns . . . . .	—	62	11	11.20	11.20	—	—	8.00

<sup>1</sup> June 6th.

Deaths reported 2,479; under five years of age 899; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 430, consumption 331, lung diseases 249, diarrheal diseases 124, diphtheria and croup 123, scarlet fever 57, measles 45, typhoid fever 31, malarial fevers 22, cerebro-spinal meningitis 13, ery-

sipelas eight, puerperal fever six, smallpox three, typhus fever one. From measles, New York 10, Brooklyn seven, Chicago five, Philadelphia and New Orleans three each, Boston, Buffalo, and New Haven two each, Baltimore, District of Columbia, Providence, Lowell, Lynn, and Newton one each. From typhoid fever, Chicago 10, Philadelphia eight, New York, five

District of Columbia three, Cincinnati two, Brooklyn, Boston, New Orleans, Lawrence, and Gloucester one each. From malarial fevers, New York nine, New Orleans seven, Brooklyn and District of Columbia two each, Philadelphia one. From whooping-cough, New York five, Philadelphia four, Brooklyn and Baltimore two each, Chicago and New Haven one each. From cerebro-spinal meningitis, New York five, Chicago two, Philadelphia, Boston, Buffalo, District of Columbia, Haverhill, and Brockton one each. From erysipelas, New York three, Brooklyn two, Philadelphia, Cincinnati, and District of Columbia one each. From puerperal fever, Brooklyn, Chicago, Cincinnati, District of Columbia, Providence, and New Haven one each. From smallpox, New York three, From typhus fever, Philadelphia one.

The meteorological record for the week ending June 13th, by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending		Baromet.	Thermometer.			Relative Humidity.		
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.
Saturday,								
June 13, 1885.								
Sunday,	7	29.830	66.0	74.0	52.0	60	43	62
Monday,	8	29.562	66.1	85.1	61.5	80	63	56
Tuesday,	9	29.889	55.8	62.6	49.7	57	29	64
Wednesday,	10	30.187	63.2	75.7	48.1	60	29	57
Thursday,	11	30.201	66.8	79.6	54.6	56	33	55
Friday,	12	30.162	67.9	79.9	56.4	46	44	57
Saturday,	13	30.033	70.2	82.3	59.1	73	45	85
Mean, the Week.		29.972	65.1	85.1	48.1			55.1

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening. <sup>2</sup> Thunder storm.

Cases reported in Boston: measles 81, diphtheria 25, scarlet fever 25, and typhoid fever six.

In 116 cities and towns of Massachusetts, with an estimated population of 1,426,325 (estimated population of the State 1,355,104), the total death-rate for the week was 14.59, against 16.54 and 15.43 for the two preceding weeks.

For the week ending May 30th in the Swiss towns there were 37 deaths from consumption, lung diseases 25, diphtheria and croup seven, measles and whooping-cough each three, smallpox, scarlet fever, and puerperal fever each two, typhoid fever one. The death-rates were: at Geneva 16.3; Zurich 21.3; Basle 18.9; Berne 31.7.

in Boston, was as follows, according to observations furnished

Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
7.23 A. M.	3 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Mins.
S W	S W	S W	9	25	10	C	C	C	—
S W	S W	N	10	18	13	O	R	C	—
W	W	N W	15	19	4	C	C	C	—
W	S W	W	13	29	10	C	C	C	—
W	S W	W	4	15	14	O	C	C	—
S W	S W	W	8	16	12	C	P	C	—
S W	S W	S W	17	16	12	C	C	C	—
									3.0
									30.6

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 13, 1885, TO JUNE 19, 1885.

PORTER, J. Y., captain and assistant surgeon. Having been found incapacitated for active service by an Army Retiring Board, ordered to proceed to his home and report by letter to the Adjutant General of the Army. S. O. 136, A. G. O., June 15, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING JUNE 20, 1885.

ARTHUR, GEORGE, passed assistant surgeon. Granted leave of absence for one year, with permission to leave the United States.

DEANE, C. W., passed assistant surgeon. Granted leave of absence for three months.

CLEBORNE, C. J., medical inspector. As member of Medical and Naval Examining Boards, Philadelphia, Pa., June 22, 1885.

LIPPINCOTT, GEORGE C., passed assistant surgeon. Detached from temporary duty, Naval Academy, and waiting orders.

MACRIE, BENJAMIN S., surgeon. As member of Medical and Naval Examining Boards, Philadelphia, Pa., June 22, 1885.

SHAFER, JOSEPH. Commissioned an assistant surgeon, active list, June 12, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE WEEK ENDING JUNE 13, 1885.

WYMAN, WALTER, surgeon. To proceed to New York, N. Y., and assume charge of the service, relieving Surgeon Sawtelle. June 8, 1885.

HANES, C. E., passed assistant surgeon. Granted leave of absence for thirty days. June 12, 1885.

#### ERRATA.

In the report of the annual meeting of the Massachusetts Medical Society, June 18th, p. 602, the record should be that the proposition of the Nebraska State Medical Society for the appointment of an inter-state medical representation was laid upon the table.

In the report of the Boston Society for Medical Improvement, June 18th, page 608, the question of Dr. Lyman, and the reply of Dr. Greenough, in regard to the distinction between nervous symptoms and cerebral syphilis should have been placed in connection with the remainder of the discussion on Dr. Greenough's paper.

#### BOOKS AND PAMPHLETS RECEIVED.

Face and Foot Deformities. By Frederick Churchill, C.M., surgeon to the Victoria Hospital for Children. With illustrations of new appliances for the cure of Bristle-foot, Club-foot, etc. Philadelphia: P. Blakiston, Son & Co., 1885.

Shall we hang the Insane who commit Homicides? By Clark Bell, Esq., of New York. (Reprint from the Medico-Legal Journal.)

A Practical Treatise on Urinary and Renal Diseases, including Urinary Deposits. Illustrated by numerous cases and engravings. By William Roberts, M.D., F.R.S., assisted by Robert Maguire, M.D., Lond. Fourth edition. Philadelphia: Lea Brothers & Co., 1885.

Fifth Annual Report of the Thomas Wilson Sanitarium for Children of Baltimore City. 1885.

Four Cases of Alexander's Operation of shortening the Round Ligaments of the Uterus for Retroversion. By Paul F. Mundé, M.D., of New York. (Reprint from New England Medical Monthly, May, 1885.)

Bacterial Pathology. A Series of Papers on the Exhibits at the Biological Laboratory of the Health Exhibition. Illustrated. (Reprint.) New York: The Industrial Publication Society, 1885.

A System of Practical Medicine by American Authors. Edited by William Pepper, M.D., LL.D., assisted by Louis Starr, M.D., etc., etc. Volume II. General Diseases continued and Diseases of the Digestive System. Philadelphia: Lea Brothers & Co., 1885.

The Presubminant Stage of Chronic Bright's Disease. By Charles W. Purdy, M.D. Chicago. 1885.

# THE BOSTON MEDICAL AND SURGICAL JOURNAL

GEORGE B. SHATTUCK, M.D., EDITOR  
ABNER POST, M.D., ASSISTANT EDITOR

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## Original Articles.

TEMPERATURE OF THE INSANE, ESPECIALLY IN ACUTE MANIA AND MELANCHOLIA.<sup>1</sup>

BY WALTER CHANNING, M.D.

In looking over textbooks and other works on insanity comparatively little will be found on this subject. Before the time of Wunderlich and the general use of the thermometer in disease this was, of course, not surprising, but at the present time we might fairly infer that if little reference is made to the thermometer it is because it has been thoroughly tried and given up as of little value.

How correct this inference is I will not say, though I believe that to a certain extent it is a true one.

To give a little clearer idea of the position of some of the leading authorities, I will briefly refer to a few of them. Bucknill and Tuke in their last edition have something to say on the temperature in general paralysis, but elsewhere give no systematic thermometric observations. Blandford in his last edition refers to the diagnostic value of the temperature in the early stage of acute delirium mania, and also quotes Mickle and Crichton Browne as to the temperature of general paralysis, but this is about all he says. Sankey (last edition) chiefly refers to the value of taking the temperature to determine the possibility of intercurrent disease in critical cases. Griesinger fully recognized the physical changes taking place in the insane, though he said nothing of temperature. In 1867, when his valuable work was published, but little attention had been paid to the temperature in insanity. From his careful system of elaborating every point of any importance, he probably would have considerable to say on the subject to-day.

Krafft-Ebing, Clouston, Savage, Spitzka, and other writers, in their textbooks, while they speak of the temperature in insanity as being of more or less significance, do not enlarge upon it in detail and give no statistics or observations.

Bearing these facts in mind, it is not to be wondered at that the student of mental disease is not at first led to direct his attention to the clinical use of the thermometer. If he has been drilled by hospital practice of a general nature to give consideration to the bodily temperature, he will perhaps be earlier led to think of it in insanity. Otherwise he may wait until he comes across occasional essays on the subject in the scattered journalistic literature of insanity, which may inspire his ambition.

In my own case, though I recognized the value of thermometric observations in many diseases, I felt from what I had read on the subject, and seen of the practice of others in cases of insanity, that any evidence furnished by the thermometer, excluding general paralysis, was of little value, chiefly negative in character, and hardly worth taking much trouble about. I was in the habit of taking an occasional temperature, but usually in a case of suspected complication, or where there was very unusual elevation of temperature as indicated by a hot skin, flushed cheeks, etc.

Nearly four years ago I began, as a matter of routine practice, to take temperatures morning and evening for some weeks, after a patient came under treatment, provided it was not difficult to do and the patient did not object.

I used the axilla, leaving the thermometer in place for six to ten minutes. My results were fairly satisfactory, but I found objections to this method, which were as follows: (1) I was obliged to make the observation usually when the patient got up or went to bed, as it was liable to excite or irritate him at other times. (2) The thermometer was liable to slip out of place after a few minutes. (3) I could not easily keep it in place myself, as efforts in this direction would sometimes annoy or excite the patient.

These objections, which were the principal ones I met with, are much greater with the insane than the sane, as can readily be seen. The hours of rising and going to bed are inconvenient ones for the physician to be present, but insane persons object frequently to being undressed or disturbed during the day. As, in most cases, unless of a severe type, insane patients do not remain in bed, we cannot as in a fever quietly take a temperature at any hour during the day. There are furthermore the queer ideas, partly or wholly delusive in character, which may be originated or fostered by exposing patients to take temperatures or taking them before rising or after going to bed.

For these reasons a physician is often obliged to let the nurse take the axillary temperature of an insane patient. If this be done, it is necessary to rely more on the nurse than is desirable for reliable results. There are always the dangers that the nurse may not rightly place the thermometer and, even if rightly placed, may not leave it in position for a sufficiently long time. Clouston,<sup>2</sup> in the series of observations made by him, adopted four minutes as the length of time necessary to leave the thermometer in the axilla. After this period of time he thinks there is little increase, and patients are often so much excited that a minimum of length of time must be adopted. Tambroni<sup>3</sup> thinks that twenty minutes is the right time for an axillary observation. Undoubtedly twenty minutes are preferable to four, but unless the cases were selected, it would be difficult to keep insane patients quiet for such a long time.

In view of the above objections, I was led to adopt the mouth as a better place to take temperatures in the insane than the axilla, and so far have been satisfied with the results.

The chief objection to the mouth is the possibility of a violent patient breaking the thermometer between his teeth, either by accident or design, and this happened to me in one case, but such a danger can usually be avoided by care.

When a patient is too violent to insert the thermometer in the mouth with safety, I have used the rectum. The objection of exposing a patient holds good when the rectum is used and perhaps to a greater degree than in the case of the axilla. Otherwise a temperature can be taken in this place

<sup>1</sup> Presented before the Boston Society for Medical Observation, May 1, 1885.

<sup>2</sup> Contributo allo studio della Temperatura ne li alienati. Del Dott. Ruggero Tambroni. *Revista Specimentale*, 1881-85.

with accuracy, as is well known, and in my experience with comparative ease. The patient is placed on a bed partly on the anterior portion of one side, with the legs somewhat flexed. One nurse holds the arms and another the legs.

The advantages of taking temperatures in the mouth are: (1) The accessibility it offers at all hours. (2) Its entire freedom from the objection of exposing the person. (3) The possibility of accurate observations both at the hands of physician and nurse. The latter advantage is an important one, for while there may be doubt in axillary observations even if taken by the physician, this doubt is hardly possible in the mouth. The only condition to be observed is that the thermometer be kept in the mouth for a given length of time. The chances of not placing the thermometer properly and of its slipping a little by a movement of the patient are much less in the mouth than in the axilla. (4) The shorter period of time required for taking the temperature in the mouth. In the axilla probably fifteen to twenty minutes is none too long a time to get the maximum degree of temperature, whereas in the mouth six to ten minutes will suffice.

A general objection to the use of the thermometer in insane persons is that they occasionally may develop delusions in regard to it, as they do in regard to almost any unusual procedure. Sometimes it is regarded as an instrument to introduce poison or electricity, or to produce heat or cold, or for the purpose of performing a surgical operation, as in a recent case of my own. It may be a means of torture, or as Clouston has reported may, on the other hand, have a direct curative effect.

These general disadvantages I have found to usually disappear after the thermometer had been regularly employed for a few days.

In thermometric observations, as we all well know, the number must be large and the conditions under which they are made absolutely uniform to possess the largest degree of value. Thus Wunderlich states<sup>1</sup> that the number of cases he studied amounted to nearly twenty-five thousand, and the number of single observations to some millions. Tambroini reports four thousand observations. Clouston made two thousand observations on three hundred and five patients.

My own observations made either in the mouth or rectum exceed one thousand considerably; but for convenience I shall call them only this number. Together with my earlier axillary observations they possess interest, though the number is so small that they can be regarded only as a beginning of a series, which I hope in time will be considerably expanded.

Clouston took the temperatures of all the patients in the asylum of which he was the then superintendent; not continuously for a number of weeks, but at irregular intervals. He thought that by this method he could get at the variations and peculiarities in the cases under examination in the most satisfactory manner. By this method he was able to show the characteristic differences in temperature in different forms of insanity as well as the prevailing type of temperature at certain stages of the different forms.

My own observations have taken, and will in the future take, a different direction; that is, I shall begin with all patients coming under treatment, and regularly and continuously until discharge take their morning and evening temperatures, keeping careful notes of their mental condition during this period. By such a method I shall hope to show, taking the temperature of the entire period of the disease, any relation that may exist between changes in temperature and changes in the mental condition, and also how the variations and fluctuations in temperature in an attack of mental disease generally differ from those found in other diseases and in health. I can further show, taking the entire period of the attack, whether there are certain definite characteristics marking the different periods or stages of the different forms of insanity as a whole, and whether the diata of Wunderlich in regard to the "fastigium" or "acme" stage in regard to ordinary diseases holds good of this period in attacks of insanity.

In this period, he says, "characteristic data for a correct diagnosis are presented in three ways: from the height of the temperature; from its successive alterations; from the duration of this stage. By the elevation of temperature, its continuance at abnormal heights, and its deviations from the normal type, we learn the intensity and degree of danger of a disease. On the other hand, when the elevation of temperature is moderate, the duration of the maxima short, and the remissions early, we judge that the disease is of a mild type. Irregularities in the course of the temperature, even when they indicate an abatement of fever, are favorable only in special cases. A rise of temperature toward the end of this stage generally betokens some complication."<sup>5</sup>

How far these and other assertions of Wunderlich are found to hold good in cases of insanity can be ascertained, as I have said before, only after continuous observation of many cases. The following cases throw some light on certain points of the subject.

#### ACUTE MANIA. PROBABLE MANIACAL STAGE OF FOLIE CIRCLAIRE.

CASE 1. Mrs. A., thirty-seven years old. Married, and has had two children. Inherits a nervous, excitable temperament. Has had two previous attacks: one of mania and one of melancholia. Is now suffering from an attack, which has become fully developed only within seventy-two hours. On admission somewhat excited, and inclined to ramble from one subject to another, though talking most of the time coherently, yet constantly in an exalted manner to herself. Checks slightly flushed; pulse 114; tongue heavily coated; reduced in weight. Temperature not taken on the first day.

Second day. After a poor night's sleep more excited in language and inclined to throw herself about in the room, though showing indications of weakness. The nurse was directed to keep her in bed. Temperature 99° and pulse 120 in the morning, and 99.2° and the pulse 120 at night.

Third day. Mental condition rather worse, the morning temperature being 99°, pulse 120, and at

<sup>1</sup> Wunderlich's Medical Thermometry, abridged by E. Seguin, M.D.

<sup>5</sup> Seguin's Wunderlich, p. 17.

evening 100°, pulse 120, a rise of one degree in temperature during the day.

Fourth day. Much more mental excitement; conversation confused, incoherent, but constant and very loud and interspersed with occasional songs. Motor excitement also increased. Tongue dry and heavily covered with a dirty brownish coat. Temperature 101.4° and pulse 132 in the morning, and 100° and the pulse 120 at night. The mental and motor excitement had somewhat diminished during the day. For twelve days the temperature then ranged from 99° to 101° (the pulse ranging from 126 to 140), showing usually an average difference of a degree between morning and night. It was almost always higher at night than in the morning, during these twelve days, until the last two, when it was slightly lower at night.

On the sixteenth day, the evening temperature was 99.4°, pulse 125. The mental condition was at this time one of considerable excitement; rambling and incoherent conversation was still incessant, except during sleep, which was obtained only by sedatives in free doses. Every muscle was in a state of activity, and the patient was kept in bed with some trouble.

On the morning of the seventeenth day, after a noisy, restless, and nearly sleepless night, in spite of large doses of quieting medicine, the conditions of the previous night were present in an intensified form, and the temperature was 101.1° and the pulse 130. During the day the general excitement increased, and was so great at night that the temperature was taken in the rectum and was found to be 102.3° and the pulse 138.

On the morning of the eighteenth day the temperature was 112.5°, pulse 126. General excitement about as the day before. At night the temperature reached 103.1°; pulse not recorded.

During the night of the eighteenth day there was a fall to 101.2°, pulse 126, and I hoped that a change for the better had taken place. The general mental excitement, however, and the great constitutional disturbance continued as before. By evening a rise to 103.1° (pulse of 138) had taken place.

The morning of the twentieth day, after a night of wild and sleepless excitement, showed an exacerbation of temperature of more than a degree, the thermometer recording 104.5°, the pulse reaching 146. The tongue was dry and brown, the lips parched, the pulse very weak, speech was low and muttering, but incessant, and the motor excitement was still almost constant. The patient at this time swallowed liquid nourishment freely, which was the one indication of reaction that I saw.

During much of the day I kept the patient wrapped in a wet sheet, partly, I might say, as a last resort. At night the temperature had fallen to 103.1°. The pulse, however, at five o'clock on this day was not to be counted: in fact, it was almost imperceptible, and I felt that the patient could only live for a few hours longer. She was still willing to take the food, however, and with stimulants it was pressed on her. After a short time the pulse showed improvement. The wet pack was continued until one o'clock of the twenty-first morning, when the temperature had fallen to nearly 101°, and it was removed.

On the morning of the twenty-first day the temperature had fallen to 99.4° F., and the pulse was 114 and very weak. During the twenty-four hours the patient took five pints of milk, ten eggs, and four ounces of brandy with little difficulty. The excitement was decidedly less than the previous day. The evening temperature was 100.3° F. and the pulse 132.

On the twenty-second day the patient again began to show symptoms of great excitement and general disturbance, with a parched, brown tongue, picking at the bedclothes, etc. The morning temperature was 101° F., and the pulse 126. She was kept for five hours during the day in the wet pack. At night the temperature was 101.3° F., pulse 138. During this twenty-four hours the patient took fourteen eggs, five pints of milk, eight drachms of Valentine's beef-juice, and four ounces of brandy.

The next morning (twenty-third day) the temperature was 103° F., pulse 126. The wet sheet was again applied for five hours, until the temperature fell to 100.4° F. The general excitement was considerable during the day.

At night the temperature was 102° F., pulse 138, and the wet sheet was applied until there was a fall of a degree. During the twenty-third day the patient took three quarts of milk, thirteen eggs, six drachms of Valentine's beef-juice, and one and a half ounce of brandy.

On the morning of the twenty-fourth day the temperature had fallen to 99.2° F (pulse 128), a difference of more than two and a half degrees. At night there was a still further remission to 99.1° F., pulse 126.

On the morning of the twenty-fifth the temperature fell to the normal point, with a pulse of 114, and this was the first time since admission that the temperature had been below 99° F.

Accompanying the remission there was great prostration, with weak pulse and inability to retain food, and I feared that there might be still further depression and collapse. For two days the patient slept almost continuously, and the temperature remained at about 99° F., with a pulse ranging from 114 to 120.

This low temperature continued for six days, or until the thirty-sixth day, when it rose from 99.1° F. in the morning to 101.1° F. in the evening, the pulse rising also from 114 to 132. The wild delirium, disjointed talking, and the motor excitement, which had been somewhat in abeyance, became much increased. During the quiet days the patient had taken little food, but now, in her excited condition she was able to assimilate it, and on this day took ten eggs and three quarts of milk.

At this time she was with diffidence kept in bed. She was inclined to tear the bedclothing, was often noisy both day and night, slept only two or three hours in the twenty-four, and soiled and wet the bed, or it was necessary to use the catheter.

On the thirty-sixth day, or after five days of excitement, the temperature began to fall from 100.2° F., which was nearly the highest point it had reached during the five days, and on the evening of the thirty-seventh day it again reached the normal point, with a pulse of 102. A short period of quiet, with less prostration than before, now followed for a few days.

After this time the temperature ranged from normal to 99.4° F., only on the forty-sixth, one hundred and thirty-seventh, and one hundred and eighty-fourth days going above 100° F., when it respectively reached 100.1°, 100.1°, and 100.3° F. Each of these slight exacerbations represented a period of considerable increased excitement, which at the time seemed like a relapse.

About the forty-eighth day the patient began to sit up, and on the fifty-eighth day she went outdoors for the first time.

As a rule the normal type of higher temperature at night than in the morning prevailed. During the last three weeks the rule was lower at night than in the morning.

The mobility of the temperature for the first twenty-four weeks was very marked. The most curious fluctuations presented themselves from day to day. For the last six weeks, however, the differences between night and morning became less and less marked.

The temperature of this patient was taken for a continuous period of thirty weeks; in the morning between eight and nine, and at night at six o'clock.

After the first six weeks slight improvement was manifested, and then by almost imperceptible degrees she grew better, being discharged as recovered on the three hundred and thirty-seventh day.

This case showed a clear connection between the mental changes and the temperature changes. By following the chart it was possible to tell whether the patient was quiet or excited, and to how great a degree, and with much greater accuracy than if it had not been kept. It kept every one more keenly on the alert, too, in carrying out therapeutic measures, as it practically showed in black and white the seriousness of the disease. I am certain that I was more watchful than I should have otherwise been, for without the thermometer I could not have realized the height of the temperature, and I should not have forced the food and used the wet sheet as actively as I did.

It may undoubtedly be said in reference to this case that the temperature possesses no characteristics which would make it pathognomonic of acute mania. While this is true, it still possesses quite definite qualities. The "initial" stage was passed before admission, the second, or "fastigium" was just beginning. This proceeded for three weeks. A maximum point was then reached of 101.2° and de-ferescence supervened by "lysis" occupying a period of five days, when the temperature touched normal. An "epicritical" period followed, if we choose to call this a period "in which the temperature returns to normal through increased mobility and a sort of fickleness. Isolated and apparently causeless rises of 4° to 6° F., relapses, and secondary affections show themselves in this period, whose illimitable duration merges in true convalescence."<sup>6</sup>

This period lasted for upward of two weeks.

The illimitable period spoken of followed, during which the temperature showed a persistent tendency to vary less and less. There was diminishing mobility, which was for a long time a characteristic. Occasionally there would be isolated

periods of rise of temperature, easily accounted for, however, by the mental and motor excitement.

Taking the long period following what I have called the "epicritical period," in the language of Wunderlich, the chart demonstrates a very slow but gradual return to decided improvement or convalescence.

CASE II. Mania. Mrs. B., twenty-five years of age, married, one child. No heredity, though parents were nervous. This attack followed her confinement about eighteen months before admission. The case has been one of severity since the beginning. The excitement has been considerable, both day and night. Has a great variety of delusions, about which she talks continually. Keeps her body in motion most of the time, and is continually on her feet, in consequence of which they are swollen. Eats and sleeps pretty well. Physical condition is poor. Is reduced in flesh, very pallid, tongue heavily coated, pulse 110 and weak. Looks worn and exhausted. Very filthy in habits. A persistent masturbator.

The first night the temperature was 98.3°. The second morning, after a fair night, it had gone up to 100.3° with a pulse of 140. The eighth day the thermometer marked 102.2°, pulse 123. This was at night. On the eleventh morning, the temperature was 99.1°, pulse 120. At night there was a rise to 102.2°, pulse 111. At this time the patient was talking all her waking hours, and was usually on her feet, unless held down. Some portion of the day she was inclined to talk low and quietly, others excitedly, ate her food well, slept fairly well. Drove out frequently. Made no complaint of any pain, and no complication of any kind was suspected.

On the eighteenth and twenty-first days the temperature again reached 102°. It would be higher as a rule at night than in the morning. The fall between night and morning would sometimes be as much as two and one-half degrees.

On the twenty-second day the temperature reached 102.1°, pulse 132, at night. The record of the remaining days was as follows:—

On the 23d, A.M., 101.1°; P.M. 102.2°. 24th, 100°; 103°. 25th, 100.2°; 102.2°. 26th, 100.2°; 101.4°. 27th, 100.4°; 101.1°. 28th, 102.4°; 104.1°. 29th, 101°; 101.2°. 30th, 101.2°; 104°. 31st, 102.3°; 104.3°. 32d, 102.3°; 104.4°. 33d, 105.1°; 105°. 34th, 101.2°; 104°. 35th, 101.3°; 104.1°. 36th, 105°; 102.3°. 37th, 101.3°; 102.2°. 38th, 100°; 103.1°. 39th, 101.1°; 103.1°. 40th, 100.3°; 103.1°. 41st, 100.1°; 104°. 42d, 102.1°; 104°. 43d, 101.1°; 104°. 44th, 102°; 101.4°. 45th, 103.3°; 101.4°. 46th, 105.1°; 106.2°. 47th, 105.1°; 105°. 48th, 105.4°; 106.1°.

The pulse from the 23d to the 48th day ranged from 96 to 138, reaching the lowest figure only once and averaging perhaps 120.

The patient died on the forty-eighth day.

Up to the end the mental condition showed little change. Her delusive ideas were always the constant theme of her conversation, and so engrossed her mind that she made no complaint of pain or ache, and up to the last four or five days was quite able to keep on her feet. Other than a warm skin and quick pulse, no symptoms not sufficiently

<sup>6</sup> Seguin's Wunderlich, p. 19.

accounted for by the mental disease would have attracted any notice had not the thermometer been employed daily.

The patient's appetite was good almost to the end, and she could take food on the last day. The bowels were inclined to looseness, but not too much so. She had a slight, hacking cough, but breathed until the last two weeks without difficulty.

The elevated temperature was the only indication that at first alarmed me. The mental disease could easily explain this for the first three weeks. After this, however, the continued high temperature and its extraordinary mobility between night and morning made me feel that there was a hidden complication. The physical signs pointed toward the end to phthisis, and the temperature was also indicative of this complication. From the fortieth to the forty-fifth day there were two hemorrhages, one considerable one at night. Considerable pus was coughed up on several occasions. There was no autopsy.

This case demonstrated to a remarkable degree the utility of the thermometer in insanity, if complications exist. The patient's skin did not appear very warm and entirely deceived me as to its heat. The cheeks were often flushed at night, a hectic flush setting in pretty regularly about three o'clock, but the skin never suggested a higher temperature than 100 to 102 degrees. I always took this patient's temperature in the rectum, but sometimes doubting the correctness of the observations, would try other thermometers in the mouth and axilla, but with a similar result. The axillary temperature was a degree to a degree and one-half less than in the rectum.

The "amphibolic" stage of Wunderlich<sup>7</sup> was well marked in this case, beginning apparently about the twenty-seventh day. There was, at the end of this stage, a characteristic final rise of temperature or "perturbatio critica." The great irregularities in temperature were unfavorable from the start. Thus the temperature, by itself, indicated pretty surely a fatal result.

Clouston<sup>8</sup> speaks of the temperature of phthisical insanity being higher than any other form of insanity. This would apply also to a case in which phthisis was developed in the course of an attack of insanity.

(To be concluded.)

#### A CASE OF TUBERCULAR MENINGITIS: DEATH: AUTOPSY.

By HENRY P. JACQUES, M.D., OF MILTON.

The patient was a boy, five years old. He was always well and strong, except for a tonsillitis, of which he had frequent attacks. Family history good on both sides.

On December 29, 1884, I was called to see him, and obtained the following history: He had come out to Milton looking and feeling as well as ever. On December 23d, while endeavoring to climb into bed, he fell and struck the back of his head. He

cried afterward, but the blow left no mark, and no more was thought of it. The next day, while playing, he fell and struck his forehead, but the blow was no more serious than he had often had before. That evening, Christmas eve, he went to a children's party, but ate nothing unusual, went to bed early, and slept all night. Seeing, and playing with, so many children was unusual for him, but he did not seem excited by it. For a day or two afterward he was constipated and somewhat fretful, both of which conditions were remarkable for him.

On December 29th, the date of my first visit, he had a slight follicular tonsillitis. His pulse and temperature were normal; cheeks flushed; eyes dull; pupils normal. His head was slightly hot, and he was dull and drowsy. He had had no dejection for two days. I prescribed for his throat and his bowels, and told the family that he was not very sick, though I did not like the drowsiness, which, they said, was unusual. The next day his bowels moved, and I heard no more from him for several days, and thought they had probably taken him back to Boston. On January 2d they sent for their family physician, Dr. W. L. Richardson. He found the child still drowsy and again constipated, but no other symptoms. His throat was not nearly as bad as in his former attacks. He ordered cathartics, to be followed, if necessary, by injections. That evening I was again sent for. I found that the constipation was not relieved, and that the drowsiness had increased to such an alarming extent that he had to be roused before answering questions. His head was hot, and he complained of some pain in the back of his head. His face was flushed, and the eyes vacant and staring. Pulse 64 and strong, and the temperature 99° F. The bowels were moved by injections, and he passed water, though with difficulty. I told the family that there was something more than mere constipation, and advised them to send for Dr. Richardson early in the morning. During the night he slept only at intervals. Vomited once. One dejection, coming away with considerable flatus. Passed water twice freely. He moved his left leg spasmodically, and clenched his hands occasionally. He was uneasy, and moaned. Head hot. Pulse at times intermittent. Gradually he became more and more drowsy, and finally relapsed into a state of unconsciousness.

In the morning I saw him with Dr. Richardson. A careful examination revealed nothing abnormal in the chest or abdomen. The child was completely unconscious. Pupils normal. Temperature 100.6°; pulse 108; respiration 30.

We told the family that the case was very serious, that it was probably some form of meningitis, and advised them to send for Dr. T. M. Rotch. An ice-bag was applied to the head, and enemata of one ounce of milk and one drachm of brandy ordered every two hours.

In the evening Dr. Rotch, on examination, found no new symptoms except a slight congestion in the right ear in the neighborhood of the malleus. On the back, over the right apex, there was a slight elevation of pitch on percussion, but no other physical signs. Temperature 101.2°; pulse 89, and strong.

Dr. Rotch agreed that the only diagnosis possible at this time was a probable meningitis, though it

<sup>7</sup> Wagner's Wunderlich.

<sup>8</sup> Observations on the temperature of the Insane.

<sup>1</sup> Read, by invitation, before the Obstetrical Society of Boston, March 14, 1885.

was possible that the right apex might develop new signs on further examination, and the symptoms be due to a hidden pneumonia.

During the day there was considerable twitching of the arms and legs, chiefly the right side, lasting from ten to twenty minutes, the chest being slightly raised. The pupils were slightly contracted and alike.

During the night he drew his right hand across the face with a quick, trembling motion, the right leg being drawn up and the whole body trembling. Occasional moaning and sighing respiration. Temperature, pulse, and respiration not much above normal. When the lips were bathed he partly opened his eyes and made an effort to swallow. Pupils sometimes contracted, sometimes dilated, cheeks flushed, tongue and lips dry. All enemata retained.

Dr. C. J. Blake, having been asked to examine the condition of the ears, found a slight congestion in the posterior canal of both ears, and also in the neighborhood of the right malleus. Dr. Blake thought that the congestion was merely a symptom of the meningial congestion, and not the cause of the disease. When the speculum was inserted the patient showed signs of consciousness, slightly moving the eyebrows and facial muscles.

On January 6th Dr. S. G. Webber was asked to see the child in consultation. After a careful examination he decided that it was undoubtedly a case of meningitis. Taking into consideration the history of the falls and the blows on the head, and the excitement of the children's party afterward, he thought it probably a simple acute meningitis, though there was a possibility of its being tubercular. He recommended the trial of the iodide of potash. The congestion in posterior canals of both ears had diminished considerably. Pain was evidently caused by the examination.

During the next few days the condition varied but little. The enemata were almost all retained. The bowels moved once or twice daily, and the urine was passed regularly. The eyes, usually closed, were occasionally opened, with the eyeballs moving from side to side. The respiration sighing, interrupted, occasionally almost inaudible, then for a time noisy. At times the breathing was suspended for several seconds, bright red spots appearing on the cheeks, which disappeared when respiration was resumed. Patient moaned occasionally, and there was some moving and twitching of the extremities, though no convulsion. Pulse fair, though at times intermittent. The temperature, pulse, and respiration are all noted on the accompanying chart, so I will not recount here the daily variations. The extremities of the right side were absolutely motionless, and did not respond to the usual tests.

January 9th. The extremities became cold, the face very pale, and the pulse imperceptible. This condition lasted fifteen minutes, when he improved in appearance. During the night the breathing grew very rapid, he was restless, moved the left arm continually, and moaned. After some time he opened his eyes, looked round the room, and then became quiet and slept. The next day he was more unconscious, and the fingers were flexed with a very

strong contraction of the muscles. Breathing was more difficult, with the nostrils widely dilated at every breath. During the night he seemed fully conscious for some time, swallowed water without difficulty, and the eyes wide open.

January 11th. Ptosis of right eyelid. The pulse irregular, compressible, and intermittent. The left arm was occasionally raised to the head with a quick, spasmodic motion, the child moaning as if distressed meanwhile. Later, his eyes were fixed, pupils dilated, nostrils expanded, and bluish color around nose and mouth. The breathing was very difficult. During an attack of this kind he had every appearance of being moribund, and each attack was thought to be his last. One of the most remarkable features of the case was the fact that the change from day to day was almost imperceptible, and to one who did not see the child it is almost impossible to give an adequate idea of his condition.

January 12th. The pupils of both eyes were much dilated. The right eye was almost motionless, with ptosis of the right lid, while the left eye moved rapidly from side to side in a circle. The face was livid, with the hands mottled with bright red spots. Later, the left eye became quiet, with a slightly contracted pupil. The next day the movements of the left eye were repeated, the right pupil being dilated and the left contracted. During all this time the enemata were retained, the bowels moved, and the urine was passed. The pulse was so weak that at times it could not be felt at all at the wrist, and the breathing was at times inaudible and almost imperceptible. Respiration sighing. Dr. Richardson and I agreed that it was a case of probable tubercular meningitis, and held out no hope whatever to the family.

January 17th. There was a slight discharge of pus from the mouth, and also from the left eye. During the next day his breathing grew more and more difficult, and it seemed as if he could not possibly last much longer. In the evening, however, his respiration was much easier, and his whole appearance improved. His breath was very offensive, and there was a loud bubbling sound in the throat.

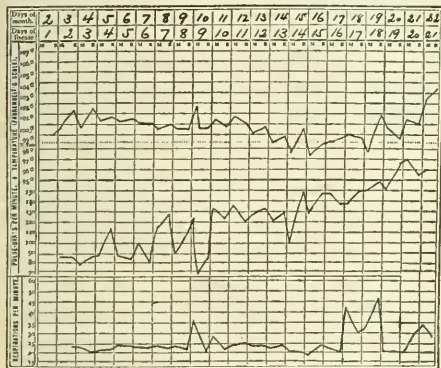
January 19th. The right nostril was much more dilated during inspiration than the left. The forehead was shiny, slightly edematous, and the veins plainly mapped out. Occasionally he moved his right hip-joint and shoulder, which had been motionless for days. There was another slight discharge of pus from the mouth, and when his lips were wiped he seemed more sensitive to touch than before. During the night his left arm and leg were constantly moved, and he moaned as if in pain. Forehead still edematous. During the next night he was in a state of deep coma for four hours, then drew a deep sigh and seemed more conscious afterward. Pulse soft, intermittent, and fluttering.

January 20th. He partly opened and shut his right eye, which was very sensitive to light. Breathing was difficult and noisy, and the face covered with perspiration. At 10 p.m. sighing respiration began again, and at 10.15 he quietly died.

The case is interesting for the following reasons: The family history is good. The child's previous

health was perfect, except for the frequent attacks of tonsillitis.

The diagnosis was complicated, at first, by the doubt as to the part played in the causation of the disease by the blows on the head and the subsequent excitement. The duration of the state of unconsciousness — twenty days — was remarkable, though not unprecedented. Lastly, the enemata were almost all retained, the bowels moved, and the urine passed regularly, throughout the disease.



The temperature was taken by the rectum, but, on comparison, was found to vary but slightly from that taken in the axilla.

The autopsy was made, eighteen hours after death, by Dr. W. W. Gannett.

Body medium sized (for age); well developed; much emaciated; slight lividity of dependent portions; rigor mortis present.

Nothing unusual observed about the calvaria or dura; the sinuses of the latter contained partly coagulated blood.

The pia of the convexities of the brain very dry; the vessels minutely injected. The convolutions flattened, the sulci obliterated. The pia of the base along the chiasma and in the fissures of Sylvius was thickened, and opaque yellowish-gray from the presence of fibrino-purulent material in its meshes. In the above situations, also on the under surface of the frontal and temporal lobes, also on the pons and inner borders of the occipital lobes, were to be seen very numerous gray, translucent nodules the size of a pin's head. The lateral ventricles contained each about fifty cc. of a slightly opaque fluid. The ependyma thickened, grayish, and opaque. The choroid plexuses and velum interpositum markedly injected. In the latter were to be seen several small nodules similar to those described in connection with the pia of the base.

Section of the hemispheres showed nothing remarkable, the puncta cruenta being of about the usual size and number.

The basal ganglia, pons, medulla, and cerebellum also showed no appearances worthy of special note.

The heart of the usual size, and so far as its valves, cavities, and muscular substance were concerned showed nothing unusual.

The pleural surfaces on both sides free from adhesions; the pleural cavities contained no fluid.

Both lungs retracted; everywhere crepitant except at apices, where small nodules could be felt within the lung.

On section, at the top of the left lung, was an opaque, grayish-yellow, cheesy nodule, the size of a pea, surrounded by a narrow border of gray and translucent tissue. At the top of the right lung were several closely aggregated nodules of a similar appearance, forming, together, a mass the size of a small walnut. Otherwise the lungs showed nothing remarkable.

The bronchial lymph-glands were enlarged to the size of filberts, showing, on section, a yellowish, opaque, crumbling material.

The spleen was of the usual size, color, and density. On section, follicles and trabeculae fairly distinct, pulp firm, pale-red in color. Two or three gray, translucent, sharply defined, slightly projecting nodules, the size of the prick of a pin were to be seen.

Kidneys not remarkable.

In the lower third of the ileum were several losses of substance of the mucous membrane; the edges elevated, the bases granular.

Liver showed nothing unusual.

**Diagnosis.** — Tubercular meningitis; acute hydrocephalus; ependymitis; tuberculous of velum interpositum; tubercular nodules in the lungs; tuberculous of bronchial lymph-glands; tuberculous of the spleen; tubercular ulceration of the intestines.

## REPORT ON SURGERY.

BY A. T. CABOT, A.M., M.D.

### GUNSHOT WOUNDS OF THE ABDOMEN.

CONSIDERABLE experience has been gained in the past six months in the matter of the treatment of these injuries.

Dr. William T. Bull reports<sup>1</sup> a case of gunshot wound of the intestines treated successfully by laparotomy with suture of the intestines.

The patient, a man of twenty-two, received a pistol-shot wound entering the abdomen below and a little to the left of the umbilicus.

There was no immediate collapse. Twelve hours after the injury his pulse was 102, his temperature was 100.2° F., and his respiration 30. At this time he had severe abdominal pain in spite of having received about three fourths of a grain of morphia subcutaneously. The abdomen was normal in appearance, and palpation revealed nothing except the existence of universal tenderness. He vomited a little watery fluid and the urine which was drawn contained no blood.

Five hours later (seventeen hours after the wound) his condition was still the same, and Dr. Bull performed laparotomy under strict antiseptic precautions.

When the peritoneum was opened, at least two pints of bloody serum containing little clots but no fecal matter flowed out.

The intestines were congested and were here and

<sup>1</sup> Philadelphia Medical News, February 14, 1885.

there coated with flakes of fibrin, which could only be removed by vigorous rubbing with a sponge.

Loop by loop the intestines were drawn out and inspected, and seven bullet-holes were found and closed by Lembert's suture. Six of the wounds were in the small intestine, and the seventh, in which the bullet was lying, was in the sigmoid flexure.

All of these openings were found plugged by the everted mucous membrane and the intestinal contents did not seem to be issuing from any of them, but when their edges were separated yellow, liquid, fecal matter escaped.

The pelvic cavity was finally sponged out with a two and a half per cent. solution of carbolic acid and the intestinal wounds were rubbed with iodoform. The abdominal wound was closed in the sutures, which included the peritonæum, and was dressed with iodoform and borated cotton.

The operation lasted two hours and was somewhat embarrassed by the fact that the patient did not bear either well.

The patient's after-history resembles that of a difficult ovariectomy, with considerable pain and vomiting, but with steady convalescence.

Dr. Bull narrates, in connection with his report, the history of Kocher's case of pistol wound of the anterior stomach wall, in which laparotomy with suture of the wound was followed by recovery.

In connection with Dr. Bull's case the following report<sup>2</sup> by Mr. Alfred Smith is of interest:—

The patient, a vigorous man, received a pistol wound in the abdomen two and a half inches below the umbilicus. Immediately after receiving the wound he ran half a mile after his assailant, and then walked two miles to where he could receive assistance. From this time he suffered from severe abdominal pain, with steadily failing strength, and died three days after the injury. An autopsy revealed general peritonitis. The small intestine was uninjured. In the anterior wall of the descending colon, eighteen (?) inches from the rectum, was a wound one fourth of an inch in diameter, plugged by a piece of clothing. Three inches lower down in the posterior wall was a corresponding wound with much extravasation.

In regard to proper treatment of the wounded intestine Dr. Byrd, in a recent paper,<sup>3</sup> advocates the establishment of an artificial anus, which can be subsequently closed by operation if desired. He considers that there is great danger of sloughing about a gunshot wound, even in tissues which at the time seemed intact. The establishment of an artificial opening also, he says, gives the gases which form in the intestine a chance to escape, thus relieving dangerous pressure on the thoracic organs and avoiding the tension that might tear out the stitches had the wound been sewed up.

To support his view he quotes from Treves, who is also a strong advocate for an artificial anus when a portion of intestine is removed, except when the opening is in the jejunum high up.

#### OPERATIVE TREATMENT OF SPINA BIFIDA.

At a meeting of the Clinical Society of London held March 27, 1885, Mr. Mayo Robson de-

scribed four cases of spina bifida in which he operated by removing the sac under antiseptic precautions.

They were briefly as follows:—

(1) A child, six days old at the time of operation, lived a year and then died in teething (?) convulsions. At the time of death the site of the tumor presented only a linear scar.

(2) A girl eighteen days old and very puny survived the operation but a short time. As the wound healed by first intention and there was at autopsy no sign of meningitis, the death did not seem to be the result of interference.

(3) A girl sixteen years old had a spina bifida in the lumbar region as large as a fetal head. After several aspirations the sac suppurated. It was accordingly removed and the child, who recovered, was shown to the Society.

(4) A child of seven had a lumbar spina bifida seven and one-half inches in circumference. The sac was thin and inflamed. The patient, however, made a good recovery, being entirely well in thirteen days, and was shown to the Society six weeks later with a linear scar to mark the site of the tumor.

Mr. Robson called attention to the importance in these operations of bringing together the serous surfaces of the meninges just as peritoneal surfaces are brought together in abdominal surgery. The lines of suture of the skin and of the meninges should not come opposite each other. When the coverings are thin and the opening into the spinal canal large a flap of skin should be turned in over the opening by a plastic operation.

CASE III. was a most notable success of the antiseptic method in these cases. The sac was already acutely inflamed, when its complete removal and efficient drainage effected a cure. Mr. Robson considers that these cases ought to be let alone: (a) When the deformity is very extensive, as in fissure of the whole or a considerable portion of the vertebral canal. (b) When there is complete paraplegia. (c) When the sac is large, the fissure extensive, and the coverings thin quite to the edge of the tumor with not enough skin in the neighborhood to cover the defect. On the other hand, he thinks that the operation ought to be done (a) when the sac communicates with the spinal canal by only a narrow neck which can be closed by a single ligature; (b) when the sac has a good skin cover even if the opening is large. In this case human periosteum may be placed beneath the skin with a hope of forming a plate of bone; or possibly the vertebral arches might be sprung together and held by fine silver wire.

When the spinal cord or nerves are found blended with the sac, which often cannot be told until the dissection of the skin from the meninges is made, he would advise excision of fractions of the redundant sac at one or more places between the nerves, replacing the nervous structures in the spinal canal, and bringing over the skin cover with free drainage between the skin and meninges. Or if this could not be done, the membranes might be punctured, the collapsed sac with the nerves intact being placed in the canal with a skin cover as before.

<sup>1</sup> *Lancet*, February 7, 1885.

<sup>2</sup> *Philadelphia Medical News*, April 4, 1885.

## POISONING FROM CORROSIVE SUBLIMATE IN SURGERY.

Fränkel<sup>4</sup> reports fourteen cases of death during the employment of corrosive sublimate on wounded surfaces.

In twelve of these cases he regarded the poisonous action of the drug as but one factor in the production of the fatal issue; all of them being cases of serious injury or disease. In the remaining two, however, he considered death directly caused by the corrosive sublimate. The prominent symptom in all of these cases was a bloody diarrhoea, while salivation was not noticed in any of them.

Post-mortem examinations showed in every instance an inflammation of the intestine, most noticeable in the larger intestine and accompanied by sloughing ulcerations of the mucous membrane.

All the patients were feeble, and either emaciated or abnormally fat.

Dr. George L. Peabody<sup>5</sup> was induced by the above report of Professor Fränkel to investigate the records of the New York Hospital for the past eighteen months.

Eleven cases were found in which the use of this drug as an antiseptic application to wounds was followed by diarrhoea which did not yield to the usual remedies, and which sometimes ceased on the sublimate being discontinued, but which in seven cases became bloody in character, was accompanied by griping pains, tenesmus, prostration, and death.

In three of these seven cases autopsies were made, and in all of them a very extensive diphtheritic inflammation of the larger intestine was found.

The solution of corrosive sublimate used in these cases was usually 1 to 2000, and the wound surface was ordinarily large.

Schede<sup>6</sup> in a recent paper admits the dangers of the sublimate in certain conditions but thinks it doubtful whether the intestinal lesions ascribed to it may not sometimes be pyemic. Fränkel, however, carefully differentiated his cases from pyæmia, and in Dr. Peabody's patients the other lesions usual in pyæmia were absent.

Dr. Peabody concludes by saying that it is proper to state that, so far as he can learn, death or serious poisoning has not resulted from its use in dressing materials but only after its employment in the irrigation of large wound surfaces.

## LIGATURE OF ARTERIES FOR ANEURISM.

Mr. T. Holmes<sup>7</sup> discusses at some length the question of double distal ligature in aneurisms of the innominate artery and arch of the aorta.

He thinks it a mistake to tie both the carotid and subclavian at one operation, and advises that the carotid alone be tied first. As the carotid has no branches in the lower part of its course a clot is more likely to form and extend back out of it into the aneurismal sac than would be the case after ligature of the subclavian, which has large branches close to its origin, through which a vigorous collateral circulation is carried on. The greater ease with which the carotid can be reached is an additional reason for its selection for the primary ligature.

He says: "The only reason that has ever been advanced for performing the two ligatures simulta-

neously (in ordinary cases when compression of the subclavian gives negative results) is that there may be some inconvenience in administering an anæsthetic twice, and some additional mental disturbance in submitting to two operations. But surely this is somewhat fanciful, . . . and the experience of the double-distal deligation proves that there is no inconvenience in thus dividing the treatment into two stages, even if we were quite sure that the second stage would be called for, which is far from being the case. . . . In fact, if there were no other successful case on record except Evans's, that case would of itself suffice to show that the ligature of the right carotid only may suffice, for the man was restored to complete health, and lived to an age beyond the ordinary term of existence an active and, indeed, an imprudent life. . . . This case, then, in which only the carotid was tied is the most successful instance of the distal ligature on record."

Mr. Holmes concludes his interesting article by saying, "One thing has been abundantly proved by the tolerably long series of operations now on record for thoracic aneurisms, that far more success has been attained by the distal ligature than by electrolysis or by any other form of treatment. And good reason has been shown for preferring the isolated ligature of the carotid artery as the first step in the treatment unless there be some definite indication for tying the subclavian at the same time. Such indications would be either the manifest growth of the subclavian portion of the sac or the effect of compression of the subclavian in diminishing the size or pulsation of the tumor."

O. Riegner<sup>8</sup> reports the following remarkable case of ligatures of both carotids:—

"In September, 1881, the left common carotid was tied for an aneurism of that vessel that had come rapidly (six weeks), and the growth of which could not be controlled by any general or local measures. A double ligature of catgut was applied without division of the vessel between.

"The operation was followed by severe cyanosis of the face, which disappeared in a few hours. Pupils remained equal, and there was no paralysis of any kind. The wound healed by first intention, and the dysphagia and hoarseness which had existed before the operation vanished.

"A year and a half later an aneurism developed upon the other carotid. Sufficient pressure to control the circulation in it caused dizziness, loss of vision, and severe cyanosis. Gradually, by keeping the patient on the back, with ice to the tumor and gentle pressure, a condition of tolerance was reached, so that pressure sufficient to control the circulation could be borne for five minutes without brain symptoms. The carotid was now tied with a double ligature as before. Immediately after the operation the pupils were contracted, then widely dilated, then unequal with the right, narrower than the left. For twenty minutes there was great cyanosis of the face. Some hours later this disappeared, and the pupils became again equal. Slight delirium, with weakness of left arm developed during the night, but passed off by the morning after the operation, and the recovery from this time was rapid."

<sup>4</sup> Virch. Archiv, Bd. xci., p. 276.

<sup>5</sup> New York Medical Record, March 14, 1885.

<sup>6</sup> Volkman's Sammlung Klin. Vorträge, No. 251.

<sup>7</sup> London Medical Record, February 16, 1885.

<sup>8</sup> Centralblatt für Chir., No. 29.

## Reports of Societies.

### PROCEEDINGS OF THE BOSTON SOCIETY FOR MEDICAL OBSERVATION.

REPORTED BY H. L. BURRELL, M.D., SECRETARY.

MAY 4, 1885. DR. W. INGALLS in the chair.  
DR. W. CHANNING read a paper on the

#### TEMPERATURE OF THE INSANE.<sup>1</sup>

DR. EDES asked what sort of a temperature the reader would expect to find in insane patients who complained of excessive heat; whether the feeling of heat in these cases was subjective or not.

DR. CHANNING thought that the sensation of heat was subjective, as he had seen illustrative cases.

DR. EDES called attention to the fact that the morning and evening temperature may not give us the highest and lowest temperature of the twenty-four hours. In phthisis, for example, a normal temperature may exist in the morning and at night, but yet at noon a very high temperature may exist. In fact, the maximum temperature may come at any time in the course of the twenty-four hours. A thermometer which would record the variations in temperature for twenty-four hours would be apt to give us new facts regarding the relation of temperature to disease. Dr. Edes thought he remembered having seen the description of such a thermometer, one arranged like an aneroid barometer.

DR. J. J. PUTNAM said that he had been much impressed with the truth of Charcot's statement that the temperature in the rectum in elderly persons was relatively higher than in young adults. He mentioned a case of pneumonia, in an old man, where the temperature by the mouth was 100° F., but in the rectum it was 103° F.

DR. FISHER spoke of the difficulties attending taking temperature in the insane. He considered it a very valuable source of information, and wished that a series of observations might be carried out in some large asylum. He spoke of the temperature of patients having "general paralysis." In the first stage the temperature is high, in the second stage lower, and in the third stage it is high again. He had noticed unusually low temperature in cases where a trance state existed; also in some cases of melancholia. He asked the writer how the wet pack was given.

DR. CHANNING said that he used the wet sheets to envelop the patient. When the temperature fell the sheets were removed. He had been struck by the quietude produced by this treatment.

DR. FISHER mentioned that in English hospitals, where "non-restraint" is the rule, wet packs are used ostensibly to reduce temperatures; he suggested that they were possibly used to restrain patients.

DR. PAGE inquired if the wet packs had induced sleep. At the Adams Nervine Asylum he had frequently seen a wet pack not only quiet the restless motor excitement, but had seen patients fall asleep after its use.

DR. CHANNING, in reply, said that he had never seen sleep produced by a wet pack.

A discussion then ensued on the methods of giving

wet packs, it being the general opinion that the use of blankets over the sheets produced diaphoresis.

DR. INGALLS related a case of scarlet fever in a child six or seven years of age, where there was serious nervous excitement. The use of a wet pack, with blankets, produced diaphoresis and amelioration of the symptoms. Dr. Ingalls wished that the minimum time for accurately taking a temperature could be settled.

DR. EDES thought that the record of a temperature taken five minutes was accurate enough for practical purposes.

DR. DENNY called attention to the differences in the cerebral temperature of the halves of the head. In health the temperature of the right half of the head is higher than the left when the observed is in active conversation. One might infer that in insanity the right half of the head might be as high as the left half. Dr. Denny asked the reader if he thought there was a congestion of the local centres in the medulla oblongata in these cases.

DR. CHANNING considered that there might be.

DR. DENNY suggested that a loaded condition of the rectum frequently accounted for high temperature.

DR. CHANNING closed the discussion. He said that when it would be convenient he should much prefer cold baths to the use of the wet pack.

### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

MARCH 11, 1885. THE PRESIDENT, DR. A. D. SINCLAIR, in the chair.

DR. HENRY P. JACQUES, of Milton, reported, by invitation,

#### A CASE OF TUBERCULAR MENINGITIS: DEATH: AUTOPSY.<sup>1</sup>

DR. W. L. RICHARDSON said that the hygienic surroundings of the patient had always been the best, and the child had been brought up by its parents with every possible care which commonsense, aided by medical advice, could prescribe. With the exception of slight attacks of tonsillitis, the child had never been under medical treatment. There was, however, one fact in the past history of this patient that might have a bearing on the case and he would like to have Dr. Gannett's opinion. When the patient was fourteen months old the services of a nurse were engaged, and that nurse remained in care of the patient until last fall, when he was about four and one-half years old; at that time her health, which had been failing during the latter part of the spring and summer, had become so poor that she was obliged to leave. She had a cough and had lost considerable flesh and strength. She subsequently went to Colorado Springs, where she now is, and her health has considerably improved. A sister at about the same age had died of consumption and another sister had also died, although the cause of her death was unknown.

DR. GANNETT said that one of the most interest-

<sup>1</sup> See p. 1.

<sup>1</sup> See p. 5.

ing and important points in an autopsy upon a case of tubercular meningitis was the determination of the source of infection.

Inasmuch as all cases of tuberculous of the pia are secondary, one should make a careful search in all parts of the body for evidence of primary tuberculous, either in the form of cheesy nodules or else of nodules made up of growing tubercles.

In the present case the infecting source was evidently in the lungs; there being cheesy nodules at both apices, as described in the autopsy report, surrounded by a periphery of actively growing tubercles and also cheesy bronchial lymph-glands.

Dr. Gannett thought it quite possible that a child might be infected with tuberculosis by living day and night with a nurse already tubercular.

Dr. WEBER said he was asked to see the patient on the ninth of January. The symptoms were such as to lead to a strong suspicion of tubercular meningitis; but considering the family history and that the child had been perfectly well up to Christmas, also taking into account the falls and consequent injury to the head, it seemed to him the more probable that the disease was simple meningitis. After falls and blows upon the head there is at times a period of latency, during which there are either no symptoms, or they are very slight. Guided by past experience in this respect he was led to state that while tubercular meningitis was possibly present, he thought the chances were in favor of the simple form of the disease. A few days later Dr. Richardson gave him an account of the progress of the symptoms and it was quite evident that it was a case of tubercular meningitis.

He examined the patient with reference to the *taches cérébrales*, but could not obtain them. In a majority of patients, when the finger-nail is drawn across the abdomen, a red line appears after some time, but only slowly and is not very intense. The symptom is of value only when it appears very quickly, within two or three seconds, and is of deep color. The line made with the nail is brighter than when the finger is drawn over the surface. By the side of the red line the skin acquires a paler tint, almost white, as if the smaller vessels were contracted. This sign is of much less value than was formerly supposed.

Dr. C. J. BLAKE said that, so far as the ears were concerned, both membrane tympani were clear, normally transparent, and without injection of the manubrial bloodvessels, the mucous membrane of the tympanic cavities, as visible through the membrane tympani, was also free from injection, and there was, in fact, no evidence of disturbance of the ears.

On the posterior wall of the external auditory canals at the inner third, more pronounced in the right than in the left ear, was a circumscribed patch of injection such as is observable in cases of inflammatory process in the mastoid antrum and occasionally accompanying congestion of the middle ear uncomplicated.

Dr. ROTCH made the following remarks on the case and also discussed the difficulty of making a differential diagnosis and of giving a prognosis in the early days of the disease:—

First, as to the diagnosis of cerebral disease at

all, we must remember that there is a wide difference between the symptoms resulting from exactly the same diseases in the adult and in the child; the former presenting, as a rule, symptoms corresponding to lesions of the organ involved, while the latter, owing to the active development and sensitive condition of its nervous system, is liable, no matter by what disease it is attacked, to have such a profound impression made on its nervous centres, that quite frequently actual disease of these centres is simulated, thus for days masking, by their undue prominence, the symptoms of the especial disease, perhaps of thorax or abdomen, which will finally assume control and declare the diagnosis. As illustrating this point Dr. Rotch spoke of cases which had been lately under his observation: in one there was hemiplegia occurring during an attack of simple reflex eclampsia and passing off within a few hours; in another, a child lay for days in about the same condition of unconsciousness as in the reader's case, as the result of a fall, but no lesion external or internal being discovered throughout this time. Again, there are cases of fibrinous pneumonia, where children lie for days in an unconscious condition and where no lesion can be discovered in the lung, consciousness only returning as the physical signs develop in the lung, and during this period entire uncertainty may exist as to the locality of the disease.

In this connection Dr. Rotch said a few words in reference to his examination of the lungs, which, as reported in the paper, might lead to some misapprehension if left unexplained. The slight change noticed at the apex of the right lung was not at the time considered of any importance, so soon as the possibility of an acute pneumonia developing in that locality was dismissed as untenable, and was not considered as exercising any influence in aid of the diagnosis of the case; in fact, it was supposed to be physiological rather than pathological. Dr. Rotch also spoke regarding the similarity of typhoid during the first four or five days of the disease, the nervous symptoms being so very prominent at this period and closely simulating cerebral disease, as is also the case in certain forms of acute gastric catarrh.

As to the diagnosis of the reader's case, most of the gentlemen who saw the patient concurred in the diagnosis of Drs. Richardson and Jacques, made at the seventh or eighth day, namely, of meningitis, probably of the tubercular form; and, although certain symptoms usually present in a typical case of tubercular meningitis were absent and the general constitutional symptoms of progressive emaciation and altered temper which commonly precede the outbreak of tubercular meningitis at this age were wanting,—the disease being ushered in by cerebral symptoms in a healthy child, a fact which would usually point toward the simple form of meningitis,—yet the general picture of a slowly developing, subacute disease marked by quiescence of symptoms and moderate temperature was very striking when compared with the usually stormy onset and acute development with high temperature of most cases of simple meningitis. Dr. Rotch called attention to a symptom lately spoken of by Koenig, of St. Petersburg, as pointing toward meningitis, though

not necessarily of tubercular origin, namely, contraction of the knee-joints on sitting, with complete relaxation on lying down. An instance of this symptom was at present under his observation in a baby apparently suffering from some obscure cerebral disease.

In answer to a question Dr. Rotch said that he did not consider the *tache cérébrale* to be especially diagnostic of tubercular meningitis. He also said that in the Children's Hospital, at Stockholm, a number of autopsies had been made on infants dying of tubercular meningitis, and, with the exception of two cases, tubercular disease had been found in other parts of the body. These two, however, presented an apparently primary tubercular disease of the cerebral meninges, a careful examination failing to discover any point of infection elsewhere. The difficulty of diagnosis in tubercular meningitis is still further enhanced when we consider that the same well-marked pathological lesions are at times followed by symptoms which do not correspond to those usually occurring and determined by the anatomy of the parts involved; in fact, by a noticeable lack of symptoms.

As to the prognosis of tubercular meningitis, it is probable that every case eventually dies of the disease, but well-authenticated cases have been reported where recovery apparently took place, but later a second attack killed the patient, and the postmortem revealed not only the fresh tubercular lesions, but evidence of tubercle of a former period corresponding to the original attack. Dr. Rotch also stated that the temperature in the reader's case followed the usual rule of uncomplicated tubercular meningitis and was of great aid in the diagnosis, namely, of moderate grade, somewhat variable, and becoming high a day or two before the fatal termination. Dr. Rotch concluded his remarks by drawing attention to the difference between tubercular meningitis occurring during the first six months of life and that of older children. In the former, the prodromal symptoms were, as a rule, absent, a sudden onset like that of a simple meningitis occurring in often apparently perfectly healthy babies; diarrhoea was more common than constipation; sinking of the abdomen was rare; the disease was essentially acute, a fatal issue usually taking place in three or four days.

Dr. WELLINGTON spoke of the case of a child twenty months old who had always been considered healthy until its present illness. The family history was good, except that a niece of the mother had died of consumption. When first seen, three weeks ago, the child was sleepy and had vomited a little; the sleepiness increased and vomiting occurred once in twenty-four hours. At the end of the week there was observed stiffness of one arm; but this disappeared in one day; then there was tonic spasm of the other arm and then of the right leg. Thenceforward drowsiness had increased, the breathing had become irregular, the temperature was elevated one degree, the pulse was slow, but not remarkably so, the bowels were somewhat constipated, the pupils normal: the *taches cérébrales* were well-marked. It was undoubtedly a case of tubercular meningitis. Dr. Wellington inquired if this affection was always secondary.

Dr. GANNETT said that primary cases had never yet been observed.

Dr. LYMAN alluded to the case of a child who lay unconscious for four months, and who was supposed by the several able consulting physicians to have tubercular meningitis; yet the child recovered. He emphasized the difficulty of diagnosis between simple and tubercular meningitis, and asked if it was not unusual in the latter disease to have such remissions as apparently occurred in this case.

Dr. ROTCH said it was not uncommon to see remissions even up to a short time before death.

Dr. REYNOLDS said that blows on the head, sometimes of trifling character, occasionally furnish the proximate cause of tubercular meningitis in cases wherein the tubercular diathesis already exists. He was convinced that in families with a tubercular predisposition much good might be effected by timely prophylactic treatment. At the earliest approach of threatening symptoms active hygienic and medicinal means should be employed. He quoted Lewis Smith as advocating the use of the iodide and bromide of potassium in small repeated doses as of great prophylactic value.

#### SPECIMEN OF A NORMAL UTERUS AT THE END OF THE SIXTH MONTH OF PREGNANCY.

Dr. GANNETT exhibited, by invitation, a uterus and its appendages coming from a woman six months pregnant, who had died about ten hours after delivery; the patient having been, for several days, in a dying condition from extensive softening of the brain.

The specimen was of interest as showing the normal appearances presented by a uterus shortly after delivery at the sixth month.

The cervical canal had not become obliterated; on the contrary, it was about three centimetres long. There was a well-developed corpus luteum in the left ovary.

The body of the uterus measured vertically sixteen centimetres, transversely eleven centimetres, antero-posteriorly seven centimetres. Its walls measured on an average 2.2 cm.

#### FOTUS PAPRACEUS.

Dr. W. L. RICHARDSON showed a specimen which had been sent to him by Dr. R. A. Kingman. The woman had been delivered at full term. An examination of the placenta showed a second placenta which had undergone complete fatty degeneration, and in the membranes attached to it was a flattened fetus, the growth of which had been arrested during the fourth month, as shown by its length and the ossification of the bones. Dr. Richardson said he had seen a similar case at the Boston Lying-in Hospital, in which with triplets one of the children had died at the third month. The pregnancy had gone on uninterruptedly and the labor was normal.

Dr. KINGMAN, present by invitation, said: The patient from whom the specimen came is a primipara, twenty-seven years old, a large, stout, healthy woman. With the exception of moderate nausea and vomiting extending over nearly the whole period of pregnancy, she has had no illness since conception. After a normal labor, a healthy female child of six

pounds in weight was born alive and has maintained a vigorous existence since that time.

The pregnancy was supposed to have dated from the later part of April, 1884, at which time the last menstrual period ceased, but the labor did not occur until March 8, 1885. No difficulty was experienced in expressing the placenta, the membranes following readily a few minutes later.

#### TREATMENT OF THE NAUSEA AND VOMITING OF PREGNANCY.

DR. ABBOT said that he had known marked relief to follow the exhibition of small doses of *ipeacacuanha*, when all other remedies had failed.

DR. RICHARDSON had found *ipeacacuanha* very efficacious in doses of two drops every two hours. He suggested that hydrochlorate of cocaine in capsules might prove successful in such cases.

DR. H. W. WILLIAMS said that from his experience with the anæsthetic properties of cocaine in ophthalmology, he should think this drug would be very efficacious in the nausea and vomiting of pregnancy.

DR. WEBBER alluded to a case, seen many years ago, in which the patient had been brought very low by extreme nausea and vomiting which had resisted all remedies: relief was obtained, however, by the use of oxalate of cerium in two-grain doses repeated every hour or two.

DR. LYMAN said that the topical application of iodine, to be effective, should be made within the cervix, not simply around the os externum.

DR. BOARDMAN had used with good results small, frequently repeated doses of calomel—one twentieth to one tenth of a grain every hour.

DR. INGALLS had found one-eighth-grain doses of opium, repeated every hour, efficacious in relieving nausea.

DR. BAKER said he had been called in two cases to produce abortion on account of obstinate and alarming vomiting: he found the uterus in marked anteversion in both cases, and by the application of a suitable pessary to raise the womb both patients were relieved.

#### RHODE ISLAND MEDICAL SOCIETY.

THE Seventy-fourth Annual Meeting of the Rhode Island Medical Society was held in Lyceum Hall, Providence, June 11, 1885, Vice-president HORACE G. MILLER, M.D., in the chair.

The Secretary's annual report showed fourteen additions to the list of Fellows during the past year, three removals from the State, and no deaths. The present active membership is one hundred and ninety-eight.

DR. C. H. LEONARD, Treasurer, read his annual report. Total receipts, \$869.38; outgo, \$721.70; balance on hand, \$147.68. The printing fund increased during the year to \$1,912.47.

DR. C. W. PARSONS, Secretary of the Trustees of the Fiske fund announced that a premium of two hundred dollars had been awarded to Charles V. Chapin, M.D., of Providence, for the best essay on "The Present State of the Germ Theory of Disease." A premium of two hundred dollars had also been awarded to Hobart Amory Hare, M.D.,

of Philadelphia, for the best essay on "The Physiological and Pathological Effects of the use of Tobacco." The trustees regret that under the provisions of the will they are unable to award a second premium for an able essay on "The Use of Tobacco."

The trustees propose the following subjects for 1886:—

I. "The Methods and Practical Results of Treatment of the Malarial Diseases now Prevalent in New England."

II. "New and Altered Forms of Disease Due to the Advance of Civilization in the Past Half-Century."

For the best dissertation on either subject worthy of a premium they offer a prize of two hundred dollars.

DR. G. W. PORTER presented the report of the Publishing Committee, and the Committee received a vote of thanks for its efforts.

DR. T. NEWELL, Chairman, read the sixth annual report of the Committee on the Library: 1,007 volumes were added during the year; the total number of bound volumes at present in the library is 4,593.

DR. W. J. McCRAW, Chairman, presented the first annual report of the Committee on the Museum. The circular issued by the Committee had met a generous response. Nearly one hundred valuable anatomical or pathological specimens had been received from Fellows of the Society and as many more, on deposit, from the Providence Franklin Society.

DR. S. S. KEENE, on behalf of the Board of Censors, stated that Drs. Gilbert L. Church, of Warren, James B. Erskine, of Johnston, Sophronia A. Tomlinson and Vernon O. Taylor, of Providence, having passed satisfactory examinations were recommended for fellowship. They were elected unanimously.

DR. ARIEL BALLOU reported as delegate to the New Orleans meeting of the American Medical Association.

DR. W. H. PALMER reported verbally as a delegate to the Connecticut Medical Society.

The President introduced to the Society Drs. W. H. Carmalt and J. B. Kent, representing the Connecticut Medical Society, and J. R. Bronson, of Attleboro', a delegate from the Massachusetts Medical Society. Dr. Bronson made an earnest plea for State laws regulating the practice of medicine.

Officers for 1885-86 were elected as follows:—

Oliver C. Wiggan, President; Horace G. Miller, First Vice-president; John W. Sawyer, Second Vice-president; George D. Hersey, Recording Secretary; Edward M. Harris, Corresponding Secretary; Charles H. Leonard, Treasurer.

Censors: Drs. Ariel Ballou, J. H. Eldredge, J. W. C. Ely, G. P. Baker, S. S. Keene, Benjamin Greene, Eugene Kingman, Job Kenyon.

The Standing Committees of last year were re-elected, with a single exception, Dr. F. H. Peckham, Jr., being chosen Auditing Committee.

DR. E. T. CASWELL called attention to the commendable work which some of the younger members of the Society were doing in gathering and preserv-

ing pathological specimens which would otherwise perish and at his suggestion the Society voted one hundred dollars for the use of the Committee on the Museum.

A communication from the American Medical Association relative to establishing a State Board of Medical Licensees was referred to a committee of three to be appointed by the President.

On account of the illness of the President, the delivery of the annual address was postponed to some subsequent meeting.

Following adjournment, one hundred and twenty-five Fellows with invited guests sat down to the annual dinner which was served in Blackstone Hall, Dr. Eugene Kingman presiding as Anniversary Chairman. After-dinner speeches were made by Dr. J. R. Bronson, Mr. C. H. George, Mr. John Huntsman, Drs. Caswell, Browning, Burge, Kent, and Arnold, and by Rev. Dr. J. G. Vose.

#### AMERICAN NEUROLOGICAL ASSOCIATION.

ELEVENTH Annual Meeting, held in the hall of the Academy of Medicine, New York, June 17, 18, and 19, 1885.

##### FIRST DAY'S PROCEEDINGS.

The Association was called to order by the retiring President, DR. ISAAC OTT, of Pennsylvania, who briefly referred to the subject of the temperature centre, to which he had been devoting special study. He thought it could now be said that the temperature of the body was as much under the control of the nervous system as was the action of the heart. His own investigations, and those of some other observers, pointed to the anterior portion of the optic thalami as the seat of such centre. Dr. Ott then introduced the Vice-president.

DR. LEONARD WEBER, of New York, then took the chair.

The report of the Secretary and Treasurer, DR. GRACE M. HAMMOND, showed a balance in the treasury of \$38.50.

##### NOMINATION OF OFFICERS.

For President, Dr. C. K. Mills, of Philadelphia; for Vice-president, Dr. V. P. Gibney, of New York; for Secretary and Treasurer, Dr. R. W. Amidon, of New York; for Council, Dr. Geo. W. Jacoby and Dr. E. C. Seguin, of New York. As there was but one nomination for each vacancy, the Secretary was instructed to cast an affirmative ballot for those nominated.

The amendment to the by-laws to have the meetings held on the first Wednesday in May instead of on the third Wednesday in June gave rise to discussion, but was not acted upon. The amendment calling for the transaction of all business not of a scientific nature in executive session, to be held after each scientific session, was passed.

##### A CASE OF CHRONIC MYELITIS: RECOVERY.

DR. A. D. ROCKWELL related the history of a girl sixteen years of age who, on the twenty-second of September, 1884, was referred to him by Dr.

Farrington. Three months before she had sat on a cold rock, at a picnic, and on returning found she walked with difficulty, and within a week the lower limbs became completely paralyzed, and also the sphincters of the rectum and the bladder. The patient was extremely nervous and sleepless. A large bed sore formed which was very intractable to treatment. When Dr. Rockwell saw the patient, the electro-muscular irritability was entirely abolished to both currents, the legs were contracted beyond the power of forcible extension, the sphincters paralyzed, the bed sore showed a tendency to increase. The limbs, although sensitive to touch, showed diminished sensibility when tested with the aesthesiometer. The prognosis was considered very unpromising, but at the urgent request of the father treatment was continued, the galvanic current being substituted for the Faradic, applications being made to the legs and lower portion of the spine. At the end of the fourth week of treatment very faint muscular contractions were observed, which later showed that they were the reactions of degeneration. At the end of four months he discharged the patient as cured, except for slight weakness of the flexors of the right leg.

DR. ROCKWELL thought that in this case the tendency was either to degenerative softening or atrophy of the ganglion cells; he thought the latter. That the whole transverse area of the cord was involved, he thought, was shown by the complete abolition of both afferent and efferent nerve function.

DR. E. C. SEGUIN said the case was an interesting one, and reminded him of several which he had seen of typical subacute polio-myelitis, the diagnosis being obscured by the weakness of the sphincters and slight dullness of sensibility. He believed that was all there was in this case; there was not absolute anaesthesia. He thought this case would come into the category of somewhat modified polio-myelitis, with some extension into the gray matter. It certainly could not be brought forward as an example of cure of myelitis transversa. It left our unfavorable prognosis of that disease unchanged. He referred to a case of apparent diffuse myelitis of the cord, principally of the anterior horns, seen with Dr. Delafield, the patient having completely recovered within three years. Dr. Rockwell's case was particularly interesting with regard to treatment; while there had been time for spontaneous recovery, he had no doubt that galvanism had been of great service in expediting the cure.

DR. ROCKWELL remarked that in this case there was complete paralysis of both the bladder and rectum. He had seen a number of cases of recovery from polio-myelitis anterior.

DR. GRAY, of Brooklyn, said it depended upon what was regarded as evidence of chronic myelitis as to whether or not a cure could be effected. After all, we knew very little about myelitis. We could diagnosticate a myelitis of the anterior horns, and of the columns of Burdach or locomotor ataxia, and we could diagnosticate myelitis of the lateral pyramidal columns. But experimental and pathological observations went to show that there were many other columns in the cord which were functionally distinct from one another. Then with

regard to what was considered a chronic case, perhaps opinions would differ. According to his observation, recovery of chronic cases was not so rare as Dr. Rockwell seemed to think. He mentioned an instance of paralysis of the lower limbs in which over a year elapsed before recovery was established. Sometimes cases were quiescent for a period, and suddenly improvement would follow the use of electricity after failure of other agents.

#### METHODS OF STAINING IN MICROSCOPICAL WORK.

DR. ALLEN M. STARR, the author of the paper, described the following methods of staining, pointing out their comparative value, and presented microscopical slides illustrative of each: The hæmatoxylin method; the acid-fuchsin method; Dr. Seguin's modification of the anilin-blue method; Sahlis's double stain with methyl blue and acid fuchsin; and, lastly, the safranin stain. Each method had its special advantages, but on the whole the first two named were the best; they were superior in all respects to the older carmine method.

#### ON THE USE OF OSMIC ACID IN PERIPHERAL NEURALGIAS.

DR. GEO. W. JACOBY, of New York, read a paper on this subject, first reviewing the observations of Neuber, Eulenberg, etc. In all, about fifty cases of peripheral neuralgias had been treated by this method by different writers. Eulenberg had obtained very good results, there being out of twelve cases three cured, four benefited, five inactivated. Other cases so treated had given even better results. Dr. Jacoby used one per cent. solution of osmic acid in water; of this, half a gram to a gram was injected. The acid should be dispensed only in a dark bottle and a small quantity prescribed at a time. It caused a smarting, burning sensation when injected hypodermically, the pain generally subsiding after a few seconds. No constitutional symptoms were produced. There was sometimes puffiness over the seat of puncture. If various branch nerves were affected it was necessary to make an injection over each branch, but the results were more likely to be beneficial if only a single branch were affected. Of a series of eighteen cases of peripheral neuralgias so treated, Dr. Jacoby gave the details of three. Of the eighteen cases, eight were cured and some others benefited. Sciatica seemed to present the better chance of recovery by this method, and the older cases seemed more amenable to treatment than the more recent, an observation opposed to that of a German physician. In one case hypodermic injection over the radial nerve caused pain to extend down the arm, and paralysis was present the next morning. It was true the patient had slept on the arm during the night, but Dr. Jacoby was inclined to attribute the paralysis to the injection of osmic acid, for French observers had noticed paralysis following injections of ether on several occasions.

The conclusions drawn were: That in osmic acid we had a remedy which was of service in certain cases of peripheral neuralgia; its action localized was frequently beneficial; its use was not altogether free from danger; it was dangerous to implicate a motor nerve during the injection.

DR. SACHS, by invitation, said his experience with osmic acid in peripheral neuralgias had been only partially satisfactory. He had witnessed the treatment at the hands of Eulenberg, and believed that in about one third of the cases no benefit whatever was observed. In some a cure was effected after failure by electricity and various other remedies. One point which he observed at Eulenberg's clinic was that the injection caused no pain whatever, but Dr. Sachs's experience with the drug obtained in this country had been quite different, for it always caused severe pain, and was liable even to give rise to abscess.

DR. E. C. SEGUN had not used osmic acid in the manner indicated, but he had had some experience with this general plan of treatment. He mentioned some cases in which treatment by injections of nitrate of silver or other agents had been more or less successful, and he was disposed to attribute the result to counter-irritation; perhaps by the production of an abscess. He had also caused paralysis of sensation of the upper lip by injections of chloroform for trigeminal neuralgia, and the same accident had occurred at the hands of a friend. He knew of no case in which motor paralysis had occurred.

DR. JACOBY, in closing the discussion, said he was not quite ready to accept the explanation of the benefit derived on the ground that it was a counter-irritant. Perhaps the fact that the nerve tissue being changed in color in the living subject, as well as in the post-mortem subject, by injections of osmic acid, would point to some other mode of action.

#### SECOND DAY. — AFTERNOON SESSION.

The President, BURT G. WILDER, M.D., in the chair.

#### REPORT OF TWO CASES OF SPINA BIFIDA CURED; ONE FOLLOWED BY HYDROCEPHALUS.

DR. V. P. GIBNEY read the history of these two cases, which were reported briefly in the proceedings of the New York Pathological Society, winter of 1885. In the second case, a child, the spinal tumor was injected with the iodo-glycerin fluid, and the tumor was thus caused to entirely disappear. After the cure the child died, it was said of cholera infantum, and no post-mortem examination could be made.

#### ON THE USE OF STRYCHNINE IN NERVOUS DISEASES.

DR. GRAY, of Brooklyn, read a paper with this title, and said a paper read by Dr. Jewell, of Chicago, on "The Use of Large Doses of Strychnine in Certain Nervous Diseases," had prompted him to make observations in this direction. He had prescribed strychnine in many cases of myelitis, but only in two truly acute cases in which the drug was not well borne. In one case of transverse myelitis the dose was increased from one fiftieth of a grain up to one twenty-fifth of a grain, and after four days, without warning, alarming symptoms of strychnine-poisoning developed, and it was difficult to save the patient's life. In one other case also alarming toxic symptoms developed after giving about an equal amount. In five cases of progressive muscular atrophy the strychnine acted as a

stimulant. But no real improvement took place. The drug seemed to be of benefit in certain chronic cases, but he would never risk giving it in larger doses than one twentieth of a grain.

Dr. C. L. DANA had had experience with large doses of strychnia in certain functional forms of nervous disease. One patient who had become unable to attend to business because of mental and physical depression began taking one-fifteenth-grain doses, and increased the amount so that he took in divided doses as much as a grain a day, with marked benefit.

Dr. SEGUIN had heard the same ideas regarding the use of strychnia advanced this afternoon also advanced many years ago by Brown-Séquard. Dr. Seguin had given the drug in increasing doses in a number of cases of functional disease of the nervous system with benefit. With reference to Dr. Jewell's practice, he thought it was pretty risky because of the uncertainty of diagnosis in many cases. It had occurred to him that perhaps one reason why Dr. Jewell's cases had borne such large doses of strychnia without evil results was that there was left no central motor apparatus to respond to its influence. Dr. Seguin would recommend the administration of strychnia hypodermically; thus avoiding the explosive effects which might come from a collection of pills in the alimentary tract.

#### PARONYMY VERSUS HETERONYMY AS NEURONYMIC PRINCIPLES.

The President, Dr. B. G. WILDER, of Ithaca, New York, read an address with this title. The desirability of a change of encephalic nomenclature was shown by quotations from various authors. The object was to insure greater accuracy and brevity, and to facilitate the means of communicating knowledge between neurologists of all nations. It was proposed to discard vernacular names, to make a selection of shorter technical classical ones, to abbreviate some by omission of unessential words and others by the substitution of prefixes for adjectives. The numbers of terms used in the principal languages to designate different parts of the brain is about nine thousand, whereas somewhat more than five hundred were sufficient. Dr. Wilder disclaimed having any desire to coin new words; on the contrary, he had lain awake more nights in thinking of how to avoid the necessity for this than in any other study. After giving the subject much attention he had concluded that neyronymy would be most advanced by the employment of technical Latin names as far as possible with an English dress or with a vernacular face and aspect. What he proposed and advocated was simply this: that so far as possible for each part of the neuron or central nervous system there should be found or made a name consisting of a single Latin word; that for each such Latin name there likewise be found or made an English equivalent, not a translation, but a paronym; and, further, that in obtaining these names, Latin and English, due regard be had both to existing nomenclature and the established rules of etymological conversion. He hoped it would now be understood that he did not wish, much less undertake, to upset names as they then existed. Most of the words

which he had proposed were old terms translated, combined, or abridged. By the use of paronyms instead of heteronyms any neurologist would recognize the name of any portion of the neuron when seen in Latin, Italian, Spanish, French, English, or German.

#### THE RELATION BETWEEN THE SYMPTOMS AND THE LESIONS OF POSTERIOR SPINAL SCLEROSIS.

Dr. E. C. SPITZKA read a paper with this title, in which he gave an analytical review of cases reported by different authors, and also the observations which he made in two cases in which an autopsy had been obtained. The following were his concluding remarks: While it must be admitted that the primary lesion of tabes is competent for each affected level of the root zones and great horns to produce all the characteristic symptoms of tabes referable to that level, yet, in the extent and distribution of the consecutive lesions, we have valuable guides to the extent, severity, and duration of the primary disturbance; and we may attribute to the following special disturbances the ensuing degeneration of the tracts whose functions are abolished or diminished:—

(1) That of the column of Goll to the disturbance of muscular sense in the lower extremities; (2) that of the comma-shaped internal bands of the column of Burdach to the corresponding disturbances in the upper extremities; (3) that of the triangular area bordering on the periphery of the cord and its posterior root entry to the rarer analgesic development; (4) that of the column of Clark and direct cerebellar tract to the disturbed space sense. It was probable that some of these views would in time have to be modified.

Dr. SEGUIN called attention to the insusceptibility of tabetic patients to the sensory influences of acointia.

He had observed that in both the first and second stages of tabes it required very large doses of acointia to produce the peripheral subjective sensations so characteristic of the action of that drug upon the spinal axis in healthy subjects. Perhaps, out of fifteen cases of tabes only one patient manifested the tingling sensations in the extremities usually seen, and in that patient it required enormous doses. The amount taken by two or three patients was almost sufficient to produce collapse; but they had not the special symptoms referred to. It had occurred to him that perhaps this fact was to be explained by an early change in the part of the gray matter in the cord referred to by the author. He thought it was opposed to the view that acointia acted on the peripheral extremity of the nerves.

#### ON A SELDOM-DESCRIBED ARTERY; ARTERIA TERMATICA; WITH SUGGESTIONS AS TO THE NAMES OF THE PRINCIPAL ENCEPHALIC ARTERIES.

The President demonstrated the arteria termatica, which he had always found given off from the anterior communicating, or, in case of the absence (which was frequent) of the anterior communicating, from the juncture of the two anterior cerebral arteries. The interesting feature of the artery was that it was azygos. He proposed to name the principal encephalic arteries in accordance with the

principles of neyronymy laid down in his address. For example, instead of anterior communicating he would say precommunicant, and instead of posterior communicating, postcommunicant, etc.

DR. STARR had observed absence of the precommunicant artery in two brains out of fifteen dissected during the past winter.

ON TWO LITTLE-KNOWN CEREBRAL FISSURES, WITH SUGGESTIONS AS TO FISSURAL AND GYRAL NAMES.

The President showed in the human brain the fissura inflecta, described only by Italian writers; also a fissure near the olfactory bulb, most distinct in animals, called by Owen the basirhinal fissure. Dr. Wilder had arrived at the conclusion that this fissure was of important morphological significance, and had found on farther reading that his views in this respect were only confirmatory of Owen's and Broca's. For fissural and gyral names he would use single words with prefixes, pre, post, sub, etc.

#### TWO CASES OF FRIEDREICH'S DISEASE.

The paper was written by DR. WHARTON SINKLER, of Philadelphia, and in his absence was read by DR. MASSEY. The two cases described were almost typical cases of Friedreich's disease, with the exception that they were not hereditary. There was no history of syphilis. No autopsy was made.

DR. SEGUN had recently published five cases of Friedreich's disease, and he also briefly referred to some cases by Dr. Smith, of Boston.

DR. AMIDON had under observation two cases of what he believed to be Friedreich's disease, the symptoms in one of which he briefly described. The paper was also discussed by DR. STARR and DR. JACOBY.

#### A GALVANOMETER.

DR. GEORGE W. JACOBY presented a galvanometer, the invention of Dr. Budisch. The relative value of this and other like instruments was discussed at considerable length.

#### A BRAIN MONSTROSITY

was presented by DR. SPITZKA at the evening session. The specimen was removed from the body of a child aged two and a half years, who had a number of deformities of the extremities. The chief interest in the malformation in the brain was cerebellar. Dr. Spitzka also presented specimens illustrating Gudden's atrophy method, which had a bearing on the anatomy and physiology of the tracts comprised under the name *kenisens* or fillet, and also on the anatomy of the trineural fasciculus.

The President then exhibited specimens illustrating (1) the form and extent of the adult aulla; (2) the non-extension of the rima to the tip of the mediotrui; (3) the enlargement, yet complete circumscription, of the porta in an alinjected hydronecephal; (4) the fibrial revert and its relations to the prosoplex; (5) the continuity of the diaceolian endyma from the mesal surface of the thalamus over the habena to the dialele; (6) the insula in a dog, monkey, chimpanzee, and porpoise.

#### A CONTRIBUTION TO THE PATHOLOGY OF THE CEREBELLUM.

DR. E. C. SEGUN read a paper with this title, and related the history of a case of a man, a soldier, whose first symptoms developed about 1857,

and ten years later it appeared he had epileptiform or epileptoid attacks, headache, typical cerebellar incoördination, no distinct paralysis or ataxia, nystagmus, increased patella reflex. These symptoms remained nearly stationary during the unusual long time from 1871 until a short time before death, 1885. Dr. Seguin made a diagnosis of disease, probably a tumor, of the superior cerebellar vermis. There was no history of syphilis. The autopsy showed extensive atheroma of the cerebral arteries in patches, yellow in color, and of the type considered significant of syphilis, but this disease, he thought, could be excluded. There was a very considerable cyst of the superior vermis, extending at least an inch into the right hemisphere of the cerebellum, and probably pressing upon the floor of the fourth ventricle.

DR. BAUDUY, of St. Louis, then read some

#### NOTES ON HYDROCHLORATE OF COCAINE.

The author thought this drug of special value in the treatment of melancholia and of hypochondriac insanity. It should be administered hypodermically, in about grain doses. Its beneficial action on the melancholic was often almost immediate. A cocaine habit, like the opium habit, was liable to be formed, and it would readily take the place of the opium habit. The antidote of the drug was morphine.

The following papers were read by title: "The Brain of a delusional Monomaniac, who killed several Persons," by C. K. Mills, M.D.; "A Case of Destructive Lesion of the Tegmentum, Optic Thalamus, etc.," by H. D. Schmidt, M.D. Fifty or more longitudinal and transverse sections of the brain done up in glycerin, by H. D. Schmidt, M.D., were presented.

The President appointed the following committee on electrical dosage: Dr. G. W. Jacoby, chairman, Dr. R. W. Amidon, and Dr. W. K. Birdsall.

The Society adjourned to meet at the call of the Council at about the same time next year.

### Recent Literature.

*Modern Therapeutics of the Diseases of Children, with Observations on the Hygiene of Infancy.* By JOSEPH F. EDWARDS, M.D., etc. etc. Philadelphia: D. G. Brinton, 115 South Seventh Street. 1885.

This book is interesting as a compilation of the remedies used by some three or four hundred physicians in different diseases. As to its practical utility, we must express our doubts of the possibility of gaining much aid in special cases from its pages. On looking over the list of physicians quoted we are immediately struck with the idea that they are taken somewhat at random, and that they do not always impress us with that feeling of reliance as to their soundness of judgment, which is so necessary where a simple statement is made that such a physician treats such a disease with a certain remedy.

Diseases in children change so from day to day and hour to hour that much greater detail than is possible in a volume of this size would be needed to guide the physician through a difficult case, and the simple cases, as we all know, take care of themselves if judiciously let alone.

# Medical and Surgical Journal.

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## THE RELATION OF BACTERIA TO THE HUMAN ORGANISM IN HEALTH AND IN DISEASE.

In a former article the subject of fermentation was briefly considered, and the modern view, in opposition to the more ancient view of Liebig, stated. It may now be regarded as a datum of science that the alcoholic, butyric, acetic, lactic, gallic, and other similar fermentations are each due to a definite microorganism, and that, despite the seeming instability of all organic substances, these do not ordinarily break up into lower compounds, except under the agency of just such genera of microphytes as we behold in a drop of any decomposing liquid.

There is a marked resemblance between fermentation and putrefaction in the profusion of living particles developed during these processes. One of the most interesting chapters in the recently published *Life of Louis Pasteur*<sup>1</sup> is devoted to the history of the researches by which he proved the dependency of even such simple transformations as that of alcohol and water into vinegar on the growth and development of a particular fungus. Moreover, countless experiments, of which the familiar instance of canned meats is a sufficient example, have proved that the same relation holds between putrefying substances and the microscopical organisms that are found in them; if you exclude these there is no putrefaction.

The question, what relation these microscopical beings sustain to the higher organisms in health, is more easily answered to-day than it was a few years ago. Our knowledge of the "infinitely little," their life history, their properties, their conditions of living, has wonderfully increased of late, though still very imperfect. Mycology is beset with difficulties which human genius and industry are but slowly surmounting. Whether the ordinary fungi that seem to us so harmless may, under certain circumstances, develop into the deadly micro-

organisms that devastate society (assuming the truth of the germ theory), we know not. Certain it is that many species seem to be inoffensive to everything which has life and vigor, while they feed on dead or decaying substances. Some of the moulds — *aspergillus glaucus*, *mucor macedo*, *penicillium glaucum*, etc. — are of this character. Cells and mycelium are almost the sole elements of these fungi, which are *aërobic*, that is, can only live in free air. Other fungi are innocuous to animal life while devouring the vegetal. It is known that the whole tribe of rusts and mildews do attack vigorous plants. The *botrytis infestans* causes the potato rust, and the *oidium citis* is the pest of vine-growers. In fact, all vegetables have their parasites, and the same is true of all animals; the highest are a prey to the lowest where the conditions are favorable for the nutrition and development of the latter, a state of perfect health being in general unfavorable. In reality health may be regarded as the expression of the vital integrity of an organism whose anatomical elements are able successfully to resist the incursions of the lower life. In the individual as in the race, to the higher and more evolved victory is temporarily assured, though defeat in the end is certain.

The immunity which the more complex and highly evolved organism possesses against the harmful assaults of the living ferments is relative: (1) To the quantity of the assailants. It is evident that in the struggle for existence between the living cells of an organic aggregate and the septic or pernicious microbes, the latter will be much more easily overcome if few in numbers; while, like the strongest and best-disciplined army, the healthy anatomical cells may be outflanked and overcome by an ever-augmenting foe. In whatever way bacteria may be introduced into the economy, or *whatever the kind*, it is quite possible for the healthy organism to tolerate them with impunity, provided the quantity be inconsiderable. (2) To the mode of introduction. The fermentiferous, putrefactive, or morbi-genous bacteria may be inhaled or ingested by a healthy individual without the least harm accruing thereby to the functions of the economy, provided that the fluids and tissues be in a normal state, and there be no special receptivity. There are abundant facts to bear out this statement.

With regard to the introduction of bacteria into the alimentary canal it is certain that when the stomach is healthy the gastric juice is inimical and destructive to them all. Moulds and septic bacteria may be often eaten with impunity. The *Kahnuck Tartars* live on raw, putrid fish or flesh of carrion, and are said to be a healthy race. Now such putrid meat swarms with bacteria. Koch claims that in perfectly healthy individuals even the cholera microbe when swallowed in food or drink is destroyed in the stomach. Individual experience would certainly seem to countenance this statement. It is

<sup>1</sup> *Life of Louis Pasteur*. By his Son-in-law. New York: D. Appleton & Co., 1885.

only when the powers of the stomach are enfeebled and there is deficiency of gastric juice that the "comma bacillus" is able to penetrate the intestines and accomplish its mischief. Decroix even declared that the meat of an animal killed while suffering from splenic fever was innocuous; and confirmed his opinion by eating it with impunity. (If, however, the meat were thoroughly cooked, the microbes would be destroyed, so that the experiment to be conclusive should have been made with raw meat or meat underdone.)

The injection under the skin or into the blood of bacteria, and especially of such as are of great known virulence, is much more dangerous; but even such inoculation has been practised with safety. The ordinary septic microbes when so introduced are prone to give rise to septicæmia, especially when injected in quantities sufficient to overcome the resistance of the animal cells; but instances are not few where their inoculation has caused but slight temporary disturbances or none at all.

The results of the injection of the morbigenous bacteria may equally be nil. Everything depends on the receptivity of the organism. Some persons have a natural or acquired immunity against certain malignant parasites, which, when introduced into the bodies of other individuals, speedily find there a congenial soil. Science is not yet in possession of any very satisfactory explanation of facts of this kind. Certain it is that receptivity is far from being constant, and that the solids and fluids of the economy of even the most susceptible are quite soon exhausted of some supposed mineral or organic ingredient on which the life of the microphyte depends. Hence the protective value of previous attacks and "preventive vaccinations."

"He that understands the nature of ferments and fermentations," says Robert Boyle, "shall probably be much better able than he that ignores them, to give a fair account of divers phenomena of certain diseases (as well fevers as others), which will perhaps never be understood without an insight into the doctrine of fermentations."

Although all general diseases are accompanied by qualitative alterations in the blood, there are certain diseases in which the blood-changes so markedly partake of the nature of decomposition that it is proper to speak of them as *fermentations*; the analogy between the circulating fluids in these diseases and liquids undergoing fermentative decomposition out of the body being most striking and complete. The term *zymotic* is an appropriate one, for the blood of victims of these maladies is invariably found to have undergone to a greater or less extent certain gross changes, such as corpuscular disintegration, decrease of fibrin, increase of carbonic acid, diminution of oxygen; in some malignant epidemics (as of diphtheria) it becomes tarry, non-congluable, and sticky, and speedily putrefies when

withdrawn from the body. There is another characteristic which assimilates the blood of a zymotic affection to a fermenting fluid, namely, the power which its virus possesses of multiplying itself *ad infinitum* in suitable media. Take, for instance, a drop of anthracoid blood and inoculate with it a healthy animal: you may communicate the disease to this animal, infect a whole flock, and spread the pestilence over an entire country. Or if a drop of this splenic-fever blood be sown in sterilized yeast-water and cultivated, and a drop of this culture-fluid be sown in another flask of yeast-water, and so on, you will obtain a product which in the fiftieth generation shall be just as virulent as the original anthracoid blood. This is precisely the case with fermentations taking place under the influence of the *torula cerevisiae*, the *mycoderma aceti*, the *vibris lactis*, etc. "A little leaven leaveneth a whole lump." Is this power of unlimited self-propagation peculiar to living beings? Are there any chemical poisons not of an "animated," "figured" nature, but of a soluble kind, which are known thus to reproduce themselves? Here, unfortunately, we have to confess to a lacuna in our knowledge. Sir James Fayer supposes the poison of snakebites to be a soluble chemical ferment; this poison clearly reproduces itself in the system of the person bitten, if it be true that the blood of the victim be infecting, as Sir James Fayer asserts. The virus of rabies seems also capable of similar diffusion and reproduction. Pasteur still resolutely affirms the microbiotic nature of rabies, and there is equally good reason for holding to the same view regarding snake-venom, but on these obscure questions we wait for more light.

The analogy, however, does not stop here. The alcoholic, lactic, and other like fermentations are each due to a particular microphyte, and if the specific fevers are the expression of fermentative changes in the blood, they must each have a different causal microbe. This early prevision of scientific medicine, which has for the past twenty years been the guiding hypothesis of workers in pathogeny, is now finding justification and verification every day.

#### THE NEW YORK STATE BOARD OF HEALTH.

GOVERNOR HILL has, much to the regret of all, vetoed the item in the supply bill of \$15,000 for this State Board of Health. His action was based on the statement of the comptroller that there was no deficiency which this amount was designed to cover; but the appropriation was not for an actual deficiency but for a deficiency that would arise during the year if the Board continued its operations on the present scale. The regular annual appropriation of \$20,000 is barely sufficient for the recording of the vital statistics of the State and other routine expenses. The additional amount was required for

carrying on the work of the investigation and suppression of disease, as will be seen from the following extract from the annual report: "Urgent appeals are frequently received from local boards of health and citizens of various parts of the State for advice and assistance in questions of supreme moment to public health, requiring for their elucidation skilled sanitary inspection and often exact analytical examination. As far as the pecuniary resources of the State Board have permitted, prompt response has been made to such appeals, but as they increase in number, lack of means compels reluctant neglect of some of them. Furthermore, under the duties imposed upon the Board to make inquiries in respect to the causes of disease, and especially of epidemics, and to investigate the sources of mortality and the effects of localities, employments, and other conditions upon the public health, it is evident that a system of sanitary investigation was contemplated far beyond the present possibility of attainment, but absolutely needful to enable it to take cognizance of the interests of health and life among the people of the State. Toward the fulfilment of these, the most important duties of the Board, the sum of \$15,000 is asked, and even with this, in view of a threatened epidemic visitation, the demands upon the Board during the coming year will probably exceed its power of compliance."

The effect of the Governor's veto of the extra appropriation was quite promptly illustrated. The very day afterward the secretary of the Board, Dr. Carroll, received a dispatch from Dr. Nichols, health officer at Plattsburg, stating that a case of smallpox had appeared there, and asking for sufficient vaccine virus for five hundred persons. Dr. Carroll was obliged to reply that the State Board of Health had no means to procure the virus, though he asked the New York City Board to answer the appeal. There was urgent need, he said, of an inspector at Plattsburg to examine the passengers of every train arriving from Canada, where smallpox is now prevalent; but under the present circumstances it would be impossible to provide one.

The State Board of Health has appointed Dr. Englehardt official chemist and analyst of beers and distilled liquors, and has issued a circular to all brewers and distillers in the State, accompanied with a copy of the bill, stating that the Legislature recently passed an act imposing upon the Board the duty of making, at least annually, an examination of samples of all such beverages made or offered for sale in every brewery or distillery in the State.

#### MEDICAL NOTES.

—The *Lancet*, while disclaiming any desire to deal in matters of general politics, hopes little for the interests of medical science from the change of administration in England. Looking back on the last five years, it says that it is only an act of justice to

record the fact that seldom, if ever, within an equal period has the medical profession received so many honors from the hands of a Prime Minister as Mr. Gladstone has distributed, and acknowledges that for this measure of favor medical men are directly indebted to the enlightened and generous appreciation of services and usefulness shown by the gifted statesman, who is now, it is to be feared, finally resigning the control of public affairs.

"If the Conservatives should hold office," says our contemporary, "we are bound to confess that — all party views and sympathies apart — it would be absurd to expect that medical men and their opinions will count for much. The healing art has little interest for the *aristocratic* party in politics. To be a 'doctor' is to be beneath regard, unworthy of honor; and to speak of the interests of health, except in a meaningless phrase, is to introduce a topic too vulgar for delicate ears. Medicine, whether as a science or as a profession, has little to hope from the party which never once in six years conferred an honor on any member of the medical body; and, though it talked much, did nothing — or, if possible, less than nothing — for the advancement of science and the encouragement of those whose lives are spent in a ceaseless struggle to reduce to practice the fruitless aphorism, *Sanitas sanitatum, omnia sanitas*."

—A wealthy Lothario, who was blessed with a beautiful wife, called on a physician of one of our summer watering-places, to consult him about a severe pain in his back.

"What have you done for it?"

"Applied a belladonna plaster," replied Cæsus.

"Well," said the doctor, "give up the belladonna and stick to the Donna Bella, and you will be cured."

—A discussion which has aroused considerable feeling of late in England has been in reference to the pauperization and consequent disfranchisement of men who accept the services of Poor Law medical officers. Much is to be (and has been) said on both sides. The extension of the household franchise has given the ballot to a large number of persons who are earning barely enough to keep soul and body together, and who, in case of sickness, must receive public relief or none at all. A short illness may then defeat the obvious intention of the parliamentary reformers in the case of numerous individuals. Moreover, a desire to preserve the elective franchise may deter sufferers from contagious diseases from reporting their condition. On the other hand, the overworked Poor Law medical men see a chance in the proposed disfranchisement to remedy an evil of great magnitude, namely, the application for public assistance of many of the wage-earning class who could afford, if so disposed, to pay for their medical aid. An act of Parliament is called for to define medical relief on a fair and equitable basis.

## Miscellany.

### A RATBITE OF THE PENIS.

DR. GEORGE H. FOX tells, in the *Journal of Cutaneous and Venereal Diseases*, of a case in which a gentleman engaged in mercantile business was bitten on the penis by a rat while occupying a primitive sort of a water-closet in the basement of his warehouse. On examining the patient shortly after the occurrence, the writer found on the left side of the sheath of the penis a loss of substance three-fourths of an inch in length, which had evidently been produced by incisor teeth or some sharp, cutting instrument. The wound, still bleeding, was cauterized with fused nitrate of silver, and the fears of the patient were gradually allayed. The wound healed quickly, leaving a superficial scar. In a note received a few weeks later, the patient remarked that, although a ratbite might not be dangerous, the inconvenience of its presence on such a portion of the body could not be overestimated.

There is a moral in this story. A week after the bite occurred the wound looked very much like an ordinary chaneroid. It is naively asked: "Now what would the reader say if a respectable married man were to come to him with an apparent chaneroid of the sheath of the penis and state that he had had no illicit intercourse, but had been bitten by a rat?"

A second lesson drawn is to the effect that the physician who disbelieves in the vicious nature of the water-closet in connection with venereal disease might, in an exceptional case, be unwarrantably incredulous.

We are moved to add still a third moral, to wit, that a suitably contrived trap is shown to be necessary in a water-closet to prevent these lower organisms from escaping from sewers and finding lodgment in the human body.

### AN ENORMOUS GALLSTONE.

At a recent meeting of the College of Physicians of Philadelphia, Dr. J. H. Musser presented for Dr. Livingstone, of Columbia, Pennsylvania, a stone which was removed at the autopsy of a female, aged sixty-six years, who died of colloid cancer of the omentum. The carcinoma was recognized during life, but the presence of the gall-stone was not suspected. In addition to the malignant disease of the omentum, secondary growths were seen in the bile-ducts. One nodule completely occluded the common duct. The gall-bladder was firmly contracted around the stone, and a small fistula at the fundus communicated with its cavity and that of the peritoneum. The stone weighs 391 grains (or 25.6 grms.), and is three and one-third inches (or 8.5 cm.) long. The largest circumference measures 7.9 cm. The small end measures 5 cm. in circumference; the large end, 7.4 cm.

It is elongated cylindrical in shape, tapered at each end. The end of the stone corresponding to the neck of the gall-bladder shows the greatest reduction in its circumference, as seen by the measurement, and

evidently extended into the cystic duct, as half an inch from the point it is slightly curved. In the middle of the stone an abrasion, so to speak (not due to handling), is seen, the size of a five-cent piece. It shows three or four laminae of the stone. Both ends of the stone are rough, the body quite smooth.

### INFLUENCE UPON OFFSPRING OF INTOXICATION AT THE TIME OF CONCEPTION.

In the *Journal de Médecine* (March, 1885), we notice an account of some observations by Dr. Leutz, of Tournai, on this subject. He speaks of the importance of distinguishing between a state of chronic alcoholism and accidental or temporary intoxication. Some authors, among them Demeaux, have maintained that intoxication of the parents at the time of conception was one of the chief causes of nervous affections among the newborn, and go even so far as to say that the intellect and the moral sense are also affected. Convulsions are very liable to carry off such children, or if they live, epilepsy, idiocy, or imbecility develops. If the children grow up they are stunted, dull, depraved.

Dr. Leutz does not agree with these views in their full extent. He has observed that among the working classes, owing to the custom at the marriage banquet, the husband is almost invariably more or less intoxicated on his wedding night, and that while in this condition the first child is begotten; whereas the other children are not conceived under similar circumstances. There is not, however, any observable difference between the physical or moral makeup of the firstborn and of the later children.

### CASES OF RAYNAUD'S DISEASE.

At a recent meeting of the Clinical Society of London (*Medical Times*, May 30, 1885), Dr. Colcott Fox exhibited two adults affected with this disorder, and read notes on the cases. A woman, aged forty-one, of extremely nervous temperament, dated the commencement of the disorder from ten years back, but though this was the period when her attention was attracted by her pain, it is probable that she suffered from slight attacks for some years previously. In the earlier stages all her fingers continually went "like white wax." This condition of recurrent local syncope gradually gave place to local asphyxia, and the feet became involved. The fingers gradually lapsed into a state of chronic asphyxia, which was intensified by frequent attacks of more severity, often leading to "blood-blisters and ulceration." The nutrition of the phalanges has suffered greatly, so that her hands are crippled, the fingers are fusiform in shape, livid, shiny, and withered, the nails variously distorted, and the end phalanges much atrophied and almost immovable. The nose and ears are affected to some extent on exposure. Cold and nerve shocks are ready exciting influences. The second case, that of a man, aged fifty-one, was of considerable interest from the fact that, like one of Raynaud's cases, he suffered from diabetes. His hands were not deformed, but he had suffered for several years from "dead fingers." He sought Dr. Fox's advice

for symmetrical gangrenous patches on the skin, which recurred, and later for an attack of asphyxia of one great toe and lower third of the inner side of the leg, and then it was found that he had been attacked in a similar manner, though more severely, in the other toe, and on another occasion blood-blisters had formed beneath the ends of his toes. Dr. Fox concluded his paper by giving a reference to some cases which have been recorded as scleroderma of the extremities. A woman with the latter disease was shown to illustrate the difference between it and Raynaud's symmetrical gangrene of the extremities.

In the discussion which ensued, Dr. Barlow reminded the Society of three cases which he had brought before it in a previous session. From subsequent observation of these cases he had been led to some conclusions with respect to treatment, and especially by means of the continuous current. In one case, that of a man aged forty-two, in whom repeated attacks of the disease had caused almost complete inability to walk, he had employed the continuous current with very satisfactory results, a gradual improvement in the circulation having taken place during the eight months during which the treatment was applied, and remaining permanent after its discontinuance. He had found that the most satisfactory method of using it had been by the application of both poles of the battery to the affected part and by painting the surface with one of them. In two other cases he had employed the constant current by means of baths during the attacks of extreme pain, and had succeeded in cutting short the seizure at once. He had used nitrite of amyl, on the strength of Raynaud's opinion that the disease was due to spasmodic contraction of vessels, and, although the general physiological effects had been produced, there had been no relief afforded. He should recommend the use of the constant current persevered with for several weeks, and followed by frequent shampooing. He believed that its action was simply that of a local stimulus.

#### PERIODICAL CHANGE OF COLOR OF THE HAIR.

This phenomenon, already the subject of editorial comment in this Journal, has again been observed, and a case is reported in the *Lancet*. A young girl, aged thirteen, of an idiotic type, was admitted into the asylum at Hamburg, April 1, 1880, and died there in 1882. At the age of three she began to be affected with spontaneous movements like St. Vitus's dance, chiefly confined to the head and upper limbs. Between five and six she had become a well-marked epileptic. At four she was able to run around a table; but her powers of progression steadily diminished and the lower limbs passed into a condition of chronic stiffness. When in the asylum she had fits about every eight to fourteen days; besides, she experienced alternations of agitation and calmness, each of about a week's duration. During agitation the turgescence and redness of the face were most pronounced, the pulse full, skin warm, and actively transpiring, at the same time the mental condition being one of extreme obsti-

nacy. It was often remarked that the hair underwent decided changes of color; sometimes it was blonde and at others red, whilst the depth of these colors also varied. The alterations in color occurred in the brief space of two or three days; the first appearance of change was observed at the free ends of the hairs; the same tint of hair persisted for seven or eight days. Each of these periods of change coincided with a phase of agitation or sedateness. During the excitement the hair always had a red color, whilst during the phases of stupidity the blonde tint prevailed. The case appeared to be one of genuine pathological change. The paler hairs differed from the darker ones only in the presence of more numerous air-spaces. The structure of brain and spinal cord was much altered.

### Correspondence.

#### REDUCTION OF CONGENITAL DISLOCATION OF THE HIP.

Boston, June 26, 1885.

Mr. Editor, — Allow me to call your attention to one point in the editorial on congenital dislocation of the hip in the issue of June 11th. I refer to the sentence in which you speak of the reduction of the dislocation, "which has remained reduced ever since." This remark may possibly lead to some misapprehension of the facts of the case. It may be inferred that after the reduction had once been effected the bones were retained in their place. In truth the heads of the femurs were reduced many times, or in other words they were placed in their normal position by manipulation and extension every day at my morning visit. The daily displacements continued through the month of January, 1883, and until "about the middle of February, when it was found that the tendency to slip upward was greatly diminished, and that days elapsed without this occurrence taking place." It was at the period here referred to that the process termed in my paper the stage of excavation was put in force. This state of things continued, the dislocations (for now that the sockets had partially formed the displacements were true dislocations) taking place less and less frequently until the twenty-eighth day of March, 1883, since which date the bones have remained in position. Very respectfully yours,

BUCKMINSTER BROWN.

[Possibly the sentence in the editorial referred to by Dr. Brown may be calculated to mislead the reader, but such an interpretation as suggested in the above communication was not intended. — Ed.]

#### IMPRISONMENT OF MEMBERS OF THE MASSACHUSETTS MEDICAL SOCIETY.

Nahant, June 28, 1885.

Mr. Editor, — Being the member of the Committee of Arrangements for the late meeting of the Massachusetts Medical Society who is responsible for the "Imprisonment of members of the Society," kindly allow me to grant the information asked for, with it seems to me rather scant courtesy, by your correspondent of last week.

It is the long-established custom for the Fellows of the Society to walk in procession, in order of their seniority, from the hall where the annual meeting is held to the dining-hall. For the last two years, since the Society has met in the Institute of Technology, gentlemen coming after twelve o'clock in large numbers have crowded together in the lower hall, making it difficult to keep the procession in its proper order, on

account of the obstruction to its passage, and on account also of many Fellows joining the procession at a point far ahead of that to which their membership in the Society entitles them. It was for this reason simply that, at a few minutes before one o'clock, gentlemen were asked to leave the hall clear for the procession by retiring to the rear of the rope. The two large rooms used by the Treasurer and for the exhibit were left open; and as soon as the procession was formed, Fellows were at liberty to join it in their proper place. It hardly seemed to me the hardship that your correspondent considers it, and if he will remember that a committee is bound to consider the convenience of the majority, I think his opinion as to the magnitude of the affront may be modified.

The members of the Committee of Arrangements give very considerable time to making such arrangements as seem in their judgment wisest. The position is not one of great honor, and is certainly one of no

emoluments. As I am personally responsible for the particular arrangement your correspondent complains of, let me state that any "affront to the Fellows of the Society" was certainly unpremeditated; and the action was taken simply for the purpose of preserving the order of the procession, which it is impossible otherwise properly to maintain.

Please allow me also to correct certain errors in my communication of last week. The paragraph: "We are obliged to give a guarantee for a number of plates, not less than fifty in number, of those who are to be fed," should read: "We are obliged to give a guarantee for a number of plates not less than fifty in number than those who are to be fed." Secondly, I was not the chairman of the Committee of Arrangements, who is the Anniversary Chairman, and did not sign myself as such, but as

H. C. HAVEN,

Member of Committee of Arrangements.

# REPORTED MORTALITY FOR THE WEEK ENDING JUNE 20, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Lung Diseases.	Diarrheal Diseases.	Diphtheria and Croup.	Scarlet Fever.
New York . . . . .	1,340,114	662	286	22.95	12.30	7.15	6.65	1.95
Philadelphia . . . . .	927,905	411	176	18.00	11.76	6.96	3.60	3.36
Brooklyn . . . . .	644,526	318	170	32.00	8.00	16.32	4.48	3.84
Chicago . . . . .	632,100	205	95	25.97	7.35	10.29	5.88	5.88
Boston . . . . .	423,800	186	72	17.82	16.74	7.02	3.78	2.16
Baltimore . . . . .	408,520	141	68	26.94	7.22	21.27	—	1.42
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	127	62	23.70	9.48	15.01	—	1.58
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	104,310	136	74	28.12	9.88	22.20	.74	2.22
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	32	9	3.13	25.04	—	—	—
New Haven . . . . .	62,882	18	5	5.55	16.66	—	—	—
Nashville . . . . .	54,400	28	11	21.42	14.28	17.85	3.57	—
Charleston . . . . .	52,286	36	19	15.02	16.68	2.78	—	—
Lowell . . . . .	71,447	38	14	17.04	15.78	—	2.63	7.89
Worcester . . . . .	69,442	23	9	8.70	12.05	—	—	—
Fall River . . . . .	62,674	16	8	6.25	6.25	—	—	—
Cambridge . . . . .	60,995	23	5	8.70	21.75	—	—	—
Lawrence . . . . .	45,516	19	—	10.52	—	—	—	—
Lynn . . . . .	44,895	14	2	—	14.28	—	—	—
Springfield . . . . .	38,090	14	4	14.28	14.28	—	14.28	—
Somerville . . . . .	31,350	8	1	—	25.00	—	—	—
Holyoke . . . . .	30,515	13	4	9.09	—	7.69	—	—
New Bedford . . . . .	30,144	9	4	7.69	—	—	—	—
Salem . . . . .	29,503	6	4	22.22	11.11	11.11	11.11	—
Chelsea . . . . .	24,347	9	3	16.66	16.66	—	—	16.66
Taunton . . . . .	22,683	5	0	—	20.00	—	—	—
Gloucester . . . . .	21,400	5	4	—	—	—	—	—
Haverhill . . . . .	20,905	5	0	—	20.00	—	—	—
Newton . . . . .	19,421	5	0	—	20.00	—	—	—
Brookton . . . . .	18,323	2	0	—	—	—	—	—
Malden . . . . .	15,273	5	0	20.00	—	20.00	—	—
Newburyport . . . . .	13,947	6	2	—	—	—	—	—
Waltham . . . . .	13,568	5	1	—	20.00	—	—	—
Fitchburg . . . . .	13,433	0	0	—	—	—	—	—
Northampton . . . . .	13,165	3	3	—	33.33	—	—	—
—Massachusetts towns . . . . .	—	49	9	12.21	20.40	2.04	8.16	2.04

Deaths reported 2,584: under five years of age 1,124; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 541, consumption 365, lung diseases 226, diarrheal diseases 250, diphtheria and croup 102, scarlet fever 59, measles 45, typhoid fever 31, malarial fevers 29, cerebro-spinal meningitis 17, whooping-cough 15, erysipelas 15, puerperal fever three. From measles, New York 20, Brooklyn nine, Philadelphia five, Chicago, New Orleans, and District of Columbia two each, Boston, New Haven, Lowell, Cambridge, and Lawrence one each. From typhoid fever, Philadelphia and Chicago eight each, Brooklyn and Boston three each, New York and Charleston two each, Baltimore, New Orleans, Providence, Lowell, and Lawrence one each. From malarial fevers, New York 11, Brooklyn five, Baltimore

four, Boston and New Orleans three each, Philadelphia, District of Columbia, Charleston, and Lowell one each. From cerebro-spinal meningitis, Chicago five, New York three, Worcester two, Boston, Baltimore, New Orleans, District of Columbia, Lowell, Cambridge, and Newton one each. From whooping-cough, New York and Brooklyn four each, Philadelphia and New Orleans two each, Chicago, Boston, and Fall River one each.

Cases reported in Boston: measles 41, scarlet fever 27, diphtheria 20, and typhoid fever seven.

In 114 cities and towns of Massachusetts, with an estimated population of 1,335,000 (estimated population of the State 1,335,000), the total death-rate for the week was 00.00, against 00.00 and 15.43 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending June 6th the death-rate was 20.5. Deaths reported 3,497: infants under one year of age 825; acute diseases of the respiratory organs (London) 290, measles 224, whooping-cough 130, scarlet fever 31, diarrheal diseases 32, fever 44, diphtheria 23, smallpox (London 34, Manchester 70, Hull one) 37. The death-rates ranged from 16.0 in Brighton to 33.6 in Manchester; Birmingham 23.3; Bradford 19.7; Hull 17.6; Leeds 19.4; Leicester 16.5; Liverpool 21.0; London 19.4; Manchester 33.6; Nottingham 23.4; Sheffield 24.6. In Edinburgh 20.6; Glasgow 25.2; Dublin 23.1.

For the week ending June 6th in the Swiss towns there were 30 deaths from consumption, lung diseases 29, diarrheal diseases 11, smallpox, diphtheria and croup each four, erysipelas and puerperal fever three each, measles, whooping-cough, and typhoid fever each one. The death-rates were: at Geneva 10.1; Zurich 13.6; Basle 18.3; Berne 24.0.

The meteorological record for the week ending June 20th, by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, June 20, 1885.	Barom- eter.	Thermometer.			Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Sunday, 14	29.817	75.1	85.6	63.6	77	49	57	61.0	S	S	W	22	18	16	C	F	C	—	—
Monday, 15	30.002	72.7	83.6	64.0	52	36	59	49.0	N	W	S	11	16	12	C	F	C	—	—
Tuesday, 16	29.828	79.1	91.9	63.9	51	47	69	55.7	W	S	W	10	12	9	C	F	C	—	—
Wednesday, 17	29.910	68.7	77.7	55.9	53	40	57	50.0	N	W	W	9	9	10	C	O	C	—	—
Thursday, 18	30.165	68.6	77.6	57.2	57	30	43	50.0	N	W	W	7	12	8	C	C	C	—	—
Friday, 19	30.161	68.5	83.8	58.7	65	50	72	62.3	W	S	E	10	7	12	C	C	C	—	—
Saturday, 20	30.109	73.7	87.7	61.1	68	31	70	55.3	W	W	S	13	12	16	C	C	C	—	—
Mean, the Week.	—	—	84.0	59.2	—	—	—	—	—	—	—	—	—	—	—	—	—	1.30	2

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening. <sup>2</sup> Inappreciable.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 20, 1885, TO JUNE 26, 1885.

HARTSUFF, ALBERT, major and surgeon. Assigned to duty at Fort Hamilton, New York Harbor. S. O. 133, Department of the East, June 24, 1885.

MIDDLETON, J. V. D., major and assistant surgeon. Granted one month's leave of absence, with permission to apply for fifteen days' extension, to take effect about fifteenth proximo. S. O. 88, Department of the Missouri, June 19, 1885.

TAYLOR, BLAIR D., captain and assistant surgeon. Ordered from Department of Texas to Department of the East.

CARTER, WILLIAM F., captain and assistant surgeon. Ordered from Department of the East to Department of Texas. S. O. 141, A. G. O., June 20, 1885.

DAVIS, WILLIAM B., captain and assistant surgeon. Leave of absence extended three months. S. O. 142, A. G. O., June 23, 1885.

ELIOT, R. G., first lieutenant and assistant surgeon. Granted leave of absence for one month, to take effect about July 5th. S. O. 97, Department of Colorado, June 17, 1885.

ROBERTSON, R. L., first lieutenant and assistant surgeon. Now on leave of absence, directed to report in person, by July 7, 1885, to commanding officer, Columbus Barracks, Ohio, to accompany detachment of recruits to Department of Texas. On completion of duty to rejoin his proper station. S. O. 143, A. G. O., June 24, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING JUNE 27, 1885.

BRANSFORD, JOHN F., commissioned as surgeon, on active list, June 16, 1885.

ROSS, J. W., surgeon. Detached from Naval Laboratory, June 30, 1885, and waiting orders.

#### BOOKS AND PAMPHLETS RECEIVED.

"The Technology of Bacteria Investigation. Explicit Directions for the Study of Bacteria, their Culture, Staining, Mounting, etc." By Charles S. Doley, M.D. Boston: S. E. Cassino & Co. 1885.

"A Textbook of Medical Physics for the use of Students and Practitioners of Medicine." By John C. Draper, M.D., LL.D., Professor of Chemistry and Physics in the Medical Department of the University of New York, etc. With 377 illustrations. Philadelphia: Lea Brothers & Co. 1885.

"Manual of the Antiseptic Treatment of Wounds for Students and Practitioners." By W. Watson Chymer, M.B., F.R.C.S. With illustrations. New York: J. H. Vail & Co. 1885.

"Message of His Excellency Moody Currier, Governor of New Hampshire, to the two Branches of the Legislature, June Session, 1885.

"Electricity as a Remedial Agent." By George C. Pitzer, M.D. St. Louis, Mo. 1885.

"Thirtieth Annual Announcement of the American Medical College of St. Louis for 1885-86.

"Third Annual Announcement of the Northwestern Ohio Medical College. Toledo, Ohio. Session of 1885-86.

"Minutes of the Thirty-second Annual Session of the Medical Society of North Carolina, May 19, 1885.

"The Influence of Sex-voyaging upon the Genito-urinary Functions." By J. A. Irwin, M.A., Cambridge, Eng., M.A., M.D., Dublin University. Read before the New York County Medical Society, April 27, 1885.

"Notes from the Physiological Laboratory of the University of Pennsylvania." Edited by N. A. Randolph, M.D., and Samuel G. Dixon. Philadelphia: J. B. Lippincott Co. 1885.

"A Lecture on Sterility." By William H. Wathen, M.D., Professor of Obstetrics and Diseases of Women and Children, Kentucky School of Medicine.

"Urinary and Renal Derangements and Calculous Disorders. Hints on Diagnosis and Treatment." By Lionel S. Beale, M.D. Philadelphia: P. Blakiston, Son & Co. 1885.

"Berlin as a Medical Centre. A Guide for American Practitioners and Students." By Horatio R. Bigelow, M.D., Washington, D. C. (Reprinted from the New England Medical Monthly.) Sandy Hook, Conn.: New England Publishing Co. 1885.

"Sanitary Suggestions on How to Disinfect our Homes. Prepared for popular perusal by B. W. Palmer, A.M., M.D. Detroit, Mich.: George S. Davis.

"Specimen copy of Wilson's Clinical Charts, put up in blocks of fifty Clinical Charts." By James C. Wilson, M.D. Philadelphia: J. B. Lippincott & Co.

"The Annual Report of the Seashore Home for the Summer of 1884. Boston. 1885.

"The Overcrowding of the Profession. Extracts from an Address delivered March 23, 1885, before the Annual Association of the Chicago Medical College." By the President, Dr. E. J. Biering. Chicago, 1885.

"Report on Practical Medicine." By Ira E. Outman, M.D., California.

"Notes of a case of Infectious, so-called, Ulcerative Endocarditis, and of a case of Acute Pericarditis." By John H. Musser, M.D., and George A. Piersol, M.D. (Extracted from Transactions of College of Physicians of Philadelphia, March 4, 1885.) With accompanying photographs.

## Original Articles.

CLINICAL NOTES ON OSTEOTOMY, WITH REPORT OF CASES.<sup>1</sup>

BY N. P. DANDRIDGE, M.D., OF CINCINNATI, OHIO.

OSTEOTOMY as now performed is an operation of recent growth, and it is only within the last few years that it has been very generally adopted. Practised as it is for the correction of deformities which, while they impair the usefulness of a limb, and more or less completely disable the individual affected, are in themselves rarely if ever the source of danger to life, the results of the operation and the dangers which attend it should be most carefully considered. We are already in possession of many accumulated facts bearing on these points, and extensive series of cases have been published by various operators with the object of showing the safety of the procedure and the eminently satisfactory results which have been obtained, extreme deformities being corrected and the disabilities depending upon them entirely removed.

Reeves, in his book on "Practical Orthopedics," gives a table of 493 osteotomies, and in commenting on it says: "I must mention that there have been no deaths, no joint suppuration, nor ankylosis. All the cases have made good recoveries with good position and motion. In many instances an addition of one, two, or more inches was added, either on one side or both, as circumstances dictated, . . . and when I add that suppuration only occurred in six cases, and that in four of them the traumatic form of measles or scarlatina supervened, I need say no more to prove the perfect safety of the operation in experienced hands."

Willett, in the last volume of St. Bartholomew's Hospital Reports, publishes "The results in a hundred cases of osteotomy," with only one death, one case marked "not improved," and two, "relapsed."

Poor, in his excellent work on "Osteotomy and Osteoclasis," gives his results in seventy-four linear and seventeen cuneiform osteotomies: "All the patients on whom these operations were performed recovered with the deformity corrected, except two cases of *genu valgum*, on which a Reeves's operation was done and in which the condyle could not be detached on account of the relaxed condition of the external lateral ligaments."

Of the seventy-four linear osteotomies there were eight cases in which more or less suppuration occurred, and the same condition followed in seven of the seventeen cuneiform osteotomies. Of the general results which have been obtained, he states that in 1,510 osteotomies performed for "the correction of deformities at the hip-joint, for *genu valgum* and tibial curvature," 1,148 were linear osteotomies, with 15 deaths, 92 cases of suppuration, and 17 cases of necrosis, a mortality of one per cent. (and not, as he states it, 10 per cent.); and 62 were cuneiform osteotomies, with 17 cases of suppuration and five deaths, a mortality of about 8 per cent. The combined mortality is 32, or a trifle more than two per cent. The above citations are quite suffi-

cient to show that the operation, in the hands of experienced men, has given most satisfactory results in relieving many hitherto irremediable deformities, and that the accidents which have followed are very few in number and the mortality slight.

Admitting, as I do, these facts most fully, the perusal of such long lists of successful cases must, I feel, give rise to a false sense of security in the performance of osteotomy which will surely lead to unfortunate results in the hands of those who have less experience, and the history of the following cases is given for the purpose not only of illustrating the advantage of the procedure, but of presenting at the same time the dangers which are run and of emphasizing especially the necessity for minute attention to detail in operating, by which alone these can be avoided.

Osteotomy is divided by Poor into linear and cuneiform. The former is a simple section made either with a chisel (osteotome) or saw, while the latter removes a wedge-shaped piece of bone. Cuneiform osteotomy undoubtedly possesses advantages in certain cases, but as my own experience is confined entirely to the former method, it is to this alone that my remarks will refer. My cases are given briefly in outline for the simple purpose of illustrating the treatment adopted, and without the intention of presenting any of the questions concerning the etiology of the affections described.

C. S., aged twenty-four; German; silver engraver by trade; presented himself at the Dispensary clinic of the Miami Medical College. His manner of walking was most ungainly and painful to see. The right femur was flexed at a right angle with the pelvis, with some adduction and was firmly ankylosed. By extreme curvature of the lumbar spine and throwing the body forward he was able to bring the toes of his foot strongly extended to the ground, and was then able to hobble about. When lying on his back on a table the spines of the lumbar vertebrae could only be made to touch its surface by bringing the thigh to a right angle with the body. There was absolutely no motion at the hip-joint, and the head of the femur, or rather what was left of it, for head and neck seemed to have disappeared, was dislocated upon the dorsum of the ilium. The circumference of the two legs was about the same, but the right thigh was considerably smaller than the left. He was induced to go to the Cincinnati Hospital, for the purpose of an operation to relieve his deformity. He entered the hospital April 1st, and gave the following history: At the age of two years he fell downstairs, and as a result of this accident was confined to bed for a long time with some trouble about his hip, for which he wore some kind of mechanical appliance. After leaving his bed he first went about on crutches, and used them until the age of seven, when he dispensed with them, and has since been able to go about in the manner above described. On the outer aspect of the thigh there is an old cicatrix which probably resulted from an abscess, though he cannot give any account of it. From this history it is probable that the deformity was due to an old disease of the hip-joint, which had resulted in destruction of the head and neck of the femur, with dislocation and subsequent complete bony ankylosis. No fresh trouble has

<sup>1</sup> Read before the Ohio State Medical Society.

been lighted up since childhood. The drawings, for which I am indebted to Mr. Holmes, one of the *internes* of the Cincinnati Hospital, give a very correct idea of the man's condition, and the improvement which followed the operation. April 7th the



femur was divided below the trochanters, the leg brought down parallel with the left, and a plaster bandage applied from the toes and carried up around the body so as to fix firmly the seat of fracture. The operation was performed by making an incision parallel to the long axis of the femur just large enough to admit the osteotome, which was then turned, and the transverse section of the bone made. The bone was very hard, and before it was cut through the instrument broke, leaving a piece wedged fast in the femur. To remove this the incision in the soft parts was enlarged and the broken portion chiseled out. The section was then continued, and when nearly through the bone was broken, by the exercise of some force. As the limb was brought down to the table it was found that a sharp edge of bone attached to the upper fragment projected just beneath the skin in very uncomfortable proximity to the femoral vessels.

To avoid perforation of the skin, which seemed inevitable, an incision was made over the most prominent part, and about an inch of the projecting bone cut off, and the wound at once closed with catgut. The original wound was partly closed, a drainage-tube being left in place, and both were then covered with cotton soaked in a bichloride solution. The plaster was so applied that the site of the first incision was left exposed, and for some hours there was a considerable discharge of bloody serum. The temperature only once reached 100.1°, and the pain complained of was never great. On May 9th the dressing was removed, both wounds were completely healed, and the union of the bone seemed firm, but as some pain was felt in both hip and knee

a fresh plaster dressing was applied again, and allowed to remain until the 19th. The boy is now able to move about on crutches, but as yet cannot bear his weight on the straightened limb, which is only an inch and a half shorter than the left.

In this case two mishaps occurred at the time of the operation, neither of which gave rise to any further trouble. The osteotome broke and the piece firmly wedged in the femur and broken off even with its surface had to be removed by enlarging the wound in the soft parts and cutting out a section of bone. This latter, however, was quite superficial, so the operation did not lose its character of a linear osteotomy. There was, however, more serious disturbance than would otherwise have been necessary. Willett speaks of this accident as frequently occurring, and says that the fragments of steel left in the bone give rise to no sort of trouble. The second mishap, the oblique fracture of the bone, leaving a sharp, projecting edge which threatened to perforate the skin, suggests the possibility of a like accident resulting in laceration of the femoral vessels as the limb is being straightened, especially in a case where there is great adduction present. The treatment adopted is, I think, the right one, namely, to cut down at once and remove the projecting edge. In a similar case which happened to Willett this was not done, and some months afterward there was considerable pain over the prominence left.

A further cause of trouble might arise from pressure on the femoral vein, and although no such case has been reported, the possibility of its occurrence must, I think, be admitted, and suggest the propriety of making the section as high up as possible, to thus diminish this danger by diminishing the resulting prominence of the lower end of the upper portion of bone.

I have had occasion in another case to make a section of the femur below the trochanters, in a girl aged thirteen, who, while bedridden from a necrosis of the left tibia, suffered a spontaneous dorsal dislocation of the right femur. The thigh was flexed at a right angle and was strongly adducted. Extreme lateral curvature had followed, and as the left knee was flexed at a right angle she lay in bed in a most distorted and pitiable condition, emaciated to the last degree from pain and from the constant discharge from the necrosed bone.

The femur was first straightened by section below the trochanters. This was found necessary, as section of the adductor tendons failed and manipulation for reduction of the dislocation was found entirely unavailing. The tibia was then at once operated on, and the necrosed bone removed, but as the disease extended so near the knee-joint and the shell of bone left was so slight, no attempt to straighten the limb was made for fear of fracture. Remarkable improvement in the general condition at once ensued, the femur quickly and firmly united, and after union there was limited motion at the position in which the head of the bone was lodged. At the end of eight months the child was well enough to travel to New York; at this time, however, repairs had not advanced sufficiently to enable her to stand on it, so the final result was not seen. I venture to predict from the result in this case that in

old cases of dislocation of the femur, where the malposition renders the limb useless and where reduction is found impossible, that an osteotomy below the trochanter will offer a better chance for a useful leg than any of the operations which have been proposed, especially in the young, where you may expect a more or less complete joint will be formed for the head of the femur in its new position, and if good union is procured at the point of section a more serviceable limb will be obtained than is probable after an excision of the head.

Mr. Adams has recently reported a case of excision of the head of the femur in a boy aged eleven, who suffered from an unreduced dislocation on the dorsum which had occurred spontaneously during the course of an attack of fever. The result was very satisfactory. In my case the condition of the child was such that repairs would have been hardly possible after such an operation.

A number of different operations have been performed for the correction of deformity at the hip-joint. I need only mention section of the neck by means of a narrow saw and the same operation with the chisel by Golding Bird. The infra-trochanteric section of Gaut, in which the object is to cut the femur below the insertion of the *psaos magnus*, and the partial section and fracture suggested by Reeves below the trochanter major. Adams's operation is not applicable where the head and neck have disappeared as the result of disease, or "where there is an exuberant deposit of new bone forming hard nodules or spiculae around the femoral neck, itself entire."

Poor has analyzed the results which have been obtained. Sixty-eight sections through the neck gave six deaths and six failures, and sixty-four linear osteotomies below the trochanters six deaths and four failures; while thirty-three cuneiform osteotomies at the same position were followed by five deaths and two failures. He remarks, however, that these results exaggerate the danger, as twelve out of the seventeen fatal cases occurred prior to 1877, when experience in the operation was quite limited. After the section the limb should be placed in a position of slight adduction if shortening is present, for the obliquity of the pelvis will afford some compensation by producing an apparent lengthening of the limb. The operation should not be performed until all inflammatory action is over, as in some cases a rekindling of the old trouble has led to a fatal result, and the possibility of this has been urged as an extra advantage for the line of section proposed by Gaut, as being further removed from the seat of disease.

The two following cases present examples of great deformity from bowleg occurring in two sisters, the trouble in both commencing after scarlet fever. The father and mother and six brothers and sisters are free from all deformity. These girls entered the hospital on the same day as the man whose history has just been given, and the oldest was operated on at the same date, and the youngest a week later.

E. W., age sixteen; American; well developed and muscular. Both legs markedly bowed; when standing erect the inner condyles are separated six inches. The legs are short in proportion to the thighs, and measure only twelve inches from the

sole of the foot to the lower edge of the patella. The deformity began at the age of seven, after an attack of scarlet fever. She has been subject to fits. There is, she says, no spasm, but that she faints and then lies perfectly quiet. These attacks must, I think, be hysterical, as she is morose and very sensitive about her condition. The deformity seems due entirely to curvature of the tibiae. At the upper epiphysial line the curve is so abrupt that it is almost angular. In the lower third there is also a decided incurving of both legs. The deformity is greatest in the left leg, and this is most marked in the upper portion. The toes point somewhat inward when the feet are held apart in standing.

Linear osteotomy was performed on both legs April 7th. The point selected for the section was at the most prominent part of the upper curve, and on the right was three inches below the lower edge of the patella, and on the left two inches. In each leg the fibula was cut first. The bones were very hard. The legs were at once completely straightened and put up in plaster of Paris. The course of the case was uneventful, and practically without fever. The bandage was removed May 9th, and the wounds found healed. Side splints were applied for a few days, and the girl was allowed to get up on crutches. The knees are now separated one and five-eighths inches. This is due largely to the curvature in the lower third. The girl is now on crutches, has lost her moroseness, and is highly gratified at her improved condition and appearance.

The following case, sister of the one just reported, illustrates the possible disastrous consequences of the operation:—

E. W., age fifteen, presented exactly the counterpart of her sister's condition, except that the degree of deformity was less, the condyles being separated five inches, and she was more active and less awkward. The deformity began at five years of age, after scarlet fever, from which she was confined to bed for a long time. The operation was made April 14th, the left leg first attacked, and the fibula readily cut through. The section of the tibia was then commenced upon its anterior surface, about an inch below the tubercle, and after the bone had been partly cut through an attempt was made at fracture. This was unsuccessful, and the chisel was again resumed. Several times attempts were made to break the bone, as the section seemed far enough advanced to permit of fracture. The bone was very hard, and considerable force was required to drive the chisel. Suddenly free arterial hemorrhage occurred, and, as this continued, the external wound was enlarged, and search made for the bleeding vessel. The hemorrhage came from the outer side of the tibia, and was temporarily controlled by a sponge on a pair of forceps passed deeply into the wound, and further pressure made by a bandage around the limb. The section of the bones of the right leg was now made, and the limb readily straightened, and at once put up in plaster. The bleeding by this time had come through the bandage on the left leg. The bandage and sponge were therefore removed, and at once blood welled up freely. The wound was enlarged, and an extensive and deep dissection made in the muscles on the outer side of the tibia, but still the bleeding point could

not be found, blood all the time coming up from the bottom of the wound. After persevering search a pair of hæmostatic forceps was passed deeply by the side of the bone, and the tissues grasped at a point from which the most profuse bleeding came, and partly arrested it. The complete arrest was only effected after a second and third pair of forceps had been employed at points slightly separated. Further section of the bone was given up, and the wound dressed, with the forceps still in place, after having been thoroughly washed with a bichloride solution. It was hoped that the bone might be broken after some days, or, if that was not possible, the section could be resumed when the danger of hæmorrhage was over.

The child passed a restless night, more, however, from pain caused by the plaster bandage on the right; this was relieved by loosening it over the foot and ankle.

In the morning her temperature was  $102^{\circ}$ , and it was necessary to draw her urine. The fever increased, and the following day the dressing was removed from the wound in the left leg and some badly smelling pus escaped. The forceps were left in place until the 17th, and when removed slight bleeding occurred, and in the bite of one of them a mass of tissue resembling a short section of a vessel was found. There was now considerable suppuration. During the next few days some improvement occurred, and the patient took nourishment, which she had at first refused. On the 20th, some hæmorrhage came on, but was controlled by pressure. The alarming symptoms, however, increased in severity, the temperature reached  $104^{\circ}$ , and a pocket of pus, which had formed on the outer side of the leg, was opened under ether in order to secure free drainage. This, however, did not avail, and the septic symptoms continued, and she died April 23d, nine days after the operation. The autopsy was made by Dr. Eichberg. Some patches of bronchopneumonia were found. The right leg at the seat of fracture was free from inflammatory action. The left leg contained an incision four inches long, at the bottom of which was a pus cavity, large enough to hold a walnut filled with clotted blood. The tissues about were infiltrated with clotted blood and were broken down. Posteriorly extensive hæmorrhagic infiltration had occurred and some œdema.

The posterior tibial artery was found lying directly on the surface of the tibia, and was partly cut through. The vein was completely severed; this was probably due to the forceps, and the tissue spoken of above was a section of this vessel. The tibia itself was thickened transversely, which accounts for the manner in which it resisted the several attempts made to fracture it when the division had reached a point at which the bone of the opposite leg readily yielded. The hæmorrhage which occurred at the time of the operation was due to a wound in the posterior tibial artery made by the osteotome, which had passed entirely through the bone. The artery at the level of the section is normally separated from the tibia only by a thin layer of muscle, and in this case the extreme hardness of the bone made it impossible to judge where the vessel had cut its way completely through the bone. Poor mentions a case in which he cut the anterior

tibial artery, but gives no details showing how the hæmorrhage was controlled. I have not been able to find mention of the occurrence of the accident I have reported.

In this connection the directions given by Poor I regard as of great importance. "It is," he says, "best to begin to divide from the crest inward," and "care should be taken that the osteotome does not extend beyond the outer border of the crest, as the anterior tibial artery may be nearer to the bone than normal, and is liable to be divided. I had this accident happen in my first case. After the bone has been divided through two thirds of its thickness the section can be completed by fracture." By following this advice the osteotome will be constantly directed away from the vessels, and it will be well to try and avoid cutting through the outermost layer of bone and make the section more complete on the inner side. Great care should be exercised to avoid complete perforation of the posterior shell at any point, and for this object the chisel should be as thin as consistent with strength, for the more wedge-shaped the cutting-instrument is the greater will be the resistance, and the harder it will be to appreciate when the section is complete and the chisel edge has passed entirely through the bone.

Time prevents me from presenting the question of osteotomy in correcting the deformity due to knock-knee. I have had but a single case, the ultimate result of which was entirely satisfactory. In this case the elongated inner condyle was cut through by a saw, as proposed by Ogston. In another case recently operated on by Dr. Comer, section of the femur was made above the condyles. The child is now running about. Professional opinion seems to have settled upon this last operation as the one best suited to the majority of these cases, and it is the one I should myself prefer.

My purpose in presenting the histories just recited has been to bring the subject of osteotomy before the Society in the hope of eliciting a free expression of opinion on the many important and interesting questions connected with this subject, which time has prevented me from even attending to; and in conclusion I will only add that, while advocating most strongly the operation in appropriate cases, I deprecate emphatically the idea that it is entirely unattended with danger, and, on the contrary, would emphasize the fact that, without extreme care and the skill which experience alone gives, it is liable to be followed by most disastrous results. Not only does the section of bone demand the utmost care, but the whole operation should be so performed as to protect the patient from the danger of suppuration and septicæmia, if accidents such as I have recorded should supervene. I will venture to assert that there are few operations in surgery in which success depends so much upon personal experience as will be found to be the case in the procedure under discussion.

—The Massachusetts Board of Health, Lunacy, and Charity has issued a circular in regard to cholera for the guidance of local towns and of individuals in case of an invasion of this disease. They request that, in the event of any attack of cholera, the fact be reported to them without delay.

TEMPERATURE OF THE INSANE, ESPECIALLY IN ACUTE MANIA AND MELANCHOLIA.<sup>1</sup>

BY WALTER CHANNING, M.D.

## SCBACUTE MELANCHOLIA.

CASE III. Miss C., thirty-eight years old. No heredity. Second attack. For many years has been the subject of nervous prostration. Has always had severe headaches, at present of a neuralgic type. Has now hallucinations of hearing, with loss of memory and mental confusion. Is anæmic, reduced in flesh, and is generally in poor physical condition.

Immediately after admission this patient's temperature was 99.2°, pulse 90. For a few days the evening temperature was higher than the morning by half a degree. After this time the morning temperature was the higher and this continued with hardly an exception for twenty-one weeks. The average difference between morning and night has been about a degree. Pulse ranged from 80 to 90 in this case. After the first six weeks the hallucinations disappeared and the patient has since been suffering from headache and nervous prostration.

## ACUTE MELANCHOLIA.

CASE IV. Mrs. D., sixty-eight years of age. Four children. No heredity. Attack followed domestic affliction. Has various delusions in regard to her poverty and her own wickedness. Considerably excited on admission. In good physical condition. The temperature in this case began at 99.2°, pulse 118. For six weeks it ranged between 97.1° and 100°, touching either extreme only once, and maintaining a mean of about 98.3°. The pulse averaged 90. The difference between morning and night averaged about one degree. During the first three weeks the temperature was always higher at night than in the morning. Every day the variation was quite uniform. Moderate excitement continued during this time and increased, but the patient was able to get out of doors quite often, and though always distressed about her sins, could eat, sleep fairly well at night on a small amount of medicine, and read the daily paper.

On the twenty-fourth day a new set of delusions of a painful character developed themselves concerning her immediate surroundings. The excitement became intensified, and especially showed itself in her excited movements. The effect on the temperature was very marked, destroying its hitherto regular remissions and exacerbations, also the regular daily rise from morning to night. This type continued now only about three quarters of the time.

On the forty-fifth and forty-sixth days the excitement had further increased and the patient was rather noisy and violent. The temperature made a jump from 98° on the morning of the forty-fifth day to 102.3° on the evening of the forty-sixth. The pulse rose from 96 to 141. On the morning of the next day the temperature fell to 100°.

Both before and after these days the general excitement was considerable, but not particularly more on these days than several others, yet the temperature never again exceeded 100.3°, except on

the fifty-third day, when it reached 101.4°. After this time there was a decline to normal, with much less excitement, though painful delusions were still very numerous. After remaining at normal for two days there was again a rise to a mean of 99°. The increase after the thirty-seventh day was with one exception from morning to night.

The great irregularity of temperature and its considerable degree of elevation were undoubtedly directly due to the mental and motor excitement, though, as I have said, I noticed no marked change on the day of the greatest rise. The case seems to be one where the general character of the temperature is the peculiarity of the attack, rather than its occasional unusual elevation.

## ACUTE SUICIDAL MELANCHOLIA.

CASE V. Male; twenty-eight years. Terrible mental distress. Range from 99° to 99.2°. Pulse averaged 80. Temperature irregular in type.

## ACUTE SUICIDAL MELANCHOLIA.

CASE VI. Female; thirty-seven years of age; married; one child; tired of life and had tried to kill herself. Temperature taken in the axilla. Range from 96.1° to 99.2°. Always lower at night by one half of a degree to a degree.

## ACUTE MELANCHOLIA.

CASE VII. Female; thirty-seven years of age; single; delusions as to her wickedness. Range of temperature taken in the axilla from 96.3° to 98.3°. Lower at night by four fifths of a degree.

## ACUTE MELANCHOLIA.

CASE VIII. Female; thirty-nine; married. Has committed the unpardonable sin. Refuses food. Temperature taken in the axilla. Range from 95.2° to 98.4°. Temperature uniformly lower at night than in the morning.

These cases will serve fairly well as illustrative instances of the temperature in the forms of insanity under consideration.

From the observations I have been able to make in cases coming under my notice, I believe that the temperature in insanity, though not pathognomonic, is characterized by certain features in the different varieties of the disease, which are peculiar to those varieties. I believe, with Dr. S. D. W. Williams,<sup>2</sup> who had records of several hundred cases of insanity, that there is no defined cycle of temperature in any of the forms of insanity, acute or chronic; but I can hardly go as far as he does when he says: "In reviewing my labors with the thermometer in insanity, I cannot but own that its utility as an aid in mental disease is nil, whether as to diagnosis or treatment." He then adds: "But as an aid to diagnosis in other diseases complicated with insanity, its utility is very great."

I have already intimated that I have found the thermometer of utility in treating cases. I have been aided, especially in cases of high temperature where touch was entirely inadequate, to determine the rise by two or three degrees. In my opinion baths and wet packs are used too rarely in this country in treating acute cases of insanity. In such

<sup>1</sup> Concluded from p. 1.<sup>2</sup> London Medical Times and Gazette.

cases the thermometer is the safest guide when and how long to employ them.

In ascertaining complications, the thermometer will be of greater service if we use it systematically from the admission of a patient, rather than if we resort to it after other symptoms suggest their presence. In this way we can forestall the other symptoms to a certain degree, and earlier make a diagnosis.

As to the character of the temperature in the forms of insanity under consideration, the following conclusions may be drawn:—

In acute mania there is usually elevation of temperature to an uncertain degree. It is of the direct type: that is, higher at night than in the morning, as a rule. There may be striking exceptions. The maximum point is reached early in the disease. The mobility of the temperature is considerable, especially in severe cases: from one to five degrees. These marked fluctuations taking place at one to two degrees above normal, with great irregularity, and an occasional exacerbation to four and five degrees above normal, are to some extent characteristic.

The occasional exacerbations indicate increased intensity of symptoms probably, especially those of a motor character. In favorable cases, considerable remissions shortly follow.

In this form of disease the periods of Wunderlich can often be followed out with some accuracy.

Probably in many cases the thermometer gives reliable data for prognosis looked at from Wunderlich's standpoint.

Clouston<sup>3</sup> regards the temperature of acute mania as coming third, in height phthisical mania and general paralysis preceding it.

#### MELANCHOLIA. — ACUTE AND CHRONIC.

The characteristic of this form of insanity is the inverse type of temperature. I have found this to be the case pretty uniformly in the patients coming under my observation both when the temperature was taken in the axilla and mouth. The only exception I have found was in Case IV., where the excitement was intense, and where perhaps a more proper name for the attack would have been *acute mania*, with delusions of a depressed character or the *lypomania* of Esquirol.

Writers differ very much as to the temperature in melancholia. Williams<sup>4</sup> says there is a very decided diminution in temperature, especially in melancholia attonita. "For days and days," he says, "you cannot register more than ninety-four or ninety-five degrees. Sometimes a very sudden fall is followed by excitement." I have never happened to observe this.

Clouston<sup>5</sup> says<sup>6</sup> that the evening temperature of every form of disease is higher than in health, which has not been the case in my experience. He also says that the great characteristic of all forms of insanity is that the difference between the morning and evening temperatures is less than in health, owing to the rise of the evening temperature, and not the lowering of that of the morning.

Tamboni<sup>6</sup> has only found the *direct* type of tem-

perature in his 4,000 observations, though he alludes to the *inverse type* being spoken of by others. Buckhardt, he says, has found a low temperature principally in lypomania, and Bechterew in idiocy and dementia. The mean temperature found by him in the insane is higher than that of any other writer, he says, which he ascribes to having taken all his temperature himself.

"If we except the increase of temperatures in paralysis and in the acme period in acute mania," he says, "which can be explained by irritation of the so-called cortical thermic centres, there is a lowering of temperature in insane people, which may be called hypo-thermia, either relative or absolute."

The low temperature at night is probably explained at least in part by the asthenic character of melancholia. Wunderlich<sup>7</sup> speaks of the "descending type" of temperature, in which the thermometer remains below the normal. This form is seen in inanition, marasmus, extreme anæmia, etc. Macdonald<sup>8</sup> found the temperature lower at night, in cases of general paralysis of the asthenic type.

Though the general temperature of melancholia is lower than of other forms of insanity, it may sometimes not fall below normal, except very rarely, during the whole attack. In most cases, however, the range would be from 96 to 99 degrees, sometimes much lower.

The pulse varies in both these forms of insanity, often very indirectly following the temperature. Sometimes it will show but a slight gain, with a considerable elevation of temperature. Other times, again, with a diminution of temperature. Again, it may show no change with a decided rise of temperature. The conclusion of Clouston<sup>9</sup> seems to accurately cover the ground as to the pulse. He says: "The average frequency of the pulse in the various forms of insanity, corresponds with the mean temperature, but the rise in the evening temperature has no corresponding rise in the evening pulse."

#### REPORT ON HISTOLOGY AND EMBRYOLOGY.

BY CHARLES SEBGWICK MINOT.

As this report is the first on the progress of these sciences to appear in this journal, it is appropriate to review the change of tendencies which has occurred during the past few years and so completely revolutionized the domain of morphology that it no longer appears at first sight like the same field of science. In fact, a generation ago the investigations were chiefly occupied with the problems of gross anatomy, and modern histology was in its early development, while microscopic anatomy has recently become the leading department. The perfecting of old methods and the introduction of many new and better ones, in connection with the applications of the microscope to the study of anatomy, enable us to undertake numerous and important researches which have hitherto been impossible. The improvements in two directions are especially important:

<sup>3</sup> Observations on the Temperature of the Insane.

<sup>4</sup> Contributo allo studio della Temperatura negli Alienati. Del Dott. Roggero Tamboni. Rivista sperimentale, 1884-85.

<sup>5</sup> Seguir's Wunderlich, p. 57.

<sup>6</sup> American Journal of Insanity, 1877.

<sup>7</sup> Observations on the Temperature of the Insane.

<sup>8</sup> Observations on the Temperature of the Insane.  
<sup>9</sup> Op. cit.

(1) in methods of staining; (2) methods of making series of sections. We have at our command at present the means of dividing any organic structure of moderate dimensions into a complete series of very thin and well-colored sections. These sections can be made with such regularity that they will practically all be of uniform thickness, and hence can be used for the purpose of a perfectly exact geometrical reconstruction of the original. By such means the anatomy of organs, such as the brain, the kidney, etc., can be studied with a thoroughness and precision impossible to attain by mere dissection. We have, then, a new field open to research—the field of microscopic anatomy, which is quite distinct from histology proper. The new possibilities are especially valuable to the embryologist, for embryos are too small to be sufficiently examined by dissection, while their size and consistency preeminently fit them for section cutting, and by serial sections we can examine both the anatomy and histology of every part, which was previously impracticable.

What can be done for the time being is being done; that is, the most important current work is based upon serial sections and the new staining-methods. Let us glance for a moment at these new aids. The foremost place, as an addition to the resources of the microscopist, unquestionably belongs to celloidin, as an imbedding material, because it requires no use of heat, allows unlimited staining of the sections, and permits our making sections of loose parts, which the celloidin in the section will keep in their exact relative positions, and further permits making thin sections of large area. Paraffin, which has hitherto been the principal imbedding substance, requires the use of heat, and is not suited for any but small objects. The use of celloidin was first suggested by Duval; but its introduction and the development of its technique are due to Schiefferdecker. The second place in importance must be assigned to the new hæmatoxyline stains, based upon a combination of various salts with the dye, and subsequent washing of the tissue with ferricyanide of potassium. These methods were discovered and introduced by Weigert; and, although their application has been much simplified, we should not fail to recognize their immense value and our indebtedness to Weigert. The best results are obtained, according to my own experience, by soaking the sections for five or ten minutes in a nearly concentrated solution of acetate of copper, when the sections are washed quickly in distilled water and then placed for the same time in hæmatoxyline (one per cent. in ten per cent. alcohol), and finally washed out in Weigert's iron solution. The whole process is rapid and achieves a differential coloration unequalled by any other reagent.

Numerous other scarce less important improvements of technique have been made. Some idea of their number and variety may be derived from an examination of Fol's new and invaluable *Lehrbuch der vergleichenden mikroskopischen Anatomie* (Leipzig, 8vo, Engelmann, 1881-83), the first part of which, comprising over two hundred pages, is devoted to technique. This work is one of remarkable merit. It is an exhaustive compilation, made with judicious criticism, and written with admirable

clearness and precision. Defects of course it has, but they appear to be neither numerous nor, so far as observed, important. They are certainly not sufficient to lessen the cordiality of our commendation.

We proceed to consider briefly a few special discoveries:—

#### DEVELOPMENT OF THE UTERUS AND VAGINA.

As is well known, by the end of the second month the Müllerian, or female, ducts of the fetus approach at their lower ends the Wolffian, or male, ducts and pass down to the urogenital sinus, which is represented in the adult female by the vestibulum. The four canals, together with the connective (mesodermic) tissue by which they are surrounded, make what is known as the *genital cord*, the upper limit of which is just below the insertion of the round ligament. In man the genital cord is the commencement of both the uterus and vagina; within the cord the two Müllerian ducts unite in the median line, forming a single canal; the upper portion of this canal becomes dilated into the uterine cavity, the lower portion develops into the vagina; the mesodermic tissue of the cord is converted into the muscular and connective tissue layers of the adult passages; the Wolffian ducts atrophy, they usually disappearing completely, though sometimes persisting as rudiments of greater or less extent, and are then known as Gärtner's ducts, and lie imbedded in the walls of the uterus and vagina.

The conversion of the genital cord into the uterus and vagina has been thoroughly investigated for the first time by Tourneux et Legay.<sup>1</sup> Their results are as follows:—

The fusion of Müller's ducts commences at the lower end of the middle third of the genital cord, and thence progresses most rapidly upward and more slowly downward. The lower ends fuse last; sometimes they do not fuse at all, thus producing the biperforate hymen, one of the numerous malformations which are explicable as arrests of development. The inferior extremities of the Wolffian ducts unite with the fused Müllerian canals, and thus participate to a small extent in the formation of the vagina. The utero-vaginal canal elongates steadily and expands transversely, especially in the vaginal portion; at the end of three months it measures 5 mm.; three and one-half months, 10 mm.; four and one-half months, 20 mm.; eight months, 30 mm. By the beginning of the fourth month the histological differences in the epithelium are evident; the vaginal half of the tube is lined by a stratified pavement epithelium, passing over gradually into the cylindrical epithelium of the uterine half; but during the eighth month the passage becomes quite abrupt, as in the adult. During the fourth month the vagina becomes flattened so that the dorsal and ventral surfaces are brought into contact, and curiously the epithelium grows together, completely obliterating the lumen of the vagina; this lamina of epithelium makes a cup-shaped expansion at its upper end, this cup embraces the lower end of the uterus, and thus the projection of the cervix into the vagina is developed, for when the solid epithelium

<sup>1</sup> Tourneux et Legay, *Mémoire sur le développement de l'utérus et du vagin embryonal principalement chez le fœtus humain*. *Bulletin du Journal de l'Anal.*, 1880, 330-336, Pl. XX. XXX.

of the vagina is finally cleft again (fifth month), the fissure extends through the epithelium, forming the cup. The folds of the uterine known as the arborescent, make their first appearance early in the fourth month, and are asymmetrical in such a manner that the cavity of the uterus, as seen in transverse section, is S shaped. Near the end of fetal life the epithelium of the cervix gradually acquires a mucous differentiation, and thus is secreted the plug of mucus found in the os uteri at birth. Glands appear in the cervix but not in the body of the uterus. The differentiation of the muscularis and mucosa commences with the sixth month.

Cadiat<sup>2</sup> has also published an article on the uterus, but it contains little of value. It may be noted, however, that he asserts that the glands of the body of the uterus are developed early in fetal life. I believe this opinion to be erroneous.

From a morphological standpoint the development of the human uterus is of very great interest. The first stage, the two Müllerian ducts nowhere fused, is the permanent condition in the lowest mammals (monotremes). The fused ducts, before their differentiation into vagina and uterus, represent the second stage, and is an advance above the conditions found in the monotremes and marsupials, but represents the lowest phase in the placental mammals. Here a devariation takes place; on the one side of the series the genital cord produces the uterus (primates and man), which is therefore single and median; on the other, the Müllerian ducts outside (above) the cord becomes the uterus. Therefore the uterus of most mammals of the placental division is not strictly homologous with that of man and his allies. The human uterus must, therefore, be considered as derived directly from a type quite low down in the mammalian series. We thus have another item of evidence tending to show that the line of evolution, which culminates in man, diverged quite early from the lines of the other mammalia. The conclusion is borne out by the evidence afforded by paleontology.

#### MORPHOLOGY OF THE HEAD.

For a long time an erroneous theory of the composition of the head was taught. According to this theory the head was supposed to be composed of vertebral segments, still recognizable in the bones of the skull. Three segments were generally accepted, the bodies of the corresponding vertebrae being the basi-occipital, basi-sphenoid, and parasphenoid bones. Some writers even assumed other similar vertebrae (one, two, or three) in front of these. It is now certain that the number of segments is very much greater; this discovery is due first and foremost to the investigations of Gegenbaur on the visceral skeleton of selachians. No satisfactory evidence has yet been found to show that the portion of the head in front of the pituitary body is segmented, but all of the head behind it is certainly made up of segments so completely fused as to be recognizable only in the embryo. It seems probable that during the evolution of vertebrates segments have been taken up from what was originally the cervical region and added to the hind end of the

head; the brain and skull have thus grown at the expense of the neck.

The number of segments was first determined by ascertaining the number of cranial nerves having a segmental character. The foundations of these determinations were laid by Gegenbaur. The elucidation of the homologies in the higher vertebrates is mainly due to A. Milnes Marshall. The results obtained by these and other authors will be found in the anatomical textbooks. One of the nerves thus given the value of a segmental nerve is the hypoglossus. August Frioriep,<sup>3</sup> however, has shown in three memoirs, remarkable for their ability, that the hypoglossus of mammals, at least, is a compound nerve made up by the fusion of three spinal nerves, and that the relations of other nerves in the head is different from what has been hitherto assumed.

In his first investigation Frioriep found evidences of three distinct protovertebrae, in ruminant embryos, in front of the first spinal or cervical nerve, and behind the vagus. (It should be remembered that *protovertebrae* have nothing to do with vertebrae, but are merely the primitive *muscular segments*.) In front of each of the three protovertebrae is a distinct set of anterior nerve roots, which all unite into a single trunk—the hypoglossus. Over the posterior of this set of roots is a dorsal ganglion, which also unites with the same nerve, and resembles the spinal ganglia in position and shape, although smaller in size. The hypoglossus must therefore be interpreted as the product of the fusion of three spinal nerves. As is well known, it makes its exit through the occipital bone, which, in its turn, must be regarded as the product of the fusion of several vertebrae. This again forces us to the conclusion that the skull is not identically composed in all vertebrates, but that in the mammals portions of the primitive cervical region have been added to the head. In mammals, then, the head is made up of at least three regions: (1) the præ-pituitary (or trabecular) region, bearing the nose and eye and corresponding to the upper face; (2) the pseudo-vertebral region, which gives off the nerves, namely, trigeminal, facial, glossopharyngeal, and vagus, supplying the visceral arches or pharyngeal (branchial) clefts; the vagus is now known to be a compound nerve; (3) the vertebral region, that of the posterior part of the occipital bone, and of the hypoglossal nerve. The ganglion of the hypoglossus is not permanent. It is always smaller than the spinal ganglia, but for a while it enlarges with the growth of the embryo, then remains stationary, and finally atrophies.

In his second paper Frioriep continues his researches on the morphology of the head by studying the origin and metamorphoses of the anterior vertebrae in the embryo chick. The first part of the essay gives the actual observations made, thus recording the raw material of the investigation; the second part (p. 215) presents the connected history deduced from those observations. In his first paper the author committed the error, surprising on the part of one so careful and skilful, of connecting the protovertebrae (that is, primitive muscle plates)

<sup>2</sup> Robin's Journal, 1884, 169.

<sup>3</sup> Frioriep, August. Arch. Anat. Physiol., Anat. Abth. 1882, 279. Idem, 1885, 177. Idem, 1885, Heft. 1, p. 1.

directly with the formation of the vertebrae. He now has made the necessary correction, and has adopted the designation "*primitive Wirbelbogen*" for the first *anlagen* of the vertebrae. The *Wirbelbogen* arise independently of the *protovertebrae* and before the bodies of the vertebrae, as two lateral masses inclined outward and tailward, so that they in part overlie the pair of muscle plates (*protovertebrae*) next behind the vertebra to which they belong. The lateral masses become united by a band of tissue extending across below the chorda. The change of the completed *bogen* into cartilage goes on during the fifth day of incubation. Toward the end of the same day the body of the vertebra appears behind the *bogen* and below the chorda as an accumulation of chondrogenic tissue; this continues to grow until the chorda is enveloped and a union established at the cephalic end of the vertebral body with the *bogen*, the hypochordal band between the *bogen* having first disappeared. These processes are completed by the eighth day, during which the neural transverse and articular processes grow out. Two points are especially important: (1) the double origin of each vertebra—the phylogenetic significance of this fact still remains to be elucidated; (2) the vertebrae do not arise out of a continuous mass enveloping the chorda, as maintained by Gegenbaur; on the contrary, the definite vertebration is marked from the first.

The first two cervical vertebrae are tardy in their development, the first more than the second, but like the rest they have a double origin, but their ultimate development is unlike that of the other vertebrae. The *bogen*, with their hypochordal band of the first vertebra, grow up into the atlas, but the corresponding body *anlage* unites with the second vertebra and so forms the epistropheus. What is here called the "*bogen*" answers, as is evident, to only a part of the body of the ossified vertebra.

In the occipital region four vertebral *anlagen* can be recognized, with a muscle plate (*protovertebra*) in front of each, and a fifth plate behind the fourth, between it and the atlas. From in back forward the distinctness of these structures and their size diminishes. The third and fourth plates have each a nerve, the fifth (post-occipital) is supplied by the first cervical. These three nerves, and the second cervical also, have only ventral (motor) roots, and have lost their posterior roots and ganglia; this peculiarity of the cervical nerves appears to have been hitherto overlooked. The occipital vertebrae never attain complete separation, but fuse while still connective tissue, making the occipital *anlage*, which develops further in the known manner. Froriep thus demonstrates that it is unnecessary to assume a "*proatlas*," as suggested by Albrecht,<sup>3</sup> because the vertebra supposed to be lost in the amniota is really present in the occiput. Balfour's *head-cavities* lie in front of the region studied by Froriep, who considers their morphology as still problematic, and says "they can in no case be identified with *provertebrae*."

In his third paper Froriep reaches a series of interesting results. He emphasizes especially that the ganglia of the *facialis*, *glossopharyngeus*, and *vagus* enter into intimate relations with the epidermis.

Opposite each ganglion the epidermis is thickened and partly invaginated; against this thickening the ganglion lies close, so that there is a close union between the ganglionic and epidermic cells, and the union may be so close that the line of demarcation between the two tissues cannot be determined. These structures are evidently to be interpreted as rudimentary sense-organs, but no trace of them is known to persist in adults. It is probable that they represent a portion of the series of so-called lateral organs, which in the lower vertebrates extend in a nearly continuous line, or series of lines, along each side of the body. But these organs in fishes and amphibia are connected with the dorsal branches of the nerves, while the rudimentary structures of mammals are connected with the ventral branches. The organs belonging to each of the three nerves, named above, are situated at the dorsal edge of the visceral cleft to which the nerve belongs.

The ganglion *nodosum* is supposed by Froriep to correspond with several organs belonging to a number of visceral clefts, which in mammals no longer appear. Still more interesting is the striking resemblance which the acoustic nerve, with its ganglion and epidermal sensory apparatus, presents to the series of organs under consideration. This resemblance suggests at once the conclusion that the ear, that is, the membranous labyrinth, is really one of the series, and hence probably an extreme specialization of one of the sense-organs of the lateral line. These organs occur also in invertebrates, and were very likely developed as general sense-organs, and in the course of evolution the anterior ones became specialized to serve the auditory function. The question naturally suggests itself whether the eye and nose may not also be specialized members of the series of general sense-organs, which may be supposed to have extended originally along the side of the head and of the body. In the head region they have been much modified; in the body region they have been preserved in the lower vertebrates, but have disappeared in the amniota.

It will thus be seen that the whole problem of cephalic morphology has to be taken up *de novo*, for we have now to deal with a whole series of novel and complex problems, which lead us back far into the past history of vertebrate evolution, and put our inherited notions of the structure of the head out of count.

#### STRUCTURE OF EPITHELIUM.

A great change has occurred in our conception of relations of epithelial cells to one another. We now know that the adjacent cells are connected by intercellular bridges, or threads, of protoplasm, and that there are thus spaces between the cells. Into these spaces lymphoid cells may enter, and, according to recent researches, they do frequently so enter, sometimes in such crowds as to completely obscure the epithelium. This immigration appears to take place normally during digestion, and the lymphoid cells are believed to be active agents in the process of resorption. It is quite possible that the uterine decidua is similarly produced, lymphoid cells penetrating the uterine epithelium and becoming transformed into decidual cells. Peyer's patches are, perhaps, really epithelial structures permeated by lymph cells.

The extent to which such emigration may go is well shown by Stohr.<sup>5</sup> A great emigration of lymphoid cells through the epithelium takes place not only in the tonsils, but also in the sebaceous glands, in the solitary and conglomerate glands of the intestines, and the bronchial mucosa. The migrating cells shove themselves through between the epithelial cells; it does not appear that they enter the latter. The isolated epithelial cells appear much pressed in, and furnished with grooves, furrows, and notches; in some of the notches the lymph cells still are lying. If the migration is large the epithelium becomes so rarefied that it is pressed together into thin cords, or even becomes unrecognizable. At such spots the protecting epithelial covering is wanting, the tunica propria is freely exposed, which must be practically important; such spots Stohr designates as "physiologisch wunde." That injurious substances can act, and microorganisms penetrate, at these points more easily than elsewhere is probable. In fact, a group of small fungi sat in one preparation upon the surface of such a passage.

It is not easy to form any clear notion of the meaning of this normal and constant migration. Do the excreted elements play some rôle in digestion? Or is the object the removal of superfluous material? The migration does not appear to be connected with digestion, because numerous lymph cells are found even in starving animals. Against this view militates also the migration occurring in the vagina, bronchi, and conjunctiva. If the object is excretory it would be supposed that the migration would cease or be reduced during pregnancy and nursing. Yet in pregnant cats the migration was equal to that in the not pregnant. But in growing animals the migration is small. The author favors the excretory theory, but reserves decision for further research. Often the migrating cells appear to be disintegrating; it is possible that old, used-up lymph cells are thus removed. The structures considered are not to be confused with lymph glands proper.

Now surprisingly large the intercellular spaces may become in epithelia has been demonstrated by Mitrophanow,<sup>6</sup> who has pointed out that the cells contract upon mechanical irritation, and in so doing magnify the spaces about them. The spaces are directly continuous with the lymphatic system, of which they constitute the ultimate rootlets.

From the sum of all the researches on this subject we gather for the first time an intelligible notion of the mechanism of absorption through epithelial surfaces. The lymphoid cells in the epithelial membranes seize the particles and pass with their prey directly into the lymphatics.

#### HISTOLOGY OF THE MAMMALIAN OVARY.

In an important article, W. Harz describes the cords of cells mentioned by various authors in the ovaries of some mammalia. The cords or canals grow out from the segmental canals of the Wolffian body into the ovary and toward the primitive ova; they must be considered homologous with the canals of like origin in the testis, a homology already established by Brauer in the case of reptiles.<sup>7</sup> These

cords are developed to various extents in different species: they are wanting in man and the pig; they are found only in the hilus (sheep), or they may in bulk form the principal part of the ovary (Guinea-pigs, hare, *Cebus capucinus*, and horse), or they may be only the predominant tissue, as in the cat, cow, and Hapale. The cells of these cords find no analogy in other tissues, although they recall the liver cells in appearance. They take no part either in the formation of the granulosa layer around the ovum nor of the corpora lutea.

The ova arise in the epithelium and are overgrown by the neighboring epithelial cells, so that the ova are pushed down into the stroma of the ovary. The ova are not separated from the epithelium by the connective tissue growing in and forcing them apart, as Foulis has maintained. The immigration of ova continues until the tunica albuginea is formed; it is probable that this layer opposes an obstacle to the process. The oldest ova are found farthest from, the youngest nearest, the mesovarium, and the albuginea also develops last near the hilus. The granulosa is probably formed from cells of the stroma; it is certain that each *Urei* leaves the germinal epithelium without being accompanied by any other epithelial cells, such as have hitherto been generally believed to form the ovic envelope.<sup>8</sup>

#### NERVE TERMINATIONS IN THE HEART.

Openchowski, in a short article, gives a brief résumé of the numerous writings upon the nerves and ganglia of the vertebrate heart. He then reports his own researches, the most important points of which are: (1) In the heart of the frog, newt, and lizard throughout the muscles are very abundant nerve branches; (2) the medullated fibres of the vagi reach the "grundplexus" described by Gerlach, and there lose their sheaths at various heights; they accompany the Remak's fibres, but do not anastomose with them. The existence of the perimyscular net *anct.* cannot be maintained; (3) from the grundplexus the terminal fibres run directly to the muscles, where they end with little enlargements or terminal knots (Ranvier's "taches motrices"); (4) each muscle cell receives a knot; the nucleus of the cell has nothing to do with the nerve termination. Hence the heart, in respect of its innervation, may be regarded as composed of smooth muscles.<sup>9</sup>

### New Instruments.

#### THOMAS'S ANTEFLEXION PESSARY.

BY W. H. BAKER, M.D.

This instrument, which is the most efficient one for the majority of cases of ante-flexion of the uterus with which I am familiar, has sometimes annoyed me in two ways, namely, in a certain class of cases where there exists a shallow vagina; that is, where the vertical diameter of the vagina is very small there is a great liability of the joint or hinge cutting into the posterior wall of the vagina, on account of the irregular and somewhat unfinished end of such joint (see Fig. 1). In another class of cases the movable arm does not increase the

<sup>5</sup> *Blitzung der Würzburg Phys. med. Ges.*, 1883.

<sup>6</sup> *Zellleh. u. Gew. Zoologie*, 1885.

<sup>7</sup> *Scmper's Arbeiten*, iv.

<sup>8</sup> *Arch. mikros. anat.*, xii. 371.

<sup>9</sup> *Arch. mikros. anat.*, xxi. 408.

power, as is necessary in keeping the body of the uterus high enough to give the required relief.

To obviate these difficulties I have modified the instrument, which Messrs. Codman and Shurtleff have had made, so that the first objection is met by the joint itself becoming a part of the posterior

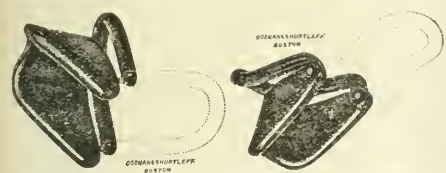


Fig. 1.

Fig. 2.

angle and finished regularly and smoothly with it, thus doing away entirely with the metal pin which supported the joint (see Fig. 2). The second difficulty is not only overcome, but the instrument made much more efficient by making the movable arm after the pattern of the lower part of an ordinary Albert Smith retroversion pessary.

## Reports of Societies.

### OHIO STATE MEDICAL SOCIETY.

ANNUAL meeting held at Dayton, June 3, 4, and 5, 1885.

Dr. C. D. PALMER, of Cincinnati, Professor of Gynaecology, Medical College of Ohio, read a paper on

#### A RARE COMPLICATION AFTER OVIARTOMY.

A young, delicate, unmarried woman, aged twenty-two, for three and a half years had an abdominal tumor. For this she consulted a number of physicians in succession, and was tapped, the diagnosis being ascites, eight different times. Her last attendant, Dr. John Kellar, suspecting that she was not suffering from ascites, asked Dr. Palmer to see the case with him. He diagnosed into loculated ovarian cyst, which was confirmed by the operation. On the twelfth day a fecal fistula formed. This communicated inwardly with the lower small intestine, and the external opening presented midway between the umbilicus and symphysis pubis. At first it discharged several ounces of fecal matter daily. This has diminished gradually, until now, three months after the operation, it is only two to three drachms, and patient is steadily improving. Treatment has consisted only of diet and firm compress. Essayist thought that this fistula was caused by softening from the peritonitis. Spencer Wells found only one fecal fistula in his 1,000 published ovariectomies. Essayist wonders that such perforations, also lacerations, do not occur more frequently. He cited several cases gleaned from the literature. Considering the facts, he suggested the possibility that lacerations and perforations are of more frequent occurrence than supposed.

Dr. Wm. MILLIKIN, of Hamilton, Lecturer on Medical Jurisprudence and Hygiene, Miami Medical College, read on

### EMPHYEMA: ITS TREATMENT BY DAILY ASPIRATION THROUGH THE DRAINAGE-TUBE.

His plan was to make one small opening into the pleural cavity, and daily withdraw the accumulated pus by means of the aspirator. He injected then an amount of antiseptic fluid somewhat smaller than that he had withdrawn, giving the patient a feeling of discomfort for perhaps one hour. This he considered a movement cure. It gradually expanded the other well lung, contracted the chest, and allowed displacement of the mediastinal space toward the affected lung, thus giving the other more room for expansion. He claimed one hole in a man's chest to be better than two; a small one better than a large one; that free drainage would not draw pus out of a pocket, which the aspirator would. He reported two cases where he had used this plan quite successfully.

In the discussion which followed, Dr. P. S. CONNOR, of Cincinnati, thought both plans would fail; sometimes the one, then the other.

Dr. JOSEPH RANSOHOFF, of Cincinnati, had discarded the aspirator in emphyema. Early free incision, he thought, would save most cases. He reported a case of his where a drainage-tube was lost in the pleural cavity for fifteen days. Recovery of both tube and patient.

Dr. KINGMAN, of Columbus, spoke in favor of free incisions for emphyema. They should be made as soon as fluid is known to be purulent.

Wm. T. CORBETT, M.D., L.R.C.P., London, Professor of Dermatology in the Wooster University, Cleveland, Ohio, read on

### DISEASES OF THE SKIN OF REFLEX NERVOUS CAUSATION.

He spoke of two distinct varieties of neurosis cutanea, one the senso-neurosis, in which the characteristic symptom is a disturbance of the sensation unaccompanied by any visible lesion. The second variety is the tropho-neurosis, which is characterized by anomalies of nutrition. Pruritus is a representative senso-neurosis and is a disease *sui generis* and not a mere accompaniment of cutaneous inflammation. Pruritus of the palms and soles is usually met with in females having some mild ailment of the uterus of long standing. Pruritis of the scalp, at times accompanied with a sense of weight, is met most frequently in women having a subinvolved uterus or a ruptured perinaeum. Pruritis vulvae unaccompanied by a vaginal discharge is a symptom of pregnancy; less frequently it precedes each menstrual flow. Adult males subject to constipation suffer severely from pruritis in the genito-anal region.

The reader then reported six interesting cases in a complete manner. In conclusion, he said:—

The most marked tropho-neuroses coming under his observation have closely simulated eczema. Unlike eczema, the eruption whether papular, vesicular, or squamous remains as such throughout its entire course.

Derangements of the sebaceous glands have been spoken of previously in this connection. Next to the eczematous group they are the most frequent.

Senso-neuroses, *arteris parvis*, are more fre-

quently associated with conditions of a mild nature, functional disturbances, nerve irritation, and the like, whereas tropho-neuroses, *ceteris paribus*, more frequently accompany pathological conditions of a graver import, for example, nerve lesions or gross destructive changes in the cerebro-spinal substance, although we must admit that the latter also are not infrequently due to functional disturbance alone.

DR. R. HARVEY REED, of Mansfield, read on

#### VITILIGO.

This, he said, was a disease so rare, that Dr. McCall Anderson in an analysis of 11,000 cases found only four of vitiligo. This disease was most completely described by Duhring. Treatment in the essayist's hands had been very unsatisfactory. Under the supposition that it was of nervous origin he had given the hypophosphites. Friction, massage, electricity, and stimulating lotions had all had their trials. He hoped his paper would call attention to the subject and cause its elucidation. Until more light appeared, he would consider it a purely nervous disease, under protest.

DR. J. M. HIMES, of Cleveland, read on

#### MEDICAL EXAMINATIONS FOR LIFE INSURANCE.

The essayist desired in his paper to notice subjects not chosen because of special importance, but such as have an occasional or recurrent interest to those who have to do with life insurance. He considered:

(1) Influence of life insurance upon the personal hygiene and the hygiene of cities.

(2) Some conditions of doubt in examination of respiratory organs.

(3) Some phenomena connected with the circulation of the blood.

(4) The place where the examination is made.

(5) Concerning the rejection of applicants.

(6) Albumen in the urine.

(7) Sugar in the urine.

P. S. CONNOR, M.D., J.L.D., of Cincinnati, Professor of Surgical Anatomy and Clinical Surgery, Medical College of Ohio, Surgeon to the Good Samaritan and to the Cincinnati Hospitals, read a paper on

#### VESICAL EXPLORATIONS.

Morbid conditions of the bladder, said the essayist, may or may not be easily diagnosed. He thought endoscopic examinations, of which so much had been at one time expected, had proved to be of little value, though much more satisfactory in the female than in the male. The essayist then considered the various modes of vesical exploration, and said they should be supplemented by urinalysis, chemical and microscopical examinations.

Digital examinations, systematized by Sir Henry Thompson, afford information of the highest value. By the ordinary perineal section the membranous portion of the urethra is opened, the prostatic portion of the canal is dilated, and the finger is pushed into the bladder. By these means the finger can be brought into contact with every part of the bladder. The mucous surface can be palpated, its irregularities noted, the presence, location, size, and character of a concealed foreign body or stone in the lower portion of the urethra noted. In a recent case the bladder was as thoroughly explored as if

done postmortem. The objection is made that this is difficult in fat subjects, when the perineum is deep or the prostate enlarged. Yet in most cases the finger can be introduced into the bladder and made to sweep its walls. The operation is a simple one: merely the ordinary extra-perineal urethrotomy upon a grooved staff: and is almost devoid of danger. Guyon and certain other French surgeons advocate the supra-pubic operation rather than perineal section. The danger of the perineal section is not grave and the advantage of exploration much greater. For every reason, both for diagnosis and treatment, the digital exploration should always be made when the other more ordinary and longer-practised methods of examination have proved insufficient. In very young children lateral rather than median urethrotomy should be made, since such an operation does not increase the danger to life and relieves the surgeon of the trouble, at times quite considerable, of dilating the prostatic portion of the canal.

The discussion was introduced by DR. HOLLAND, who spoke of the rectal examination in a favorable manner. He used Sims's speculum of a large size. He regarded the perineal section, especially in private practice, for diagnostic purposes alone to be rather a bold procedure.

DR. RANSONOFF, of Cincinnati, spoke in favor of the operation, and reported a case in which he had made it. He also discussed rectal examination.

DR. CONNOR maintained that in many cases we are left entirely in the dark and cannot make a diagnosis. He has done this operation one hundred times, and in no case was death resultant from the operation. As for himself he would much rather be subjected to perineal section than be drugged, as many are. He has been much surprised to find with what ease the bladder can be explored.

DR. C. H. VON KLEIN, of Dayton, read on

#### VOICE IN SINGERS.

He first dwelt upon the beauty, power, and desirability of a fine voice. Then he went minutely into the anatomy, physiology, and hygiene of the voice. He considered the voices and singers of the majority of civilized nations, with especial reference to Italy. He discussed the reasons for Italy's superiority, and attributed it to the training rather than the air; also to the peculiar formation of the Italian's throat. He closed with a tribute to America's musical women.

DR. PHILIP ZENNER, of Cincinnati, Lecturer on Nervous Diseases at the Medical College of Ohio, read a paper on

#### DISEASES OF THE SPINAL CORD.

The essayist's chief reason for bringing up this subject was the importance of the subject on account of the comparative frequency of these diseases, and the oftentimes difficulty in their diagnosis. Much of this failure to diagnose he thought to be due to the absence of the knowledge of the leading factors upon which a diagnosis is based. To prove this statement, and to bring the subject before the Society in a practicable manner, he reported four cases, selected from his casebook, in which errors of diagnosis had been made. He thought

that what was essential to the diagnosis of functional disease is that we should be able to exclude organic disease, and in all cases symptoms of this should be sought for. If a patient come to us with a history of pains, of weakness, of anomalous sensations pointing to the cord, we should examine as to the presence of ocular symptoms, as to the condition of the cutaneous sensibility of the tendon-reflexes, of the vegetative functions, especially bladder and rectum, and as to the kind of gait, to see if there are present any symptoms of locomotor ataxia; then if any motor paralysis, with increased tendon-reflexes and rigidity of muscles point to disease of the motor columns of the cord, or paralysis and atrophy of muscles, with altered electrical reaction point to affection of gray matter. If all such symptoms can be excluded we are probably in the presence of a functional disease. Such a diagnosis will bring immediate mental relief to an anxious sufferer.

DR. J. C. REEVE, of Dayton, in his official capacity, delivered the

#### PRESIDENT'S ADDRESS.

He spoke of the evolution of the science, now very imperfect; yet medicine compared very satisfactorily with law or theology. Medicine, said he, has always taken on the character of the age. It is to-day active, practical, and advancing. He would have been a bold man who at our last meeting, a year ago, would have said before we meet again ether and chloroform would be discarded as anesthetics in eye operations. He lamented the absence of a general theory of disease. He turned his attention to homeopathy. This sect has existed seventy-five years. In that time the regular profession has given to the world the stethoscope, ophthalmoscope, laryngoscope, chloral, ether, chloroform, cocaine, etc. etc. What has homeopathy given? Nothing.

#### THE SEVENTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

HELD AT DETROIT, JUNE 24-26, 1885.

The attendance at this session has been good, and the quality of the papers presented excellent. The congress was opened on Wednesday morning, June 24th, by an address of welcome from Dr. INGALLS, President of the Medical Library and Journal Association of Detroit. An address of welcome was also delivered by Dr. SHURLY, the President of the Association.

The first paper of the congress, also by Dr. SHURLY, of Detroit, was on

#### THE USE OF GALVANISM IN CHRONIC DISEASES OF THE PHARYNX.

In this Dr. Shurly stated that at the congress of 1880 he had called attention to the use of galvanism in pharyngitis sicca, since when he had used galvanism in a number of cases with good results. The difficulties attending the use of electrodes in the pharynx could be reduced through the use of cocaine, making this plan of treatment of general

practicability. He believed that certain conditions of the pharynx, such as chronic engorgement, hypersecretion, etc., are often only local expressions of a derangement of the stomach, the intestinal canal, or possibly some more remote organ. Certain neuroses of the pharynx, such as hyperæsthesia, spasm, also paræsthesia, are dependent upon derangement either of these same organs, or of the genito-urinary or mental apparatus, all of which require little or no local treatment. There were certain organic lesions, also, of the pharyngeal mucous membrane which were characterized by glandular hypertrophy, general hyperplasia, hypersecretion, atrophy with diminished secretion, etc. To these he wished to call special attention. They constituted changes which were trophic, and were distinct local disorders. He believed that glandular hypertrophy and atrophy, with or without persistent extra secretion, and with little organic change in the membrane, were due to a perversion of function of the nerve apparatus distributed through the pharyngeal region. Mere mechanical effect of infiltration or interstitial deposit could not account altogether for the waste of the membrane. It seems impossible, too, that the symptoms of typical pharyngeal disease could be fairly attributed to ordinary inflammation and its consequences. Some of these conditions were probably distinct local diseases, having for origin some nutritive abnormality antecedent to the inflammatory changes; perhaps due to metabolic derangement through a disordered trophic function of the hypoglossal, pneumogastric, or sympathetic nerve. Acting upon this theory, he had employed different agents for local use, and of these had gained more lasting effect from galvanism. The mucous membrane having remained in many cases of a vivid color, and bathed in a fluid secretion several hours after the application, and in case of atrophy leaving an exhilarating sensation of heat and pliability. In the severer forms of chronic nasal catarrh, in cases of engorgement with hypersecretion, and also in distinctly neurotic conditions, such as paræsthesia, he had had good effects from galvanism. The following method was advised: First, cleanse the membrane with some appropriate solution; then apply a four per cent. solution of cocaine, and in about five minutes apply the electrodes (which were then exhibited), one through the nasal passage and the other to the posterior and lateral wall of the pharynx, moving them rapidly, but gently, over the surface, and keeping them closely applied. He generally began with two cells, increasing to four or five, of a battery composed of the improved Leclanché cells. The electrodes are naked, unless one is to be applied to the side of the neck, when that is covered. The application should be repeated two or three times a week, although in some cases one thorough treatment a week is enough. This method will not restore already destroyed tissue, but it will arrest those metamorphoses which finally result in either the loss of glandular as well as other elements of the membrane, or the substitution of adventitious for the normal tissues. The time required for permanent results will vary with the case and the state of chronicity presented. The only therapeutic theory was the restoration of the nutrition and normal secre-

tion of the parts by the direct application of the electrical fluid to the terminal nerve filaments.

DR. F. H. HOOVER, of Boston, next read a paper entitled

THE RESPIRATORY FUNCTION OF THE HUMAN LARYNX,  
FROM EXPERIMENTAL STUDIES IN THE PHYSIOLOGICAL  
LABORATORY OF HARVARD UNIVERSITY.

The reader doubted the accuracy of the theory which had been advanced by many writers that there was a proclivity of the abductor fibres of the recurrent pharyngeal nerve to become affected by disease earlier than the adductor fibres, and his paper was an inquiry into the truth of this problem solely from an anatomical, physiological, and experimental standpoint. The sources from which nervous impulses for the larynx could be received, and the channels through which they might be transmitted, were minutely reviewed, and the conclusion was reached that the respiratory, or abductor, nerve filaments contained in the recurrent laryngeal were derived from a greater variety of sources than the phonatory, or adductor, fibres. The respiratory muscles of the larynx were physiologically more important than the other intrinsic laryngeal muscles, and their extensive nerve-supply, the reader claimed, was to protect them from disease, not to open up new channels by which harm might come to them. The experiments were performed on dogs and, on one occasion, a horse. The dogs were so arranged that the vocal bands could be watched through the mouth while the recurrent nerves were stimulated. It is a familiar fact that under normal conditions any irritation applied to one or both of the recurrent nerves produces a sudden closure of the glottis. The experiments were made on dogs: first in a state of profound narcosis; second, by irritating the recurrent nerve while it is being slowly destroyed by crystals of chromic acid placed upon it; third, after a thread had been passed through the nerve, and retained there many days in order to excite inflammatory changes. The reader found that when a dog is profoundly etherized the action of the constrictor muscles of the glottis is completely abolished. Under these circumstances any stimulation applied to the recurrent nerves produces a forcible dilatation of the glottis instead of the familiar closure. The experiments with chromic acid did not show that there was a proclivity of the abductor fibres to succumb earlier than any others. In one experiment in which a thread had been inserted in the recurrent nerve and kept there a week, it produced some alteration of the nerve fibres, so that when the nerve was irritated below this point the vocal band was abducted, showing that the adductor fibres had lost their power to respond to stimulation. The conclusions were as follows: The principal fact demonstrated was the power and endurance of the posterior crico-arytenoid muscles and of the nerves which supply them. The theoretical reasons were: first, the physiological importance of these muscles; second, their belonging to organic life; third, their extensive nerve-supply, all of which would tend to preserve their functional integrity. Moreover, if it were true that there was a "proclivity" of the abductor fibres to become diseased, and that imilate-

ral paralysis of the abductor muscle is such a common and harmless lesion, could we not expect theoretically that bilateral paralysis of this muscle would occur more frequently? Yet there could be no dispute whatever that bilateral paralysis of the posterior crico-arytenoid was a disease as rare as it was grave. Now with regard to these muscles being *extensors*, and like the extensors in other parts of the body, the forearm for instance, more liable to succumb to disease than the flexors, he would ask this simple question: Why should the term extension and flexion be applied to the rotation of the arytenoid cartilages?

The principal office of the posterior arytenoids is to maintain the respiratory patency of the glottis. From the beginning to the end of life they are in a state of semi-contraction. They came, therefore, just as near being flexors as extensors; but, as a matter of fact, were neither the one nor the other in the ordinary acceptance of these terms as applied to the muscles of the general system. They were respiratory muscles carrying on a special function. One might as well speak of the movement of the pupil as extension and flexion, or compare the diastole of the heart to the extensors of the forearm, or its systole to the bending of the toe. Muscles are analogous as they discharge analogous functions. We recognize no more analogy between the posterior crico-arytenoid muscles of the larynx and the extensor communis digitorum of the forearm than there is between respiration and prehension. If it were desired to seek muscles that were analogous, other respiratory muscles should be examined and the influence of disease upon them noted. In diffused progressive diseases of the neuro-muscular system it was known that of all muscles, except the heart itself, those belonging to the respiratory system were always the last to be attacked, and there was no valid reason why the respiratory muscles of the larynx, either one or both, should offer an exception to the rule, especially as they were the most important of all. The writer proposed to investigate this subject from a clinical aspect at some future date, when perhaps the positions which immobile vocal bands assume might be sufficiently explained without attributing to a wise and conservative nature a proclivity to attack one of the most vital muscles of the human system.

DISCUSSION.

DR. J. SOLIS-COHEN considered it a great honor to the American Laryngological Association to have had this valuable paper brought before it, and believed it would be historical. These experiments would be subjected to criticism, and their verification would become a matter of history in the controversy now existing as to the peculiarity of these abductor fibres to become diseased sooner than the adductors. The dogmatism with which the assertion had been made seemed to have almost paralyzed laryngologists; for, with the exception of himself, he hardly knew any one who had ventured a word against it. Even when he had presented a clinical case opposing the theory, and had showed a picture of a larynx, it had been simply in deference to himself that much had not been said against it. The only word of com-

mentation he had received was from Dr. Krause, of Berlin, who had stated that he believed the observation was correct; but attributed the lesion to a different cause. He had had no experience in the physiological experiments made by Dr. Hooper; but there was a point which the latter mentioned which had received clinical support. It was with reference to the facial nerve in sending the respiratory forces to the laryngeal. In the case of a child suffering from diphtheria with great dyspnoea he declined to perform tracheotomy because the child was under two years of age. Knowing the great effect of cold on the facial nerve in stimulating the facial centres he placed iced cloths all over the lower part of the neck and jaw. Whenever the iced cloth was applied an inspiration took place. By repeating this frequently the child's life was saved. The phenomena in stimulating one recurrent so that its vocal band passes beyond the median line as in phonation was confirmatory of some of Krause's experiments.

Dr. HARRISON ALLEN, of Philadelphia, said the analogy between constriction and adduction and between dilatation and abduction was in his judgment tenable.

Dr. INGALLS, of Chicago, said that, in support of the paper, in a clinical way he had recently had a case similar to the one related by Dr. Cohen, excepting as to the origin.

Dr. DELAVAN, of New York, desired to unite his congratulations to those of Dr. Cohen, upon Dr. Hooper's paper. Reference had been made in the paper to a motor centre for the human larynx. Since publishing his own paper on this subject, several important contributions had appeared, which tended still further to establish the fact of the existence of such a centre; and he hoped that sufficient clinical evidence would soon be accumulated to place the matter beyond a doubt.

Dr. HOOPER, in closing, stated that he had only attempted in his paper to study the subject on general physiological and experimental grounds. Clinically, it seemed a difficult question, and one in which there were many sources of error. We were dealing with one of the most complicated organs in the body, and in using the laryngeal mirror were looking at things in perspective which were in almost constant motion. It is often impossible to say whether a vocal band stands motionless in the median line or a few millimetres from it. If we call every paralyzed vocal band we see a paralysis of the posterior crico-arytenoid muscle we can multiply such cases very rapidly. The theory that there is a "proclivity" of the posterior crico-arytenoid fibres to become diseased is not only contrary to nature, but the dogmatic manner in which it has by some been advanced ought of itself to cause us to doubt its accuracy. He would feel sorry to have an association like our own subscribe to this notion on the very shallow evidence at present presented. The speaker desired to express his indebtedness to Dr. Bowditch, professor of Physiology of the Harvard Medical School, and others connected with the department, whose assistance had been of value to him in the preparation of his paper.

Dr. H. A. JOHNSON, of Chicago, next read a paper on

#### SOME OF THE MOTOR DERANGEMENTS OF THE LARYNX, WITH CASES,

in which he related the histories of over twenty cases, of unusual interest and value.

Dr. WILLIAM C. GLASGOW, of St. Louis, next presented a paper on

#### CERTAIN VASO-MOTOR DISTURBANCES OF THE NASAL MEMBRANE.

He stated that for some time his attention had been attracted by a series of cases which were not explained by the well-known factors in inflammatory process; though resembling them somewhat, there were still differences which necessitated an additional and independent influence for their production. The laws of vaso-motor action, although still imperfectly developed, would seem to explain them; and the success attending the use of therapeutic agents to verify it. The observations of the writer had led him to arrive at somewhat different views than those developed by several members of this society, especially by Drs. Mackenzie, of Baltimore, Roe and Daly, and by our co-laborer Haek, of Freyburg. He had noticed a series of cases characterized by great swelling, especially of the cavernous tissue, and a profuse discharge of lymphoid fluid and abnormal paleness of the mucous membrane. Formerly, when they occurred during the summer months, he had been content to consider them as modified types of so-called hay fever; occurring during the year, irrespective of seasons, he had become convinced that there was a different agency from that then recognized as the essential factor in hay fever. He believed that the chief half of the disturbance was neurotic, considering the so-called hay fever to be a functional disorder of the nervous system, in which hypersensitiveness of the nasal mucous membrane occurs, producing there the well-known reflex symptoms and disturbances of the normal vaso-motor action; he still considers those cases as closely allied both in etiology and mechanism with the so-called cases of hay fever. He had selected three cases which showed the distinct and different types of nasal disturbance. The writer concluded that the condition was due to contraction of the arterioles due to an increased tone of the vessels, caused by an augmented action of the constrictors. In short, the minute vessels supplying the arteries were in a state of spasm and dilatation. The general arterial tension was increased, the outward flow of the more solid portions of the blood was prevented, and the cavernous bodies of the mucous membrane became infiltrated with escaping white corpuscles and the liquor-sanguinis. To those must be added the liquefaction and the increase of the glandular secretions as the result of gland stimulation. The theory of spasm of the arterioles was supported by the favorable action of remedies which favor arterial dilatation — such as atropine.

The discussion was participated in by Drs. Roe, Robertson, Mackenzie, and Allen.

Dr. JOHN N. MACKENZIE, of Baltimore, read a paper on

#### THE ETIOLOGY OF THE SIMPLE INFLAMMATORY AFFECTIONS OF THE UPPER AIR-PASSAGES.

His conclusions were as follows: First, inflamma-

tion of the upper respiratory tract, either in its entirety, or localized in its individual parts, is a disease of the human race, which has existed from the remotest period of historic times. Second, as the chief predisposing and exciting causes of the affection have been in operation for all ages, its origin is, therefore, coëval with the birth of man. Third, the evolution of nasal, pharyngeal, and laryngeal disease in a given locality is in all probability a part of its geological history, and goes on *pari passu* with its varying meteorological conditions. Hence the geographical limits of the disease have varied with different epochs of the earth's formation.

The first portion of Dr. MacKenzie's paper was devoted to the elaboration of the above propositions. He next discussed in detail the chief predisposing and exciting causes proceeding from affections of the system as a whole, or disease of individual organs remote from the nasal passages, and the relations of syphilis, tuberculosis, gout, rheumatism, etc., to the affections in question. Having shown that nasal and laryngeal disease may proceed from a direct or indirect irritation, from a host of substances derived from the outer world, from an almost indefinite number of pathological conditions of the body as a whole, or from irritation or disease of organs distant from the seat of local inflammation, the reader proceeded to the discussion of the part which structural peculiarities play in the etiology of these affections, and to the consideration of the so-called catarrhal diathesis, which latter might be looked upon simply as a generic term for a multitude of varied physical peculiarities. Setting aside the inflammation which results from purely local irritation it might be laid down as a law that the vast majority of catarrhal, pharyngeal, and laryngeal disease originate primarily in inflammation of the nasal cavities. He next quoted a number of causes efficient in the production of catarrh, and closed his paper with a proposition that in a large proportion of cases the existence of chronic inflammation in the nasal, pharyngeal, or laryngeal cavities was not due to any one particular cause but was the resultant of a number of internal and external forces.

#### DISCUSSION.

Dr. COHEN remarked that the climatic conditions referred to in the paper often could not be altered. The patient, however, could be protected by suitable hygienic and dietetic supervision. The functions of digestion and excretion must be attended to, the skin be kept in good order, and thus revulsive measures be adopted to withdraw morbid influences from the upper respiratory tract. Local measures without due consideration of constitutional conditions did not fulfill the requirements. Acute laryngitis occurred frequently in those not suffering with chronic catarrhal disease and subsided without such a sequel. On the other hand subacute inflammations had occurred most frequently in his experience in the subjects of chronic disease as exacerbations due to some special exposure. The spasmodic affections of infants alluded to in the paper as occurring in the subject of chronic naso-pharyngeal catarrh were similar in origin to the night-cough of infants, being due to trickling of mucus into the larynx.

The indication, then, is to place the sleeping infant in a position which will not allow the entrance of secretion into the larynx and of course to treat the catarrhal disease.

Dr. H. A. JOHNSON, of Chicago, remarked that naso-pharyngeal catarrh was common around our great lakes, and was frequently benefited by a change of climate to the Western plains up to an altitude of five or six thousand feet. In high mountains the disease was aggravated. General tonics are of great value.

Dr. INGALLS, of Chicago, also emphasized the necessity of attention to the constitutional condition, but said, on the other hand, we should not lose sight of the constitutional manifestations due to the nasal disease. In many cases great impairment of general health is dependent upon nasal obstruction, and remarkable improvement would immediately succeed removal of the nasal obstruction.

Dr. GLASGOW, of St. Louis, believed that dust held a most important place in the production of catarrhal symptoms.

Dr. ALLEN considered that local treatment in these cases was of great importance.

Dr. MACKENZIE closed the discussion by stating that his position was that the localization of catarrhal processes in the retro-nasal space or the geographical limits of the disease have little to do with the presence of dust in the atmosphere. While it was true that dust accidentally lodged in the nasal passage might give rise to inflammation, he believed that few cases originate in this way, for reasons which he had explained in his paper.

Dr. D. BRYSON DELAVAN next read a paper on

#### ERYSIPELAS OF THE LARYNX AND PHARYNX.

The reader referred to the classic thesis upon this subject, published by Cornil, in 1862, and stated that although well-known to Hippocrates the subject had of late received so little attention, particularly in this country, that but one case had been reported, while Morrell Mackenzie stated in his *résumé* of it that he had seen but four. Having given a short review of the subject, the writer proceeded to relate two original cases. In the first the disease originated in one tonsil. It spread over the pharynx and thence extended through the nasal cavities to the lips, face, and head. The patient suffered from marked cerebral symptoms of an acute form and two weeks after convalescence developed a condition of insanity which remained chronic. The next case occurred in an aged patient of rheumatic habit and broken-down constitution. She was attacked with what at first seemed acute laryngitis. The disease, however, spread in both directions involving both the lungs and the pharynx, producing in the former distinct and widespread broncho-pneumonia and in the latter an intense congestion. Laryngoscopic examination showed the larynx to be tumefied and of a dark-purplish color. There was no necessity for tracheotomy, however. The constitutional symptoms were comparatively slight. The patient recovered. The cerebral symptoms in case first were evidently due to an acute meningitis due to the influence of the systemic poisoning. This having become chronic was the cause of

the resultant insanity. The writer believed that erysipelas of the pharynx and larynx was not an uncommon affection, and urged that greater interest be taken in the recognition and recording of cases.

DR. DEBLOIS, of Boston, called attention to a case of this kind which he reported about a year ago.

DR. RICE, of New York, agreed with the writer in believing the disease of occasional occurrence among the broken-down subjects met with in general hospital practice.

DR. ROE, of Rochester, had in a similar case applied a spray of alcohol with good success.

DR. COHEN suggested that from the well-known efficacy of the hydrochlorate of pilocarpin in facial erysipelas it might prove a valuable remedy in this special manifestation.

DR. DELAVAN, in closing the discussion, suggested that in the use of pilocarpin the dose commonly recommended was excessive. He had made an extended series of observations upon the effect of this drug, and believed that the dose of one twentieth of a grain hypodermically should, as a rule, be the maximum when administered to a patient for the first time.

In the course of the business meeting which followed next in order the report of the librarian excited much interest. During the last six months the library had been more than doubled, and the catalogue presented by the librarian showed a list of 25 bound volumes and 364 pamphlets. The support of the Association and of its friends was earnestly solicited.

(To be continued.)

## Recent Literature.

*A Manual of Bandaging.* By C. HENRI LEONARD, A.M., M.D. Detroit: Illustrated Medical Journal Co. 1884. Second edition.

This edition of Dr. Leonard's Manual contains nearly thirty more pages than the previous one. The most important addition is the chapter on Immoveable Dressings.

The book contains much instruction for the student making his first acquaintance with the art of bandaging, and the one hundred and thirty-nine engravings, while not artistically beautiful, are useful in assisting to an understanding of the text.

*Operative Surgery.* By K. McLEOD, A.M., M.D. London: J. A. Churchill. 1885.

The title of this book might be misleading. It is a pretty full report of all the surgical cases treated by Dr. McLeod in a service of five years at the Calcutta Medical College Hospital, and would be of especial interest to the collector of statistics. One cannot but feel sorry that the author did not give the results of his experience in a concise form, more attractive to the general reader. The matter upon the radical cure of hernia is of especial interest.

## Medical and Surgical Journal.

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### THE WORK OF THE NEW COMMITTEE AND THE ORGANIZATION OF THE NINTH INTERNATIONAL MEDICAL CONGRESS.

A MEETING of the new committee on the organization of the Ninth International Medical Congress, appointed by the American Medical Association at New Orleans, was held in Chicago on June 24th and 25th. Twenty-eight of the forty-five members were present. 'Sufficiently satisfactory assurances as to the legality of the new committee — among others, that of a former speaker of the National House of Representatives, Hon. S. J. Randall — had been obtained to secure the attendance and participation of several members of the original committee of seven.

The committee did the work expected of it, and with less malice than would have been possible, but with sufficient thoroughness, we fear, to put an end to the prospects of a successful and creditable *international* congress, and adjourned to meet in St. Louis on the first Monday in May, 1886. The rules were amended so as to confine membership to the constituency of the American Medical Association. The American members, it is decreed, shall consist of delegates from the American Medical Association, and from medical societies in affiliation with it, each of these societies being entitled to one delegate for every ten members. The number of sections was reduced from nineteen to sixteen, and the presidents of sections are no longer *ex officio* members of the General Committee.

Dr. H. I. Bowditch, of Boston, was dropped from the list of vice-presidents, Dr. A. Jacobi from the presidency of the Section of Diseases of Children, Dr. Lefferts from that of Laryngology, Dr. H. P. Bowditch from that of Medical Education, and Dr. H. D. Noyes from that of Ophthalmology. Numerous changes and additions were made in the vice-presidents and members of council of the different sections. These honors are issued as plentifully as fiat money after a *camp d'état*, and the various geographical divisions of the country are impartially besprinkled with them. A publication of the full list would require much space; and, as

this is already the second long list made public within a few months, as the refusal by many prominent men to serve as officers under existing conditions makes certain the appearance of other revised lists, which may eventually end in no list at all, we content ourselves with referring our readers to our news columns for the present organization of the Congress and for changes in the presidents and vice-presidents of sections. In the same columns will also be found a report of the action of prominent physicians in Philadelphia and Boston connected with the organization of the Congress. These refusals to accept office in the present organization will doubtless be followed by others.

These gentlemen proposed to aid and participate in the discussion of questions of medical science, not of medical ethics, medical politics, or of square miles of territory. There will, however, be more offices, although less congress, for those who prefer such discussions and such distinctions to a harmonious gathering of scientific men searching for truth; and we hope somebody may be happy, if it be only for a short time.

#### THE TREATMENT OF SPINA BIFIDA.

As abstract of the report of the committee<sup>1</sup> appointed by the Clinical Society of London, to investigate the treatment of spina bifida, by the injection of a solution of iodine in glycerin, has recently appeared.

We are presented with the deductions of a committee who have been over two years in collecting their information, and these are certainly of great practical interest.

They conclude that there is an absence, in the walls of the tumor, of the meso-blastic tissues; and practically accept Morgagni's theory that the deformity is due to a lack of development of this embryonic tissue. From microscopical sections they conclude that the fissure does not include the cord, for the central canal of the cord has been demonstrated in the expanded tissues of the walls of the sac. In the common lumbosacral spina bifida they find that ordinarily the spinal cord is flattened out and blended with the wall of the sac, especially in its posterior median, vertical portion, and the nerves are not distributed to the walls of the sac as ordinarily supposed.

How the radical measures which have been advanced for the treatment of this deformity have met with any measure of success is indeed a question of much interest. In the majority of cases the elements of the spinal cord are distributed and make a part of the wall of the sac.<sup>2</sup> Now if we

ligature the tumor, with or without subsequent excision of the sac (Paget, Eriksen, Whitehead); or completely extirpate the sac and close by sutures (Dubourg, Tavignot, Mayo Robson); or clamp the tumor and remove (Pye),<sup>3</sup> we probably should remove, at least in many cases, a section of the spinal cord or the cauda equina. This would naturally be considered a heroic measure.

On the other hand, many cases are recorded of success where the tumor has been excised with antiseptic precautions.

The committee, however, express themselves in no uncertain terms; they discountenance any radical operation that proposes the removal of the sac or the median vertical portion, into which the cord is ordinarily inserted; and are agreed that the treatment by injection of Morton's solution is by all odds the safest:—

R	Iodin. pur.	gts. x
	Potass. Iodidi	gts. xxx
	Glycerine	3i.

Professor Humphrey,<sup>4</sup> in a valuable lecture recently delivered, arrives at nearly the same pathological conclusions as the committee. He emphasizes the following points: that the cord is commonly attached to the posterior wall of the sac of the tumor; and that the sac is most frequently formed from the subarachnoid space, thus being shut off from the dangerous arachnoid cavity.

With our present knowledge of this subject it would seem that surgeons should content themselves with the milder methods of treatment; as

(a) (1) Protection of the tumor by shields. (2) Simple compression without puncture. (Cooper. Heister.)

(b) (1) Puncturing the tumor with a thin antiseptically clean trocar; partial evacuation of fluid followed by light compression, or frequent aspirations. There is frequently much trouble in controlling the oozing from the cyst after puncture. (2) Painting with collodion. (Behrend reports a case cured.) (3) Puncturing followed by the injection of iodine (Brainard, Velpeau, Chassagnac). (4) The injection of a half-drachm of Morton's fluid, without allowing the fluid to escape, at intervals of from a week to ten days. Morton reported in his monograph, we believe, over fifty per cent. of cures.

The committee consider hydrocephalus, marasmus, paralysis, the presence of an impulse between the tumor and the anterior fontanelle, or a thin-walled ulcerated sac, as contraindications to operative interference.

As the committee suggest, a lack of discrimination in reference to the selection of suitable cases for operation undoubtedly accounts for the mortality recorded.

The committee advise non-interference in infants

<sup>1</sup> British Medical Journal, May 30, 1885, p. 1068. The committee consists of Mr. Howard Marsh, Mr. Pearce Gould, Mr. H. H. Clutton, and Mr. R. W. Parker.

<sup>2</sup> Mr. R. W. Parker stated in a discussion at the Clinical Society, March 27, 1885, that, in ninety five per cent. of the cases of spina bifida, the sac contained nerve tissue.

<sup>3</sup> Pye's case recovered; there were no nervous structures in the wall of the sac.

<sup>4</sup> Lancet, March 28, 1885, p. 557.

under two months of age. Certainly, at any age we think that, if it be possible to properly protect the tumor against danger, it is wise not to interfere.

A certain number of cases come to the surgeon in which it is a matter of necessity to adopt some operative procedure; and it is important to recognize the fact that it is impossible to diagnosticate the presence of the cord or any of the nervous elements in the sac. It is commonly thought that the presence of especial tenderness or the onset of convulsions from manipulating the sac is evidence of the presence of the cord. Hofmokl<sup>5</sup> records a case when he could grasp the cord in a spina bifida without producing either pain or convulsions.

The committee have carefully avoided generalizations from individual experiences, and have broadly grasped the whole subject of the operative treatment of spina bifida. The subject is one of great interest; and we regret that the committee have not published their report in full. However, they have tersely given us their conclusions; and we await with interest the appearance of the detailed report, which will appear in the annual Transactions of the Clinical Society.

#### THALLIN: ANOTHER NEW ANTIPYRETIC.

WE are indebted to the industry of Continental chemists for still another antipyretic obtained by way of synthesis. It is a derivative of quinoline, and is called *thallin* from the emerald-green color which characterizes its solution when treated with bichromate of potash, perchloride of iron, and various other reagents. The original German name of this substance is *tetrahydroparacetamethyloxyquinoline*, or, as some would have it (heaven defend us from such chemical nomenclature!), *tetrahydroparacetaminol*;  $C_{10}H_{11}NO$ .

Thallin was discovered by Skraup in 1881, and has been made the subject of clinical experimentation by Professors Nothnagel and Jacksch.

The two salts of thallin which have been principally utilized in medicine are the sulphate and tartrate, which present themselves under the form of a white crystalline powder, with slightly bitterish saline taste. The tartrate is soluble in ten times, the sulphate in five times, its weight of water.

It has been shown that the sulphate is more active than the tartrate; and this is the salt which Jacksch has used and with which he has made trials in cases of typhoid fever, rheumatism, erysipelas, measles, puerperal fever, pneumonia, and tuberculosis. Like antipyrine, thallin is said to have no effect in intermittent fever. It is an antithermic and not an antiperiodic. Its febrifuge properties are manifested in the human subject in doses of from three to fifteen grains and given to the extent of from twenty to forty grains a day.

From the communication to the Société de Thérapeutique of M. Henri Huchard, we learn that the salts of thallin produce after their administration slight chills, then profuse sweating, attended with nausea, a possible result of their disagreeable taste; but they do not provoke cyanosis, collapse, or phenomena of adynamia; nor has M. Huchard witnessed the appearance of methemoglobin in the blood which other experimenters have signalized. The thermic fall lasts four or five hours, but the secondary ascension of the temperature is marked by chills. Sometimes abundant sweats are observed a quarter or a half an hour after the administration of the medicament.

Thallin also possesses antiseptic properties. A twenty per cent. solution arrests the ammoniacal and alcoholic fermentations.

Huchard's experience with thallin assigns to this new medicament an antipyretic rôle much inferior to that possessed by antipyrine, its action being less sure, less marked, and less enduring.

Grocco, of Pavia, has also experimented with thallin, and he has arrived at the same results: gastric tolerance, chills and sweats, heat fall of one or two degrees in hyperpyrexia, no efficacy in intermittent fever. While the temperature falls the pulse diminishes somewhat in frequency; the diaphoresis is almost as abundant as that which follows the administration of *jaborandi*. Huchard, in explaining the *modus operandi* of thallin in lowering febrile temperature, ventures the opinion that it acts by augmenting the radiation of heat through the dilatation which it effects in the peripheral vessels, and that it exercises no influence on the febrile process itself; that is, it affects the vaso-motor, not the thermogenetic, centres.

The conclusions of Huchard do not agree with those of Brouardel and Loye, who, after repeated experiments on animals, have found thallin to be a dangerous medicament, changing hæmoglobin into methemoglobin, and thus diminishing the oxidizing power of the blood and arresting the organic combustions.

These experimenters have constantly noted, after the administration of thallin to animals, the presence of methemoglobin in the blood, and the animals die as if profoundly anæmiated by hæmorrhage. The phenomena of asphyxia are very marked.

Dujardin-Beaumetz has experimented with thallin in two cases and has observed profuse sweats and depression of the temperature. He classes thallin along with kairin among antipyretic medicaments which diminish the respiratory power of the blood.

This writer, in the last edition of his "*Leçons de Clinique Thérapeutique*," divides antithermics into three groups: those which mechanically abstract heat, and of which the cold bath is the type; those which act on the thermogenetic centres, the types of which are quinine, antipyrine, and salicylic acid; and those which diminish the respiratory (oxidizing)

<sup>5</sup> Medizinische Jahrbücher und Anzeiger, 1878. "Über das Wesen und die Behandlung der Spina bifida," p. 143.

capacity of the blood, in which class, as before said, he ranges kairin and thallin; the latter being, in his opinion, dangerous medicaments which ought to be banished from therapeutics.

M. Huchard, who is disposed to regard this new medicine with greater favor, would restrict its use to certain cases of tuberculous fever, or of ordinary fever when the hyperpyrexia is intense. Sulphate of quinine and salicylic acid, in acting on the febrile process itself, and restraining heat production, possesses, he thinks, a marked superiority as antithermics over thallin. According to this authority, salicylic acid and salicylate of soda are contra-indicated in febrile pulmonary affections and especially phthisis, as they tend to produce congestions on the part of the lungs. Huchard furthermore insists that in clinical medicine there are no *antithermics*, but rather *antihyperthermics*; the indication to employ the powerful heat-depressants existing only when the pyrexia is excessive and a source of danger.

#### MEDICAL NOTES.

—The conviction of Pel, the Parisian murderer, was secured in the absence of discovery of his victim's body, which, of course, involved much additional labor on the part of those who conducted the case for the prosecution. The murdered woman, Pel's mistress, was found by two neighbors ill with persistent vomiting. After a few days they were refused admission to see her; and a week after the last time they saw her they were informed by Pel that she had left him without saying whither she was going. She was never seen again. During those days it was noted that Pel was keeping up a large fire in his stove, and an offensive odor was perceived in the neighborhood. Among the experiments performed by the medico-legal advisers of the prosecution was the burning of a human body in a small stove in the morgue, in order to demonstrate that it could be so thoroughly destroyed as to leave no traces behind. There was evidence that the lethal agent employed was arsenic, which Pel seems to have used on more than one occasion. The same poison was found in the body of his wife, who died four years before; but he claimed that she had been taking Fowler's solution as a medicine, and the jury failed to convict on that charge.

—M. Vulpian has recently shown, says the Paris correspondent of the *British Medical Journal*, after having determined what is the minimum electric stimulus necessary to apply to the gray substance of the brain in order to provoke movements, that the same effects are obtained by a weaker current, if isolated electrodes (entirely covered by gutta-percha, except at the extremity) be allowed to penetrate the gray substance until they reach the white matter. He also affirms that epileptic attacks are provoked by stimulating the underlying white

bundles by weaker currents of less duration than those used for stimulating the surface of the gray substance. Other experiments by M. Vulpian tend to show that the gray cortical substance is of quite secondary importance in the pathogeny of epilepsy. M. Vulpian has arrived at this conclusion from freezing the cerebral surface of a dog by methyl-chloride, and then applying an electrical stimulus, which provokes epilepsy. The results of his researches appear to be opposed to the doctrine of functional cerebral localization. They indicate that the nerve-fibres destined to transmit cerebral motor initiations from certain regions to a limb, for example, may issue from a certain circumscribed area without the superposed gray substance being necessarily a defined initiating area. M. Vulpian, in the course of his experiments, observed that in less than a minute after the last heart-beat, faradization of neither the gray nor white cerebral substance provoked the slightest movement of either the limbs or the face. This demonstrates that, among the higher order of mammals, the cerebral substance loses its motor stimulus as soon as the circulation is arrested in the nerve-centres.

—A Sanitarium at Virginia Water, England, the gift of the late Mr. Holloway, the well-known pill-maker, was recently opened by the Prince of Wales. It is designed for the treatment of the curably insane of the middle classes, and is intended to be self-supporting. It will accommodate two hundred patients, and stands in grounds of some thirty-two acres in extent. The buildings are richly furnished, and appear to contain whatever is most useful for their purpose. The grounds are also tastefully laid out. Dr. Sutherland Rees Philipps has been appointed medical superintendent.

—The following test for oleomargarine is given by the *Therapeutic Gazette* as at once reliable and simple. A few drops of sulphuric acid when placed on genuine butter produce first a yellowish-white and after ten minutes a brick color, while oleomargarine treated in the same manner assumes first an amber and later a crimson color.

#### Miscellany.

#### THE LATEST ORGANIZATION AND CHANGES IN OFFICERS OF SECTIONS OF THE PROPOSED NINTH INTERNATIONAL MEDICAL CONGRESS.

The new Committee of the American Medical Association appointed the following organization and presidents and vice-president of sections for the proposed Ninth International Medical Congress:—

Dr. Austin Flint was retained as President. Dr. Henry I. Bowditch, of Boston, was stricken from the list of Vice-presidents, and there were added Drs. John L. Atlee, of Lancaster, Pa.; O. W. Holmes, of Boston; W. O. Baldwin, of Mont-

gomery, Ala.; J. M. Toner, of Washington; Wm. Brodie, of Detroit; L. A. Sayre, of New York; W. W. Dawson, of Cincinnati, and H. H. Skillman, of Lexington, Ky.

Dr. John H. Packard, of Philadelphia, was elected Secretary-general, and Dr. F. S. Dennis, Chairman of the Finance Committee.

The Executive Committee was constituted as follows: Drs. Beverly Cole, of California, Chairman; J. V. Shoemaker, of Philadelphia; A. Y. P. Garnett, of Washington; J. H. Packard, of Philadelphia; F. S. Dennis, of New York; J. S. Lynch, of Baltimore; J. W. S. Gouley, of New York; William Pierson, of Orange, N. J.; Christopher Johnston, of Baltimore, and J. C. Tucker, of Alameda, California.

A Local Committee of Arrangements was also appointed, consisting of Dr. A. Y. P. Garnett, of Washington, Chairman, and all of the Washington members of the Committee and of the Councils of the Sections.

In the Section of Medical Education, Legislation, and Registration, Dr. S. E. Chaillé, of New Orleans, displaced Dr. H. P. Bowditch, of Boston, as President, and Drs. George Cupples, of Texas, and R. J. Dunglison, of Philadelphia, were substituted as Vice-presidents for Drs. Chaillé and Stillé, of Philadelphia.

In the Section of Anatomy Dr. C. W. Kelly, of Louisville, and Dr. W. H. Pancoast, of Philadelphia, were added as Vice-presidents.

In the Section of Physiology, Dr. H. P. Bowditch, of Boston, was added as a Vice-president.

In the Section of Medicine, to which that of Nervous and Mental Disease was added, Drs. Alonzo Clark, of New York, S. Weir Mitchell, of Philadelphia, and P. G. Robinson, of St. Louis, were added as Vice-presidents.

In the Section of Surgery, Dr. Moses Gunn, of Chicago, was added as a Vice-president.

The Sections of Obstetrics and Gynecology were united, and Dr. Battey, of Rome, Ga., made President, and Drs. T. A. Reamy, of Cincinnati, John Goodman, of Louisville, Thomas Opie, of Baltimore, and T. Gaillard Thomas, were added to, and Dr. Thomas Addis Emmet, of New York, was stricken from, the list of Vice-presidents.

In the Section of Ophthalmology, Dr. E. Williams, of Cincinnati, was substituted for Dr. Henry D. Noyes, of New York, as President, and Dr. Noyes and Dr. E. L. Holmes, of Chicago, were made Vice-presidents.

In the Section on Otology, Dr. C. H. Burnett, of Philadelphia, was stricken from the list of Vice-presidents and placed on the Council, and Drs. A. M. Wilder, of San Francisco, and D. S. Reynolds, of Louisville, were made Vice-presidents.

In the Section of Dermatology and Syphilis, Dr. J. M. Keller, of Hot Springs, Ark., was made Vice-president.

In the Section of Laryngology, Dr. Lefferts was displaced as President, and Dr. J. N. Mackenzie, of Baltimore, substituted, and Dr. M. F. Coomes, of Kentucky, was made a Vice-president.

In the Section of Public and International Hygiene, Dr. Ezra M. Hunt, of Trenton, New Jersey, was stricken from, and Drs. J. L. Cabell, of Vir-

ginia, A. L. Carroll, of New York, and J. N. McCormick, of Bowling Green, Ky., were added to, the list of Vice-presidents.

In the Section of Military and Naval Surgery and Medicine, Drs. Donald MacLean, of Ann Arbor, P. A. Hooper, of Arkansas, and E. H. Gregory, of St. Louis, were made Vice-presidents.

In the Section of Practical and Experimental Therapeutics, Dr. E. R. Squibb, of Brooklyn, was added as a Vice-president.

In the Section of Diseases of Children, Dr. Abraham Jacobi, of New York, was stricken out as President, and Dr. J. Lewis Smith, of New York, substituted, and Dr. DeLaskie Miller, of Chicago, was added as a Vice-president. — *Medical News*.

## THE INTERNATIONAL MEDICAL CONGRESS AND THE MEDICAL PROFESSION IN BOSTON.

THE following resolutions were adopted at a meeting of the physicians of Boston concerned in the organization of the Ninth International Medical Congress, and held in that city July 2d:—

*Whereas*, we had been led to believe that the authority to organize and control the Ninth International Medical Congress had been permanently delegated by the American Medical Association to its original committee, thus providing against any radical changes in its published programme, and

*Whereas*, the American Medical Association has revised the action and annulled appointments of that committee in a way which we regard as detrimental to the interests of the medical profession of America and fatal to the success of the Congress;

*Therefore*, be it resolved that we, the undersigned, members of the medical profession in Boston and vicinity, concerned in the organization of the Ninth International Medical Congress, decline to hold any office in said Congress as now organized.

Robert Amory.	Francis Minot.
H. P. Bowditch.	J. R. Chadwick.
G. M. Garland.	F. I. Knight.
R. T. Edes.	C. F. Folsom.
O. W. Holmes.	Hasket Derby.
J. J. Putnam.	S. J. Mixer.
G. H. Lyman.	R. H. Fitz.
Jacob L. Williams.	C. J. Blake.
S. G. Webber.	Thomas Dwight.
H. W. Williams.	J. C. Warren.
T. M. Rotch.	O. F. Wadsworth.
H. P. Walcott.	E. Wigglesworth.
Thomas Fillebrown.	

## THE INTERNATIONAL MEDICAL CONGRESS AND THE MEDICAL PROFESSION OF PHILADELPHIA.

A MEETING of the members of the medical profession of Philadelphia concerned in the organization of the International Medical Congress of 1887, was held at the Hall of the College of Physicians, on Monday, June 29th, Dr. Alfred Stillé in the chair. Dr. David W. Yandell, of Louisville, was present by invitation.

After hearing a report of the proceedings of the new committee, at its meeting held in Chicago last

week, and after considering the changes in the organization which were made, including the restriction of the scope of the membership by which a large proportion of the profession of the country would be excluded from the Congress, the following preamble and resolution were unanimously adopted:—

*Whereas*, Certain serious changes have been recently effected in the preliminary organization and rules for the International Medical Congress of 1887, it has seemed desirable for the members of the General Committee and the officers of the Sections resident in Philadelphia to meet for consultation; and

*Whereas*, It has appeared that these changes are inconsistent with the original plan, and detrimental to the interests of the medical profession in America, and of the International Medical Congress; therefore, be it

*Resolved*, That we, the undersigned, consider that our duty to the profession and to ourselves requires us to decline to hold any office whatsoever in connection with the said Congress as now proposed to be organized:—

D. Hayes Agnew.  
Roberts Bartholow.  
John H. Brinton.  
Charles H. Barnett.  
R. A. Cleemann.  
J. M. Da Costa.  
Louis A. Duhring.  
William H. Ford.  
William Goodell.  
Samuel W. Gross.  
Robert P. Harris.  
I. Minis Hays.  
William W. Keen.  
Joseph Leidy.

S. Weir Mitchell.  
William F. Norris.  
William Osler.  
John H. Packard.  
Theophilus Parvin.  
William Pepper.  
Edward T. Reichert.  
Albert H. Smith.  
Robert Meade Smith.  
Alfred Stillé.  
George Strawbridge.  
William Thomson.  
James Tyson.  
Horatio C. Wood.

David W. Yandell.

## Correspondence.

### EVEN DIVISIONS OF CLIMATE BASED UPON COMBINED ATMOSPHERIC HUMIDITIES.

DENVER, COLORADO, June 27, 1885.

*Mr. Editor*.—As your journal contained quite a full report of the proceedings of our American Climatological Association (first two numbers for June), I crave permission to correct the mistakes which resulted from my allowing my paper to be presented *in my absence*. Had I been able to be present I should have endeavored to hold the discussion to the subject of my paper: "The Even Divisions of Climate Based upon the Combined Atmospheric Humidities," as illustrated upon my seasonal climatic maps of the United States. As there was an unwillingness to pass judgment upon these divisions (which, I believe, are the first of the kind ever presented to the medical profession), and, as the discussion turned upon the therapeutics of climate, I assume the subdivisions as made on my charts, under the two heads *moisture* and *dryness*, were not objected to. Especially is this a fair conclusion since the very important element of *soil moisture* must have its appropriate influence everywhere (except for limited areas) upon the humidities of the air,—relative and absolute humidity, and in a less degree cloudiness,—and so upon the various coloring of the climatic maps. These charts give the general averages for the whole country without reference to any particular foreground or region productive of soil moisture. Therefore, as might be expected, those regions bordering on the oceans and lakes, or lying low in the interior, most naturally come out into

the dark-blue shades of extreme moisture. If the Adirondacks and portions of the Alleghany range, rightly esteemed as health resorts because of their sandy soil, free drainage, etc., are not properly represented on these charts it is because there are no signal-service stations there to indicate the shades of dryness to which those desirable localities belong.

Allow me to correct a statement in your report. You say: "Dr. Denison's view was that the principal elements of a desirable climate were dryness, elevation, and equability of temperature." That was not my idea at all, but may have been gathered from some statement made in the discussion of my paper. I would say the chief elements of desirable climates for phthisical patients are dryness, coolness, sunshine, and elevation. With these qualities I am willing to accept a due amount of variability of temperature, which is their natural result, just as equability is synonymous with warmth and moisture of atmosphere.

The statement attributed to me in your journal is inconsistent with the following quotation from my last year's report to the Climatological Association: "Hitherto it has not been customary for climatologists to see any good in variability. They have rather preferred to champion its opposite—equability. It does not seem to have occurred to them that the qualities which they praised, such as clearness and purity of atmosphere,—especially its freedom, with increasing elevation, from disease germs and the evidences of the lower forms of life which thrive on warmth, moisture, and equability,—are largely due to the great seasonal and other ranges of temperature, and to the nightly chilling or perhaps freezing of the atmosphere. It is not necessary to introduce any argument of a speculative character. Statistics prove, beyond the possibility of successful contradiction, that variability is a distinguishing attribute of really dry places,—whether elevated above sea-level or not,—and that equability is, as a rule, characteristic of a uniformly damp atmosphere." In proof of this the fifteen United States signal stations giving the greatest mean daily range of temperature average 28.7 deg. F., and are the really dry places, such as Yuma and Prescott, Arizona; Visalia, California; Forts Davis and Elliot, Texas; and West Los Animas, and Denver, Colorado; while the fifteen stations of least daily range average 11.9 deg., and are uniformly moist places, such as Eastport, Maine; Buffalo, New York; Barnegat and Sandy Hook, New Jersey; Cedar Keys and Key West, Florida; Hatteras, North Carolina; Galveston, Texas, and San Francisco, California. Still stronger evidence is obtained by averaging the daily and monthly ranges of temperature for all signal stations located in the different belts representing the divisions of climate on my seasonal climatic maps. The result is as follows:—

Stations of	Means of Daily Ranges.	Means of Monthly Ranges.
1. Extreme dryness.	36.51° F.	53.45°
2. Moderate dryness.	26.63°	49.38°
3. Moderate moisture.	17.09°	45.48°
4. Extreme moisture.	13.61°	41.53°

"The places of extreme dryness are more than twice as variable in daily temperature as those of extreme moisture, while the monthly means regularly decrease in variability at the rate of about four degrees for each division of climate from the extreme of dryness to the extreme of moisture." I believe too much attention has hitherto been given to equability and the precise variations in temperature, and too little to other qualities and conditions of the atmosphere.

I was surprised to learn that any one who is so much of an authority on climatology as Dr. Bell, the able editor of *The Sanitarian*, should bring forward the

argument based upon the nearly equal proportion of deaths from consumption in Colorado and Florida without even mentioning the importation into those States of the cases furnishing the mortality from this disease. In America, as in Europe, the migration of invalids, from causative to remedial climates, is becoming such an important factor in the treatment of chronic lung diseases that no census statistics are of any value without accounting for this effect. As to the origination of the disease in Colorado, I canvassed the physicians of the State several years ago, with decidedly confirmatory results in favor of an "approximate immunity from consumption" at six thousand feet above sea-level (*Rocky Mountain Health Resorts*, p. 100). In my practice of twelve years in Colorado it has been very seldom that I have known of the origination of phthisis here, and with the carefully kept records of nearly twelve hundred cases of asthma, phthisis, chronic pneumonia, etc., I do not remember to have written a certificate of death for one uncomplicated case of phthisis originating in Colorado. Of course there are such cases; I have one under my care at the present time. As civilization progresses here, it will not be strange if the disease is much more frequently met with in thickly settled districts, made up as they are of a considerable scattering of regenerated invalids.

In Denver, physicians (in making out certificates of death) are requested to state where the disease was contracted. I learn from our Health Commissioner that for the year ending with May just passed there were 151 deaths reported from chronic pneumonia,

phthisis, and consumption, and only eleven, including the chronic pneumonia cases, were reported as originating in Colorado, the information desired not being given in about half the cases.

In making comparisons between Florida and Colorado it should be noted, also, that invalids go to Florida just for the winter, while they come here, from the South as well as North, if possible, to live; that is, to fight it out to the end. Finally, the weight of evidence is so decidedly in favor of elevation as an important factor in the climate for the consumptive, that it will not answer for any one, who has not personally investigated the Rocky Mountain regions, or similar elevated resorts, to say that nothing has been proved for elevation. Everything has been proved, since all the most desirable attributes — dryness, coolness, sunshine, stimulation of increased atmospheric electricity, sandy soil and perfect drainage, and last, but not least, *purity of atmosphere* — are favored and increased with elevation above sea-level. Besides, and above all this, there are physical effects of the lessened atmospheric pressure, chiefly made known upon respiration and the pulmonary circulation of blood, which are remarkable for displacing diseased by healthy action — effects which are testified to by many who have personally investigated the subject at various elevations, and by such distinguished climatologists as Dr. Hermann Weber and Prof. C. T. Williams, of London, Prof. H. C. Lombard, of Geneva, Professor Jourdaunt, of Paris, and lately by Professor Jacoud.

Yours respectfully,

CHARLES DENISON.

#### REPORTED MORTALITY FOR THE WEEK ENDING JUNE 27, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diphtheria and Croup.	Scarlet Fever.	Diarrheal Diseases.
New York . . . . .	1,340,114	678	333	27.58	11.34	6.16	1.48	13.33
Philadelphia . . . . .	927,005	380	175	19.50	11.96	3.38	8.84	3.40
Brooklyn . . . . .	544,526	329	196	39.68	13.92	3.05	1.52	34.86
Chicago . . . . .	632,100	212	113	24.44	8.46	5.17	3.76	9.40
Boston . . . . .	423,800	151	56	21.78	17.16	7.92	3.30	5.91
Baltimore . . . . .	408,520	196	102	30.21	15.39	.57	—	26.22
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	273,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	130	52	29.29	13.83	2.31	3.08	12.32
Buffalo . . . . .	204,000	73	28	9.50	19.08	2.18	2.63	5.26
District of Columbia . . . . .	194,310	136	74	28.12	8.88	2.18	.74	4.26
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	36	7	5.56	16.68	—	—	2.78
New Haven . . . . .	62,882	21	10	37.44	12.48	4.16	—	—
Nashville . . . . .	54,400	26	12	28.46	19.23	—	—	26.95
Charleston . . . . .	52,286	40	13	20.00	12.50	—	—	15.00
Lowell . . . . .	71,447	22	10	31.85	4.55	—	4.55	13.65
Worcester . . . . .	69,442	18	5	16.66	5.55	5.55	—	5.55
Fall River . . . . .	62,674	21	9	9.52	4.76	—	—	—
Cambridge . . . . .	60,465	19	6	10.52	21.04	10.52	—	—
Lawrence . . . . .	45,516	10	1	—	30.00	—	—	—
Lynn . . . . .	44,895	10	5	10.00	—	10.00	—	—
Springfield . . . . .	38,480	—	—	—	—	—	—	—
Somerville . . . . .	31,350	—	—	—	—	—	—	—
Holyoke . . . . .	30,215	8	4	12.50	37.50	—	—	—
New Bedford . . . . .	30,141	10	1	—	20.00	—	—	—
Salem . . . . .	29,503	13	0	15.38	7.69	7.69	—	—
Chelsea . . . . .	24,347	8	0	12.50	25.00	12.50	—	—
Taunton . . . . .	22,693	10	5	20.00	10.00	—	10.00	—
Gloucester . . . . .	21,400	3	1	—	33.33	—	—	—
Haverhill . . . . .	20,905	—	—	—	—	—	—	—
Newton . . . . .	19,421	4	0	—	—	—	—	—
Brookton . . . . .	18,323	—	—	—	—	—	—	—
Malden . . . . .	15,273	—	—	—	—	—	—	—
Newburyport . . . . .	13,917	5	1	—	—	—	—	—
Waltham . . . . .	13,568	9	0	—	11.11	—	—	—
Fitchburg . . . . .	13,433	5	2	40.00	—	—	20.00	—
Northampton . . . . .	13,165	—	—	—	—	—	—	—
84 Massachusetts towns . . . . .		54	11	9.25	20.35	4.85	3.70	3.70

Deaths reported 2,640; under five years of age 1,235; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 678, diarrhoeal diseases 380, consumption 336, lung diseases 175, diphtheria and croup 105, scarlet fever 50, measles 43, malarial fevers 20, typhoid fever 22, whooping-cough 19, cerebro-spinal meningitis 17, erysipelas six, puerperal fever five, smallpox one. From measles, New York 20, Philadelphia and New Haven seven each, Boston three, New Orleans and District of Columbia two each, Buffalo and Nashville one each. From malarial fevers, New Orleans 11, New York nine, Brooklyn five, Chicago three, Baltimore, and District of Columbia one each. From typhoid fever, Chicago six, New York four, Philadelphia three, Boston and Charleston two each, Baltimore, Providence, New Haven, Lowell, and Salem one each. From whooping-cough, New York 10, Philadelphia five, Chicago, Baltimore, New Orleans, and Nashville one each. From cerebro-spinal meningitis, Chicago and Baltimore three each, Fall River two, New York, Philadelphia, New Orleans, District of Columbia, Nashville, Lowell, Worcester, Holyoke, and Taunton one each. From erysipelas, New York four, Philadelphia, Brooklyn, Boston, and Lowell one each. From puerperal fever, New York three, Brooklyn and Boston one each. From smallpox, Philadelphia one.

The meteorological record for the week ending June 27th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Col.e, of the United States Signal Corps:—

Week ending Saturday, June 27, 1885.	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, 21	29.965	67.1	79.7	60.6	60	53	80	64.3	S W	S	S W	14	19	18	F	C	C	—	—
Monday, 22	29.894	70.0	81.8	50.5	50	32	43	47.0	N W	N W	W	15	20	17	C	C	C	—	—
Tuesday, 23	29.919	61.3	69.7	50.7	61	32	48	47.0	N W	N W	W	15	25	21	C	C	C	—	—
Wednes., 24	30.096	67.8	77.6	57.2	40	31	60	43.7	N W	N W	W	15	20	11	C	C	C	—	—
Thurs., 25	30.112	72.9	84.8	59.7	50	36	60	51.7	W	N W	W	15	14	10	C	C	C	—	—
Friday, 26	30.083	73.0	83.6	64.6	67	49	72	62.7	W	W	W	7	16	12	C	F	C	—	—
Saturday, 27	30.054	72.4	84.3	64.1	81	60	80	73.7	S W	W	S W	7	17	9	C	F	O	—	—
Mean, the Week.	30.015	69.2	80.2	59.3				57.3										1.20	0.02

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JUNE 27, 1885, TO JULY 3, 1885.

BROWN, H. E., major and surgeon. Assigned to duty as post surgeon, Fort Reno, Ind. Ter. S. O. 91, Department of the Missouri, June 24, 1885.

AINSWORTH, F. C., captain and assistant surgeon. Relieved from duty at headquarters, Department of the Missouri. S. O. 93, Department of the Missouri, June 26, 1885.

TAYLOR, B. D., captain and assistant surgeon. Assigned to duty at Little Rock Barracks, Ark. S. O. 139, Department of the East, July 1, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING JULY 1, 1885.

SHAFFER, JOSEPH, assistant surgeon. For duty on board the United States Receiving Ship St. Louis, League Island, Penn. July 10, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE TWO WEEKS ENDING JUNE 27, 1885.

LONG, W. H., surgeon. Granted leave of absence for three days. June 18, 1885.

FREESTEN, C. S. D., surgeon. Leave of absence extended seven days on account of sickness. June 24, 1885.

WHITE, J. H., assistant surgeon. Granted leave of absence for twenty-one days. June 23, 1885.

Cases reported in Boston: measles 42, scarlet fever 35, diphtheria 31, and typhoid fever one.

In 100 cities and towns of Massachusetts, with an estimated population of 1,287,488 (estimated population of the State 1,355,104), the total death-rate for the week was 15.00, against 10.56 and 14.59 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending June 20th the death-rate was 18.3. Deaths reported 3,129: infants under one year of age 156; acute diseases of the respiratory organs (London) 196, measles 187, whooping-cough 104, diarrhoea 55, fever 34, scarlet fever 29, diphtheria 23, smallpox (London 21, Hull two, Manchester one) 24. The death-rates ranged from 31.7 in Cardiff to 10.5 in Derby; Birmingham 19.8; Blackburn 25.5; Bradford 16.1; Hull 17.4; Leeds 17.7; Leicester 15.7; Liverpool 23.2; London 16.4; Manchester 25.5; Nottingham 21.7; Sheffield 20.8; Sunderland 17.5. In Edinburgh 18.9; Glasgow 22.9; Dublin 27.5.

For the week ending June 20th in the Swiss towns there were 35 deaths from consumption, diarrhoeal diseases 26, lung diseases 10, typhoid fever five, diphtheria and croup three, puerperal fever three, whooping-cough and erysipelas two each, smallpox one. The death-rates were: at Geneva 21.3; Zurich 13.6; Basle 13.6; Berne 20.7.

#### BOOKS AND PAMPHLETS RECEIVED.

Our Recent Debts to Vivisection. By William W. Keen, A.M., M.D. (Reprint from Popular Science Monthly, May 1885.) Philadelphia: Porter & Coates. 1885.

A Manual for Hospital Nurses and others engaged in attending the Sick. By Edward J. Donville, L.R.C.P. Lond., M.R.C.S. Eng. Fifth edition. Philadelphia: P. Blakiston, Son & Co. 1885.

The Failure of Legislation in Limiting the Spread of Venereal Diseases. By E. W. Allison, M.D., and W. E. Ashton, M.D. Read before the Philadelphia County Medical Society, April 22, 1885.

A Treatise on Practical Chemistry and Qualitative Inorganic Analysis. Adapted for use in the Laboratories of Colleges and Schools. By Frank Clowes, D.Sc. Lond. With illustrations. From the fourth English edition. Philadelphia: Lea Brothers & Co. 1885.

The Ten Laws of Health: or How Diseases are Produced and Prevented; and Family Guide to Protection against Epidemic and other Dangerous Diseases. By J. R. Black, M.D. Philadelphia: J. B. Lippincott Co. 1885.

Medicinische Jahrbücher Herausgegeben von der k. k. Gesellschaft der Ärzte Redigirt von Prof. E. Albert, Prof. H. Kundrat, und Prof. E. Ludwig. Jahrgang 1885. 1 Heft. Wien: Wilhelm Braumüller. 1885.

Report of the Board of Trustees of the Eastern Michigan Asylum, at Pontiac, for the biennial period ending September 30, 1884.

Moisture and Dryness, or the Analysis of Atmospheric Humidities in the United States. Read before the American Climatological Association (1884). By Charles Denison, A.M., M.D., Denver, Chicago. 1885.

University of Georgetown. Thirty-seventh Annual Announcement of the Medical Department, corner of Tenth and E Streets, Washington, D. C. Session of 1885-86.

## Original Articles.

METALLIC POISONING FROM CANNED FOODS.  
WITH A REPORT OF SIX CASES OF POISON-  
ING FROM CANNED TOMATOES.<sup>1</sup>

BY FREDERICK F. DOGGETT, A.B., M.D.

CONSIDERING the vast amount of canned food consumed and the chances of metallic poisoning in its use, it is certainly remarkable that so few cases of such poisoning are on record; hence the interest of the cases reported in this paper. From a hasty search of the literature of the subject, drawing references from the five volumes of the *Index Medicus*, as well as other sources, but comparatively few cases have been found. Most of these have occurred in England and America; but few in France and Germany, this being probably due to the fact that much less canned food is used in the two latter-mentioned countries.

In addition to the above, I have collected together certain hints about the process of canning foods and the appearances of bad cans and their contents, whereby, in cases of lead-poisoning or irritant poisoning, if we suspect canned food as the cause, we may arrive at some opinion as to the suspected can and its contents; and this will be found to be a most practical help to us as practitioners.

## CASES OF POISONING FROM CANNED TOMATOES.

CASE I. On the fifteenth of May, 1883, I was called to see Mary H., aged eighteen, who gave the following history: Previous to May 1st had been healthy. About that time she began to complain of nausea, with occasional vomiting, frequently metallic taste in mouth, anorexia, unusual constipation, interrupted by occasional diarrhoea, accompanied by much pain and tenderness over stomach and abdomen; also pains in the limbs and increasing weakness, so that she was obliged to give up work. She also complained of short breath and frequent palpitation of heart.

Physical examination, May 15th. Complexion anemic, with slight jaundice; tongue coated; breath fetid; gums spongy, and a marked blue line at junction with teeth; abdomen slightly tympanic and tender on pressure, which tenderness was increased on deep pressure; respiration shallow; 23 to the minute; pulse irregular and about 110 beats to minute. To test muscular weakness I ordered her to get out of bed into a chair, from which she had to be assisted to bed again. The extensors appeared no weaker than the flexors. Urine rather scanty. A specimen which was examined showed it to be concentrated; no albumen present; slight sediment and no casts.

CASE II. Ann H., aged sixteen, sister of the above, was complaining about the twenty-fifth of previous month. About May 1st was so sick as to take to her bed, where she had been for two weeks, but had much improved by the twelfth of May. She also had a metallic taste in the mouth, constant nausea, with a "sinking" feeling, as she described it, with occasional vomiting; great constipation; tender and painful abdomen; anorexia; much loss

of flesh; great muscular weakness; some dyspnoea and palpitation. Physical examination showed a blue line on the gums, which were, as in the other case, tender and spongy. The pulse was 150 a minute; temperature, which was normal in case I., was 101.5 F.; respiration 25, and shallow; skin sallow; countenance dull; breath fetid; abdomen flat and hard.

In this case the symptoms were said to be mending. She had eaten scarcely anything in the previous ten days. She had been feverish at different times during the illness, though generally cool; urine scanty and difficult of passage.

CASE III. Kate H., another sister, twelve years of age, was so ill from May 2d to May 12th that she could not go to school. The symptoms from which she suffered, as described to me on May 15th, were substantially the same as those in cases I. and II. in addition to considerable headache and loss of sleep. On May 15th the pulse was weak and irregular, and 125 beats to the minute; and, though attending school, she looked anæmic, and complained of being always tired and with no appetite; there was no blue line on the gums. She had previously been very healthy. Her sickness began with diarrhoea.

CASE IV. James H., brother of above, eight years old, was well up to the first of May, and then was sick in bed for one week. The most prominent symptom in this case was constant nausea, with frequent vomiting; diarrhoea present at first, followed by constipation. Many of the symptoms of the above-described cases were present. He went to school by May 12th, but still suffered from nausea and occasional vomiting. This case was not examined for the blue line on the gums.

CASE V. Elizabeth H., age fourteen, of the same family, between May 10th and 13th had two days of diarrhoea, nausea, and vomiting, and puckering taste in the mouth. On May 15th was at school and feeling in usual health.

CASE VI. Nellie H., age three, was sick for a few days, following the tenth of May, with diarrhoea, vomiting, and great complaint of abdominal pain. She also was said to have had some fever. Pretty well on May 15th. There was no blue line on the gums in cases V. and VI.

CASE VII. Mary H., age forty, mother of the above-mentioned children, said that she had lost flesh for a month past from April 15th to May 15th, had had a metallic taste in her mouth from time to time, with sinking at stomach, nausea, diarrhoea alternating with constipation, muscular weakness, dyspnoea, palpitation, anorexia, and abdominal tenderness.

Physical examination showed the pulse to be 130 a minute; respiration frequent and shallow; skin sallow; a blue line on the gums, with fetid breath and coated tongue.

The presence of the characteristic blue line on the gums in three of the above seven cases; the presence of colic, great muscular weakness, constipation, and nausea, with the frequent metallic taste in the mouth in four of the cases—all point to lead-poisoning as the cause of the above symptoms, accompanied most probably by a still more irritating metallic poison.

<sup>1</sup>Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, April 8, 1885.

On inquiry the mother told me that about the middle of the previous month—times being hard with the family—they bought a large supply of canned tomatoes very cheap. One or two cans a day were consumed in a family of eleven persons for many successive days; on some days three or four cans were used. Some of the cans left a metallic taste in the mouth, or “puckering,” as she described it. In two or three instances this was so objectionable that the can was thrown away. Some of the cans were rusty on the inside of the cover or bottom. One can she remembered in particular, about May 9th or 10th, half of which had to be thrown away, though the children ate some of it in the form of soup. Most of the cans were palatable and apparently good.

The utensils used by the family in cooking were examined for presence of lead, with negative results, there being no “enameled” ware in use.

As two other families who were healthy used water through the same pipes, the water could not be blamed.

A can partly filled with tomatoes, from the first lot used by the family, was taken for examination. This was said to be a “good can”; and so it proved to be, so far as the presence of lead was concerned, for from the concentrated filtrate from the above, first evaporated to dryness and burned and treated with nitric acid, no signs of lead were got by the sulphuric acid, potassic iodide, or bichromate of potash tests.

This can was labeled “K . . . Imperial Brand,” and, having found where the family obtained their cheap supply, I went to the same place and got two cans of the like brand. The cans were some three cents cheaper than the usual price, much shoddy, and without date of time of preparation. There was no evidence of rosin used in soldering, either at the joints of the head, bottom, or side. On opening, one can was found to be oxidized in patches about the joint at one end and the liquid had a slightly metallic taste, as two other persons besides admitted. The juice of the two cans was treated by evaporating to dryness, burning, and filtering with nitric acid, and testing the filtrate. No lead was found in one, but in the can with the metallic-tasting contents lead was found. As to the innocuousness of the other can, the part remaining was used without any bad effects.

As further evidence bearing on the inference that the poisoning was due to eating the tomatoes we have the negative proof that the four other members of the family, who ate not at all, or very little, of the tomatoes, remained well. The detection of lead in a can of the brand eaten is only presumptive evidence that some of the cans used contained lead. On the other hand, the medical and circumstantial evidence alone is enough to stamp them as cases of metallic poisoning from the canned tomatoes. In cases I., II., and VII. the symptoms of lead-poisoning were most prominent, the symptoms of an irritant poison being subordinate. Cases V. and VI. were cases of irritant poisoning, without any symptoms of lead. Cases III. and IV. were mixed cases of lead and irritant poisoning. They all recovered; cases I., II., and VII. taking the longest time.

That tin or zinc might also have been present in

some of the cans, as well as lead, is possible and is made probable from cases IV., V., and VI.; for in these cases the sickness would point to the presence of a more irritating poison than lead, and acute poisoning from lead is very rare.

Dr. Johnson, in a paper read before the New York Legal Society, April 8, 1884, gives an account of several cases of corrosive poisoning from zinc and tin chloride in canned goods. The zinc chloride is with tin chloride formed into a flux or solution, and is used in soldering the ends and sides of the cans instead of rosin and ordinary solder, than which it is much more convenient though very poisonous, and in spite of great caution it may at times get into the contents of the can.

So certainly is this means of poisoning from canned food recognized that the State of Maryland has passed a law forbidding the use of the poisonous zinc and tin chloride amalgam in canning food. As above noted, there was no mark of rosin to be seen about either the ends or sides of the cans examined. Cases V. and VI. were taken violently sick after eating of the bad can used about the ninth or tenth of May. Such acute symptoms from lead alone would be very rare, even if there was considerable present. Both these cases recovered promptly, which would not have been the case had they ingested at that time a large dose of lead. In all the cases diarrhoea was very marked at first, which is not usually the case in simple lead-poisoning. In the cases where the pulse was especially examined there was great disturbance, it being irregular and very quick, from 120 to 150. In simple lead-poisoning the pulse is slow, according to Flint. According to Reeve, it is sometimes quickened. But in poisoning from irritant metallic poisons, as copper, zinc, or tin, the pulse is small, irregular, and quick. Stannous chloride is very poisonous; the symptoms from poisoning by this salt resemble corrosive-sublimite poisoning, though much milder.

It is improbable that in these or similar cases of poisoning a poisonous tin salt could come from the wall of the can itself; though there is some reason to suppose that lead may so contaminate the contents of the can. First in regard to tin:—

In 1878, A. E. Menke reports that in an analysis of many specimens of canned lobsters, apples, and pineapples he found tin present in the contents of all, and in the latter as much as 1.3 gr. to lb. This was reported in the *Chemical News* (England).

In 1880, Hehner, in the *Analyst* (Engl.), reports that he found tin present in canned asparagus, tomatoes, peaches, pineapples, cherries, corned beef (five brands), oysters, sardines, salmon, mutton, chicken, turkey, and canned milk (three brands). In the milk there was  $\frac{1}{10}$  gr. to lb. In soup  $\frac{1}{2}$  gr., and in oysters  $\frac{1}{10}$  gr.

Later, Wynter Blyth, in a report to the Vestry of Marylebone, found, in twenty-three samples of tomatoes, in cranberries, apricots, and pineapples, larger quantities in form of stannous hydrate, which is much less active than stannous chloride. In some of the above specimens he found as much as 14.3 gr. per lb., and the average amount in all examined was 5.2 gr. to lb. In some, even the juice had a metallic taste. In some cans the tin was corroded. By experiments on Guinea-pigs with stannous hydrate,

Orfila found that it took .174 gm. per kilo in weight of body of the animal to produce death. Assuming man equally susceptible to the poison as the Guinea-pig, it would take from three to four drachms to kill a man. It is probable, however, that small repeated doses act more powerfully, as with mercury. Such a result is likely to follow after long-continued living on an exclusive canned diet, as on long voyages. Such a state of affairs was found to be present among the officers and crew of the ill-fated *Jeannette*, on their memorable retreat over the ice to the coast of Siberia. The goods had been canned for two winters and two summers, and had been a constant article of diet. The longer the vegetable and fatty acids are in contact with the metal the more will be the likelihood of a poisonous stannous compound forming.

In Germany, Drs. Unger and Bödlander examined a great number of cans of fruit and vegetables, and always found tin present in the solid parts as an insoluble stannous compound, the per cent. of tin being .04.

On May 5, 1881, Professor Attfield, of England, read a paper before the Pharmaceutical Society of London, detailing a large number of analyses of sixteen varieties of foods, in only a few cans of which could tin be found, even in small quantities. In his opinion a harmful quantity would produce such a disagreeable taste as to render it unfit for food; further, that the "public has not the faintest cause of alarm respecting poisoning from either tin or lead in canned food"; further, that when symptoms have been reported they have resulted from stannous or plumbic chloride, formed with hydrochloric acid in soldering, this tin salt being very poisonous. He further thinks that a poisonous tin or lead salt may be formed by contact of the fatty or vegetable acids on the metal of the can or solder when kept open in the air waiting to be used.

A commissary officer high in the United States Army has made the statement that during a series of years in different parts of the country hundreds of thousands of cans of food have been used by the army, and no case of poisoning from such food has ever been reported. That extraordinary care is used in selecting the cans in the United States service I know to be true, as a gentleman lately in the navy informs me that all swelled cans are rejected.

It is probable that a large part of the canned food at any time on hand has not been freshly canned. Hence the great resistance made to the passage of the proposed bill through the New York Legislature in the spring of 1884 by the producers of canned goods. The bill was to the effect that each can should be stamped with the date of its preparation. I have found that in "the trade" the inferior goods are known as "Seconds" and "Re-processed," which means that the cans which have failed in the first preparation to become hermetically sealed, or those which have rusted or got punctured and the inside of the can oxidized and chemically acted on by the acids of the contents, and perhaps the contents partially decomposed; such cans are superheated in steam or boiling water, resoldered, and returned to the market.

In the *British Medical Journal*, November 1,

1879, p. 707, is mentioned the occurrence of several fatal cases of poisoning from tin and zinc chlorides in the solder used in preparing canned meat. Hydrochloric acid was used in the amalgam. This occurred in Germany.

So far as poisoning from tin is concerned by formation of a poisonous compound from chemical union of acids of the contents of the can with the metal, either in the solder or from the walls of the can, or from careless use of stannous chloride in soldering, the great bulk of testimony shows that such poisoning may occur. The apparent discrepancy between Professor Attfield's testimony (although he admits poisoning may occur from tin) and other authorities is explained when we recall that they were examining different specimens.

From the symptoms and a consideration of the evidence, I think it most probable that cases V. and VI. were cases of corrosive poisoning from a salt of tin, probably of stannous chloride. Case IV. seemed to suffer more from this than from symptoms of lead-poisoning.

Having shown that cases I., II., III., and VII. were cases of lead-poisoning from eating the canned tomatoes, and having demonstrated the presence of lead in a specimen of the same brand obtained from the same source, it remains to inquire how lead may get into the contents of the can. When genuine solder is used some small quantity of lead in it may get in and be acted on by the contents, forming a soluble salt, and so be absorbed; but in all the analyses to which I have had access this has never been considered of consequence enough to suggest poisoning, except with a strong acid contents.

The other possible source of the lead is important. It appears that an amalgam of tin and lead is cheaper than the former metal alone, hence there is always an inferior quality of tin in the market which contains from one to ten per cent. of lead, and such tin has been used in canning foods, and lead-poisoning from such a cause has resulted. For instance, Dr. Magruder<sup>1</sup> publishes a case of severe lead-poisoning from eating canned corn. He found that tartaric acid was used in preparing the corn, and that the tin of the can had a certain amount of lead as an amalgam with it. This he proved by testing the tin of the can, and he found the same to be true in several cans of the like brand which he tested. This was verified by Dr. Onderdonk, of St. James College, Maryland, who out of many cans tested found only two free from lead.

Dr. Dorsh<sup>2</sup> reports that out of a large number of cans tested he found lead as an alloy with tin in almost every case. An alloy of lead and tin is more easily oxidized and dissolved than tin alone. I have tested twenty cans of many brands, from the cheapest to the highest price, and have always found lead present in the tinning of the cans. This, too, with weak solutions of nitric acid, allowing the acid to act some time and then getting the characteristic yellow iodide of lead by dropping on a crystal of potassium iodide.

The principal examiner of chemicals in the Patent Office at Washington says that all commercial tin is alloyed with lead; and that the formation

<sup>1</sup> Philadelphia Medical News, September 8, 1883.

<sup>2</sup> Chicago Medical Journal and Examiner, September, 1878.

of salts of lead and tin when in an alloy is especially liable to take place in presence of fruit acids. Professor Wormley, of the University of Pennsylvania, gives his testimony that several cases of lead-poisoning have occurred after eating canned fruit.

In the *Philadelphia Medical Times* for May, 1883, a case of poisoning from this cause is reported. In the *Quarterly Compend of Medical Science*, July, 1883, there is reported the case of poisoning where 150 soldiers, quartered in the Tyrols, used as a cooking-utensil a dish lined with tin which was alloyed with lead; they all suffered from lead-poisoning; forty-five of them were in the hospital, and one died from this cause.

Nannin, in Ziemssen's *Cyclopædia*, says a mild lead-poisoning may occur from the action of fatty and vegetable acids on the lead in an alloy of tin and lead. Some specimens, such as Bohemian tin, may contain ten per cent. of lead.

On the other hand, F. P. Hall,<sup>3</sup> after analyzing a number of specimens of tin used in canning food, says the tin is generally pure, and in his opinion such acids as would be present in canned food would not affect impure tin enough to cause poisoning.

The French Commissioner of Hygiene admits cases of lead-poisoning from canned food in cans made of tin and lead alloy, and suggests that a law should be made in France compelling the use of pure tin.

M. Gautier, in France, reports that no death has been traced to canned goods, but many cases of lead-poisoning have been reported from continued use of such goods.

To show how the specimens of tin used in canning goods may differ, so good an observer as Professor Remsen,<sup>4</sup> examined some of the same brand of canned corn which produced lead-poisoning in Dr. Magruder's case, and reports that lead was absent in the corn; also in the metal of the can. So that, as pointed out in reference to poisoning from a salt of tin, contradictory evidence of this kind should have no great weight, as some specimens of the same brand are good and some bad.

In the above cases of lead-poisoning related by the writer, it seems most probable that the lead salt absorbed was produced in the cans by the chemical action of a vegetable acid from the tomatoes acting on the lead contained in the alloy of the can, and possibly on a little solder which may have got in through carelessness. The writer regrets that he did not test the suspected can for lead in form of an alloy.

In general, the possible sources of danger to the consumer of canned foods are to be found in the structure of the can, the solder, or in the contents *per se*. As to poisoning from decomposed animal canned food, many cases have been reported. For instance, in the *British Medical Journal* of November 1, 1879, there is reported the account of the poisoning of twenty-one persons from eating "Chicago corned beef." The symptoms were those of an irritant poison, even proceeding to collapse, though all the cases recovered. Usually the unpalatableness of the contents is enough to warn

the consumer not to partake. The bad condition of the contents can often be foretold before opening the can; as, if air has been admitted at the time of soldering, or from improper methods of preparation, or original unsound contents, decomposition will take place and fermentative gases be formed within the can, together with the acids; this will cause the ends of the can to bulge outward. In "the trade" such cans are called "swells." Such cans should be rejected. A recent writer on the subject has said that a bad can will have rattling contents on being shaken. I think this proves nothing as to the badness of a can; for, in case of between thirty and forty cans of tomatoes, the contents were found perfectly good on eating; though before opening, the contents of the cans rattled on shaking.

Among the cheaper grades of canned tomatoes I have occasionally found that the contents will curdle milk, though it may taste and look as usual. I think in such cases that some fermentation has taken place, and in the process a vegetable acid has been found to curdle the casein of the milk. Ordinarily the juice of the tomatoes mixes with the milk without curdling it. Accordingly, if a little of the juice of a suspected can of tomatoes will curdle an equal quantity of sweet milk, one would be justified in assuming the presence of some vegetable acid in the tomatoes. It is only a question of amount of acid and length of time it remains in contact with the surface of the can that will determine the presence of a lead salt in the contents of the can. The contents may have a metallic or astringent taste, as in the above-reported cases, and then it should be rejected.

As to the solder, there is danger of corrosive poisoning from presence of tin, or zinc, or lead, or all. For it is now, or has been, a custom, within a short time, to use a flux of tin and zinc chlorides, and with hydrochloric acid to solder on the head of the can. This is so poisonous that a small quantity in the can would do much damage. The ordinary way of soldering is with a solder of tin and lead with rosin, which last in melting leaves its trace around the head and at the side of the can. Hence, reject a can not showing this, as then the presumption is that the poisonous solder has been used. A small piece of the tin and lead solder may fall into the can, but as yet has never been shown to have done harm.

However, if a large surface of solder is left on the inside of the can by the solderer, and if acids were formed in the can, there would be a good chance for lead salts to be formed; for ordinary plumber's solder contains seventy-five per cent. of lead—a much larger amount than would be found in the turning of the can.

The acids likely to be formed by fermentation or decomposition of the contents of the can are, from vegetables and fruits, acetic acid, malic, citric, and tartaric; from meats or fish mostly butyric acid.

As solder is somewhat expensive in quantities, and an unskilful solderer will use more than a skilful one, solder in sticks is served to each man. We may see from this that some cans would have more solder on the inside than others. Further than this, to solder quickly and with an economy of

<sup>3</sup> American Chemical Journal, vol. iv.

<sup>4</sup> Philadelphia Medical News, January 19, 1884.

solder, with rosin as a flux, requires a skilful workman; whereas the beginner uses much solder, and at first perhaps hydrochloric acid instead of rosin as a flux. The acid in contact with the solder forms the very poisonous stannous chloride, which, in the hands of the beginner, is all the more likely to be used carelessly and get into the contents of the can.

The manager of a canning-factory makes such a distinction between a good and bad solderer that each man is often made to put his mark on each can made, so that it may afterward be identified.

As to the can itself, if pure tin alone were used, the formation of a poisonous stannous compound sufficient to produce marked symptoms, even if eaten for a long time, would not be possible, as has been absolutely demonstrated. Some innocuous stannous hydrate would always be present, however.

On the other hand, if lead in any quantity is used as an alloy with the tin, then is lead-poisoning likely to follow, provided enough is eaten and over a considerable time. Especially is this likely to occur in goods kept for a long time, or when the contents are left in such a defective can exposed to the air, or when such cans and their old contents have been "reprocessed." These last can be detected, as there are then to be seen two soldered-up holes instead of one in the head of the can; the sound cans have but one soldered-up hole. The contents should never be allowed to stand long in the can after opening, especially in warm weather. The can should contain on the label the name of the manufacturer and place of putting up, and be labeled "Standard." If a can has rust about the cap, air has very likely got in and the contents have decomposed and formed possible poisonous compounds with the wall of can or solder; hence, reject such cans.

These points, in connection with the symptoms in any suspected case of poisoning from canned foods, will enable the practitioner to make a diagnosis. From consideration of the above facts he will be able to give his patients a just estimate of the dangers of poisoning from canned food, showing that such danger is small if the above precautions are attended to. Considering the vicissitudes that canned foods must pass through under the hands of the cannakers, the solderers, and the tradesmen, with the chance of being "reprocessed," or kept for years before reaching the consumer, it is surprising that so few cases of poisoning therefrom have been reported.

## TWO CASES OF RETRO-PHARYNGEAL ABSCESS.<sup>1</sup>

BY THOMAS AMORY DE BLOIS, M.D.

ABSCESSES beneath the posterior wall of the pharynx should be interesting to every one, at least on account of the rarity of their occurrence, for whereas few have been more than one or two cases, yet almost everybody has seen one. They should be quite as interesting to the general practitioner as to the specialist, for they are more likely to occur in

the practice of the former than the latter, on account of their usually being found in children, and of their being opened as soon as found. As to what constitutes a retro-pharyngeal abscess: We should carefully exclude the peritonsillar, or that which is found in the loose tissue around the tonsil, and in so doing might select the posterior pillar of the fauces as the anterior boundary; then any abscess posterior to these pillars, and situated beneath the pharyngeal wall, and from the vault of the pharynx above to the larynx below, should be included under this head.

It has been my good fortune to see five of these cases, two of which occurred last month and within one week of each other, both being in very young subjects.

On the second of March, Dr. G. W. Galvin, being obliged to leave the city, requested me to see the child of Mrs. S., in South Street. I found the little boy, only three months old, lying on a lounge on his side. He was markedly anæmic, and breathed with great difficulty. The mother reported that the child had eaten nothing for twenty-four hours, and that during the preceding night they thought he would die in one of the paroxysms of dyspnoea, of which he had had several. What struck me particularly in the child was that the head was not thrown back, as I had expected to find it.

In the history of the case, as given by Dr. Galvin, he had found an enlargement which seemed to point internally; this disappeared, and two swellings were found on the same side of the neck externally. One of these he incised, but found little, if any, pus; subsequently the tumor was found in the throat.

Placing the child in its grandmother's arms, with its back to the light, by the aid of the head mirror, and a very small teaspoon (for the arch of the jaw was too small to admit the smallest-sized tongue-depressor), I gained an excellent view of a red swelling a little to the left of the middle of the pharynx, a large part being obscured by the tongue; there was also undoubtedly fluctuation on touch with the finger. Having with difficulty obtained permission to open the abscess, and after instructing the woman who held the child to reverse him, when told, as she would an hourglass, I got the point of a bistoury, well guarded with cotton, into it, and cut down till I reached my spoon. The child was inverted promptly, and the pus gushed out on the floor in large quantities, leaving no room for doubt that if the abscess had burst during sleep suffocation would have ensued. Having no syringe with me which would work, I had to wipe out the mouth repeatedly with a wet napkin.

The patient now seemed to be much weaker than before the evacuation of the pus; he was laid on the side with his head lower than his body, and occasionally a few drops of brandy and water were given, and finally the child took the breast. The following morning he was reported as being convalescent.

My second case, which I saw March 8th, was a patient of Dr. Disbrow's, a female child of seven months, living in Columbia Street, daughter of Mrs. H. The mother had been a patient of mine at the

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, April 8, 1886.

Dispensary about two years ago, and while pregnant had developed a peculiar and I suppose hysterical affection of the larynx, taking the form of aphonia, due to want of tension of both vocal cords; this persisted in spite of all remedies until after parturition, when it disappeared spontaneously.

Mrs. H.'s child was exceedingly pale and sick, but had been able to eat, and resisted with violent struggles all attempts to see the fluctuating swelling, which could be felt in the posterior wall of the pharynx, and which pushed forward the velum until the uvula stuck out almost erect. Only once before I cut was I able to sight the abscess, which, unlike the first one, was almost white, and stood in the median line, but this child's head was not thrown back any more than the other. I followed as far as possible my former procedures, except that in addition I had the father to hold the child's head. I think I must have been fifteen minutes trying to bring the abscess again into view, and when I did I cut exactly as I had before, except that the incision was not so long. The child was also turned head downward, and the mouth was syringed, the pus pouring through both nostrils, but there was no blood. On digital examination there appeared to be a second tumor below the first, which afterward seemed to drain off through the same opening, but it must have filled up again, for I heard of its opening spontaneously the next day. After the operation it appeared as if the child were about to go into collapse, the pulse could not be felt, the eyes closed, and she ceased to breathe; wine was given, also the breast after she had rallied a little, but she could not nurse. Yet I felt sure that none of the discharge had entered the lungs, and on auscultation with the stethoscope they seemed to be quite clear of fluid. I tried all I could to rally the child, but when I left the house it seemed about an even chance whether she would live or die.

The next day, however, I received a letter from the father, stating that the baby was "playing on the floor as lively as a kitten."

Last year I mentioned a third case of pharyngeal abscess, which occurred at the Boston Dispensary, in a man, D. M., aged twenty-seven years, and whom I saw on the twenty-second of November, 1880. He had what appeared to be an acute pharyngitis, but he returned on the 24th with his head a good deal bent backward, and a large swelling behind the pharyngeal wall, which fluctuated. I never had seen a pharyngeal abscess before, and when I passed a bistoury into it was very much surprised at the large amount of pus which flooded the patient's mouth and throat. I quickly seized him by the hair and forced his head down into a spittoon which was on the floor, and he was thus enabled to clear his throat and nasal cavities without any of it entering his larynx.

Soon after this I was allowed to see a case in the service of, I think, Dr. Haven at the Dispensary. A little child, perhaps two years old. The head was carried markedly back into the opisthotonus position, and there was so much pain and so little fluctuation that I gave it as my opinion that it was a case of disease of the cerebral vertebra, but it afterward went to the Children's Hospital, and was finally aspirated, I believe.

About a year ago I saw a fifth case in consultation with Dr. Galvin; the child was young, and the swelling was so near the posterior pillar of the fauces that I always felt some doubt as to its being a true pharyngeal abscess. Dr. Galvin cut into it while I was present, but got only blood; either that night or the next day he cut again and got pus.

According to MacKenzie and the authorities he quotes, these affections are idiopathic. Bokai at least counts one hundred and twenty-nine such out of one hundred and forty-four cases, whereas Cohen, quoting from Gautier, states that "it appears to be idiopathic in some few instances only."

In the last volume of the Transactions of the American Laryngological Association, in the exhaustive article by Dr. J. O. Roe, of Rochester, on this subject, this gentleman quotes twelve different authorities who seem to hold twelve different opinions as to the causation of these affections. They range all the way from suppurative in the region of the perinaeum, by Nélaton, to chronic "smuffles," by Fraenkel.

In none of the five cases which I saw was there any assignable cause; there was no syphilis nor other constitutional affection that I could learn. None of the cases appear to have been well-nourished, but no worse than is frequently found in that sphere of life. The hygienic surroundings were what appear to be inseparable from poverty in a large city.

In the first two cases which form the subject of this paper it will be observed the extreme prostration which followed the evacuation of the contents of the abscesses; in both, the children luckily recovered; but would they have survived the operation had they been less strong?

Of course, incision is the procedure which most would follow in dealing with these cases; but may not death in some instances ensue from shock? Would aspiration be any safer than rapid evacuation? and if emptied by the aspirator, is not the probability of the abscess refilling much greater?

I should also like to draw attention to the fact that the heads in these two cases were not carried in what I always believed to be the "pathognomonic" position, — so that symptom was lacking.

One child was unable to swallow, while the other appeared to have no difficulty in doing so, although its abscess was larger and appeared to obstruct the pharynx more.

As to the incision, it has variously been advised to make it longitudinally, transversely from below upward, etc., but it seems to me that the cut should be made from as near the soft palate as you can get, without injuring it, down until you come to the depressor, which will protect the tongue, and of course the more dependent portion of the abscess should be laid open if possible.

The holding of a child with its feet in the air, or the forcing of an adult's head toward the floor are precautions worth observing, for even in the case of the one grown person mentioned, the liberation of the pus was so sudden and overwhelming, that it was no easy matter to clear the throat quickly.

I have never seen a case of retro-pharyngeal abscess due to disease of the spine, but it is this class that refill, recur, or do not get well. The idiopathic and the traumatic begin and end with the one attack.

THE TREATMENT OF PULMONARY DISEASES BY MEANS OF "PNEUMATIC DIFFERENTIATION."<sup>1</sup>

BY VINCENT Y. BOWDITCH, M.D.

It is my purpose to speak of a new method of treatment for pulmonary diseases, which was brought to my notice not long since in the Journal of the American Medical Association, February 14, 1885, in which the writer referred to an article in the *New York Medical Record* of January 17, 1885, by Dr. Herbert F. Williams, of Brooklyn, New York, who speaks of the "Antiseptic Treatment of Pulmonary Diseases by means of Pneumatic Differentiation," and records with their results a series of cases which have undergone this method of treatment.

I speak of it as a new method, because I believe it to be a step forward in the treatment of one of the most formidable diseases with which we have to contend, and whatever may be the results of future investigations, I deem it worthy of the careful consideration of all members of the regular profession, and if the results are not what we have been led to hope for, we can, at least, say that no harm has been done by our endeavor to find a new weapon against a terrible disease.

The treatment of pulmonary diseases by the inhalation of compressed and rarefied air has been for several years used by well-known scientific men with apparent success in many cases in Europe, especially in Germany, and to a much greater extent than in our own country, where I think I am right in saying that comparatively little attention has been paid to either method by members of the regular profession. Various irregular practitioners have used inventions of their own, having more or less similarity to each other, for the disease in question, but whether from the fact that such people usually keep their inventions to themselves, or because they have been proved to be utterly worthless, no marked movement toward a general adoption of such therapeutic measures has been made.

It has been my good fortune in studying the subject to come across the methods of treatment of one or two irregular practitioners, which at first seemed to resemble closely that adopted by Dr. Williams, but which upon closer examination were found to differ in essential points. Of these methods I shall speak more fully later.

The treatment of pulmonary diseases by means of compressed and rarefied air, as used in Europe, is meant chiefly to accomplish the same result as removal to some different section of the country where the air has the requisite degree of density or rarefaction for the treatment of the disease in question. To obtain this, air-tight compartments are constructed, in which the patient sits for a given time, and the air is then partially exhausted or compressed, according to the needs of the case, which treatment is continued for a certain number of hours in the day for several weeks, or possibly months, and the results seem to justify the fact that

these methods are in constant use in Europe.<sup>2</sup> Various portable instruments have been devised by different scientific men for inhalation of compressed air, and *vice versa*, the best known being the apparatus of Waldenburg, of Tobel, of Schnitzler, or of Geigel and Meyer; also another of J. Solis-Cohen,<sup>3</sup> of Philadelphia, all being modifications of the same idea, illustrations of which I shall show you to-night, as seen in books upon the subject. It will be noticed that in the use of these last-mentioned instruments the surface of the body is exposed to the ordinary atmospheric pressure, whereas in the case of the pneumatic chambers the atmospheric pressure upon the body and in the lungs is increased or diminished according as the air in the cabinet is compressed or rarefied.

Still another method has been invented by Hauke, called by him the "Wärme," or tub, spoken of in Ziemssen's *Handbuch der allgemeinen Therapie*; but, as far as I can discover, the apparatus has not been universally used. In following out this method, a rubber hood, closely fitting about the head and leaving the face only exposed, comes down over the shoulders like a shirt. The patient is then made to lie down in the "Wärme," which in shape resembles a tub, having a close-fitting rubber cover which encircles the neck of the patient, and the hood is then fastened to the edge of the cover by means of an elastic band. The air is then partially exhausted from the interior of the "Wärme," which decreases the atmospheric pressure over the surface of the body, with the exception of the face. Upon inspiration the increased pressure of the outside atmosphere materially tends to expand the lungs from within, and the inspiratory act is greatly facilitated, whereas the expiratory effort is proportionately increased, and a calisthenic action of the lungs and chest-walls is thereby obtained to a greater degree than by the ordinary respiratory movements.

A similar method to this was adopted by an irregular practitioner, called "The Hadfield Body Receiver for the New Haven Vacuum Cure," used, I have been informed, in 1869, a sketch of which I have with me.

I have mentioned quite superficially the various methods used by the regular profession in so-called pneumatic therapeutics, so far as I have been able to learn of them, that you may be able to understand the general principles of their use, and before speaking of Dr. Williams's cabinet it is only necessary to mention the various methods of inhalation familiar to us all, used all over the world in the treatment of pulmonary diseases: for example, inhalations of atomized sprays of different substances, of the use of rooms filled with medicated vapors, etc., all of them seeming to have met with more or less success, but too numerous to do more than mention here as they bear upon Dr. Williams's method of treatment.

<sup>1</sup> Compartments of this nature exist in Lyons, Montpellier, Nice, Stockholm, London, and St. Petersburg, also in several places in Germany, but I am not aware that any similar chambers are constructed in this country. They are expensive and need the care of experienced persons in the regulation of the various devices used in connection with them, and it is probably for this reason that they are not more universally used.

<sup>2</sup> Solis-Cohen's article in *New York Medical Journal* for October 18, 1881, entitled "Compressed and Rarefied Air as a Substitute for Change of Climate."

<sup>3</sup> Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, May 13, 1885.

In March, feeling much interested in what I had read of the Pneumatic Cabinet, I went to Brooklyn and was there enabled, through the courtesy of Dr. Williams, to study the apparatus thoroughly, and to examine three or four of his cases who had derived marked benefit from the use of the so-called differentiator. The cabinet is made of iron and resembles a large iron safe in general shape, in one end of which is a large, thick glass window. It is between six and seven feet high, about three feet wide, and from three and one-half to four feet long, in short, large enough for a man or woman to stand up or sit down in comfortably. Opposite the window is a heavy iron door edged with rubber and furnished with heavy bolts, all moved easily by one handle, so that the door can be instantly opened. Beneath the window is a projection in the side of the cabinet to accommodate the patient's knees when sitting with the face near the window, the same projection serving on the outside as a shelf upon which the atomizer used with the apparatus is placed. Passing through the glass window is fixed a short gutta-percha tube about one and one-half inches in diameter, having a stop-cock on the outside, and ending in a trumpet-shaped opening for receiving the spray, the inner end being fitted with a movable rubber tube and mouthpiece for the patient's use. Near the cabinet stands a cylindrical iron vessel, from which the air is as nearly as possible exhausted, communicating with the interior of the cabinet by means of a pipe and stop-cock. A barometer, connected with the inside of the cabinet to show the amount of rarefaction of air in the interior, is fastened to the outside of the cabinet.

The patient enters the apparatus and seats himself opposite the window; the door is closed and the stop-cock of the pipe connected with the vacuum is opened. The air from the cabinet rushes to the vacuum, and when the barometer shows a depression of two tenths of an inch the stop-cock is again closed. A spray, usually of carbolic acid, iodine, iodoform, or bichloride of mercury, either singly or in combination with each other, is then put in front of the inhaling-pipe; the patient is directed to insert the end of the tube in his mouth, closing the lips over the mouthpiece, at the same time compressing the nostrils with his fingers to prevent the air rushing out through his nose; the stop-cock is turned and the outside air rushes in, carrying with it the medicated spray and causing a more forcible involuntary inspiration, giving one the sensation of having taken an unusually full, deep inspiration; the patient then, by a voluntary forced expiration, exhales through the tube again, and continues these respiratory movements several times. Upon the least feeling of fatigue the stop-cock is turned and the patient, after removing the tube from his mouth, breathes the rarefied air of the cabinet again until ready for a second trial. The time occupied in this treatment varies from ten to thirty minutes, and usually daily applications are made, the greatest number given, according to Dr. Williams's pamphlet, being one hundred and thirty-five. The amount of rarefaction used in the beginning is never more than what would cause one tenth or two tenths of an inch depression of the mercury, but during the treatment a gradual increase of rarefaction may be

used, up to an amount causing a one-inch depression of the mercury, although in many cases, doubtless, even a greater degree of rarefaction could be used with benefit and without evil results.

The only peculiar sensation which may be noticed in the beginning of the treatment is a slight crackling in the ears, as the air is being exhausted from the cabinet, but if the patient be told to swallow two or three times, this symptom will entirely disappear.

It will be seen, I think, from the foregoing description of the apparatus, that what it accomplishes is two-fold in its nature, namely: it produces a much greater expansion of the lungs than is possible by an ordinary full inspiration; and, at the same time, the medicated spray being carried with much greater force than by a natural inspiration is deposited in the deeper portions of the lungs in a much more thorough manner than by any other method that I know of, as has been proved satisfactorily by Dr. Williams in a series of experiments referred to in his pamphlet.

As to the principle of his cabinet, it will be noticed that it resembles in theory the "Wärme," or tub, of Hauke, before mentioned, in which atmospheric pressure on the surface of the body is lessened, the face only being exposed to the outside air; but the simplicity of Dr. Williams's method, by which the patient is enabled to undergo the process without the discomfort of putting on extra coverings, as in Hauke's plan, will strike every one, to say nothing of the greater thoroughness with which the purpose is accomplished. The chief merit of his cabinet lies, however, in the fact of the combination of the medicated spray with the increased strength of the inspiratory movements. For full accounts of his cases which have undergone this treatment I must refer you to his pamphlet, merely remarking that the percentage of cases which have improved is most gratifyingly large and that it must be left to the future to determine whether others meet with equally happy results. I wish to speak, however, of three patients whom Dr. Williams kindly let me examine. [Cases I., II., and IV., were read from Dr. Williams's pamphlet.]

Upon examination of case II. of Dr. Williams's pamphlet, I found him to be a young man of rather delicate build, but otherwise looking well, and to all outward appearances in good health. Percussion of the right chest showed slight dullness in that region, and upon auscultation a faint crackle was heard, and the respiratory murmur was harsh, but the gurgling sound and the amphoric quality spoken of at the first examination I did not get. The young man spoke of himself as feeling all right, but upon closely questioning him I found that he had a slight cough upon arising in the morning. Of the evident marked improvement from his previous condition as described, no one would doubt he had been enabled to resume his work a year previous.

CASE I. (a young lady), when I saw her, looked rather pale and anæmic, but her mother spoke to me especially of the condition in which her daughter was before beginning the treatment, and of her belief that she was well. Examination of right chest showed dullness and crumpling with inspira-

tion, — a marked difference from the signs noticed before. — and the patient was able to do, as far as I could learn, everything that the other members of the family were accustomed to.

CASE IV., which was complicated with empyema, looked perfectly well, showing a slight fistula in the left chest. Upon examination, all the signs of a former empyema on the left side were present. Dr. Williams also spoke of the presence of a slight rumple heard at one time under the right clavicle in the course of the disease, but after the continued use of the cabinet it disappeared, and when I examined him the respiration was absolutely pure at that point.

In regard to the first two cases it should be said that Dr. Williams does not wish to claim that they are insured against a return of the trouble: on the contrary, he believes that they both will eventually die of phthisis; but he does claim the greatest improvement and an arrest of the disease, and, as far as outward appearances are concerned, a return to health. He hopes for the greatest benefit to arise in those cases of incipient phthisis where there seems to be nothing more than a catarrhal condition of the lung, and his one desire is that his method of practice shall be given a fair trial by members of the regular profession everywhere. In those cases, moreover, of a slowly expanding lung after pleuritic effusion, the mere mechanical treatment of the cabinet can be of great assistance in promoting expansion.

In every collection of cases of this sort it is only right that we should carefully weigh every evidence for and against the justice of the conclusions drawn. In the cases enumerated in Dr. Williams's pamphlet we must think of the moral effect of the new method upon the patient. No doctor is unaware of the marvelous influence which the mind has over the body, and of the marked improvement which often takes place in the general condition of a patient upon trying a new physician or a new method of treatment. We must think, moreover, of the possibility of the enthusiasm of the inventor blinding his eyes to certain facts which must be considered, while wishing at the same time to be perfectly fair and unbiased in his statements; we must also not be too greatly influenced by the delight of friends and relatives, who, seeing a marked improvement in one dear to them, exaggerate to themselves the signs of a return to health. Nevertheless, with a collection of cases such as Dr. Williams gives us in his pamphlet, it becomes the duty of responsible physicians throughout the country to investigate the subject thoroughly in a spirit of perfect fairness and without prejudice, and to let the future decide whether others meet with equally successful results.

It has been my desire since seeing Dr. Williams's cabinet to find if any similar method of practice has been used before; and my attention was called to a cabinet used by a practitioner not of the regular profession in this city. In a pamphlet issued by him, a woodcut of his cabinet was shown which seemed to resemble almost precisely in principle that of Dr. Williams; and the description of its use as expressed in the pamphlet led me at first to believe that they were identical, with the exception that no attempt was made to use a spray in connec-

tion with the cabinet. I visited the gentleman and was received with courtesy, and the principles of the cabinet were explained to me. The description of the apparatus in the pamphlet speaks of the air being partly exhausted about the patient at his will. Upon questioning the gentlemen more closely, however, I found that the breathing-tube and stop-cock on the inside of the cabinet were not used at all in the same manner as in Dr. Williams's apparatus; and I cannot do better than quote the gentleman's words as nearly as possible: "I exhaust the air in the cabinet to an amount causing a pressure on the outside of the cabinet of about three to five pounds to the square inch (an equivalent of a depression of six to ten inches of the mercury), and direct the patient if he become nervous to open the stop-cock *very slightly*, so that the outside air may enter enough to reassure him, and then let him sit in the rarefied air for a certain length of time, and at the end of the sitting make him take one or two deep inspirations to expand his lungs, opening the stop-cock a little at the same time, the end being in the mouth." From this description it will be seen that his method resembles more those previously spoken of, in which the patient merely sits in a rarefied atmosphere for a given time. No attempt is made to breathe in and out as in Dr. Williams's cabinet: indeed, this would be impossible with the great amount of rarefaction used, for the force of air rushing in through the wide open stop-cock would severely injure the patient; moreover, as I said before, no attempt is made to combine the spray with his apparatus. So it will be seen how essentially the two methods differ at the outset, to say nothing of the fact that while in the one case we are dealing with a scientifically educated physician, in the other we come in contact with one who professes to "diagnosicate his case by his eye"; who "never auscults nor percusses his patients nowadays," and who "draws the corruption out through the skin," etc. etc.

I have endeavored to give the important facts relating to Dr. Williams's apparatus, and to show how it differs from other methods of treatment as far as I have been able to learn of them by reading or by personal observation. My object will be accomplished if the paper shall excite discussion; and I trust if there is any one present who knows of methods of treatment resembling those of which I have spoken, he will speak of them to the Society this evening.

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A SOUTHERN contemporary mentions a lady who summoned a physician to her husband, and told him to bring his "urethra" with him. He of course complied, but also carried a catheter, which proved to be what was wanted.

## Reports of Societies.

### THE SEVENTH ANNUAL MEETING OF THE AMERICAN LARYNGOLOGICAL ASSOCIATION.

HELD AT DETROIT JUNE 24-26, 1885.

THE regular session of the second morning was opened by the reading by title of a "Case of Sub-mucous Laryngeal Hemorrhage, complicated by Cyst," by DR. FRANK L. IVES, of New York.

DR. HARRISON ALLEN, of Philadelphia, then read a paper on

#### THE GALVANO-CAUTERY IN LARYNGOLOGICAL PRACTICE,

with which he presented a new and original cautery snare. The snare was based upon the principle of the Jarvis instrument, except that a platinum wire was used, and arrangements for attachment with the battery, so that the snare might be used either cold or with the galvano-cautery. Some interesting principles in the use of the instrument were explained.

A short and interesting paper on "The Principles involved in the Construction of Spray Tubes," by DR. ANDREW H. SMITH, of New York, was then read by the Secretary.

A number of important instruments were next presented. The exhibition of improved electric lights and galvano-cauterics was by far the most important ever presented to the Association; and the advances made in this department during the past year were shown to be of extraordinary significance.

DR. COHEN presented an excellent accumulator, manufactured in Philadelphia, together with an electrical laryngoscope and other attachments.

DR. DE BLOIS presented a new powder-blower combined with a laryngeal mirror.

DR. ASCH presented two instruments: An osteotome for the removal of exostoses in the nasal passages, and a modification of the Jarvis snare, in which the wire was secured by a clamp instead of being wound around a pin.

DR. HOOVER showed the electric lump and pocket accumulator as perfected by Dr. Felix Semon and Mr. Arthur Vesey, manufactured by J. Weiss & Son, London.

DR. SEILER and DR. JARVIS also presented instruments.

The session of the afternoon was opened by the reading of an elaborate and highly interesting paper by DR. E. FLETCHER INGALS, of Chicago, entitled

#### LEUCOPLAKIA BUCCALIS ET LINGUE, OR LEUKOPLAKIA LINGUE: SUCCESSFUL TREATMENT BY THE GALVANO-CAUTERY.

During the past year it had been the author's good fortune to cure a case of the rare and intractable disease which formed the subject of this paper. The disease had been recognized but a short time, very little had been written upon it, and that little was involved in what at first seemed inextricable confusion. This because several different affections had been confounded and described under the same name. Thus "smoker's patches," the condition found in old glass-blowers termed "professional patches," psoriasis lingue, and various manifesta-

tions of syphilis, having been considered by different authors as true leucoplakia or as one of its phases. Professor Ingals defined leucoplakia buccalis as a chronic affection of the buccal mucous membrane, characterized by thickening of the epithelium and the formation of white, opaline, elevated patches, which usually become fissured and painful, and after continuing for a long time are likely to terminate in epithelioma.

A full history of the disease was given, with copious references.

The anatomical characters, causation, clinical history, and diagnosis were thoroughly considered. As to prognosis, the duration of the disease is uncertain. Two cases were referred to in which cancer supervened in less than six months. Among the indications that leucoplakia is passing into epithelioma were non-inflammatory enlargements of the lymphatic glands, with exfoliation of the thicker portions of the patch, the formation of an ulcer, the supervention of sharp pains, salivation, and at length induration of the subjacent tissue; finally, great swelling in the region of the jaw is likely to occur, and death takes place from exhaustion.

*Treatment.*—In cases of leucoplakia all sources of irritation, particularly those resulting from the use of alcohol, should at once be removed, and if the digestive organs are deranged, as is frequently the case, they should receive proper attention. Aside from these measures most authorities believe treatment of little or no avail.

In the case reported in the paper internal remedies were useless, and local applications of tincture of iodine, nitrate of silver, and the acid nitrate of mercury greatly increased the patient's suffering, and would doubtless have aggravated the disease had they been persisted in. As soon, however, as the actual galvano-cautery was applied relief from all pain was obtained, and by a persistent and careful use of it the disease was eradicated. From a study of the literature of the subject, and from his own experience, the author had arrived at the following conclusions: First, leucoplakia buccalis is an idiopathic disease, distinct from psoriasis, "smoker's patches," and syphilis. It is largely confined to men past middle life, but occasionally occurs in women. Second, the disease is so commonly found in inveterate smokers that the abuse of tobacco may be fairly claimed as an exciting cause, though cases occur where tobacco has never been used. Third, the affection is chronic, and finally terminates, in a majority of cases, in epithelioma. Fourth, internal treatment and the local application of sedative, stimulant, or caustic drugs is in nearly all cases either useless or injurious, and the latter are sometimes disastrous by hastening the development of epithelioma. Fifth, the actual cautery, or the galvano-cautery, will probably enable us to cure many cases, if they are treated sufficiently early: provided it is applied to only a small spot at each sitting and carefully, so as not to destroy the healthy tissue beneath the changed epithelium.

The author's case was then recited in detail and a complete bibliography of the subject appended.

In the unanimous opinion of the Association the paper of Dr. Ingals was a timely and important

communication, which could not fail to excite widespread interest.

Dr. R. P. LINCOLN, of New York, contributed a paper in which he reported

A CASE OF MELANO-SARCOMA OF THE NOSE CURED BY GALVANO-CAUTERIZATION.

A little over two years ago patient first noticed an obstruction to free respiration in the right nostril. This was followed by continual muco-purulent blood-stained discharge. Her general health at this time was good; there was little or no pain. Six months later this nostril became completely occluded. The growth was then removed and pronounced upon microscopic examination to be cancerous. Two months later the former symptoms reappeared and continued to increase for eight months, when the first operation was again repeated. In the course of four months afterward the tumor increased very rapidly, when the patient placed herself in the hands of a so-called "cancer doctor." The patient came under the observation of Dr. Lincoln, in November, 1884. At this time the right side of the nose, extending to the inner canthus of the eye, showed a fulness amounting to about four times the size of the left side of the nose. The lower half of its ala was wanting, and there protruded from the right nostril for about half an inch a dark-colored, fleshy mass, which completely filled it. This was attached to the outer margin of the nostril as well as to its floor. A plum-colored discharge flowed constantly from the nostril, and the lightest touch by a probe upon the mass excited hemorrhage. Exploration showed the tumor to grow from the inferior and middle turbinated bones and from the floor of the nostril for a distance of two inches and a half. The septum was free. The tumor protruded in the post-nasal cavity, occupying about half of it. Its removal was effected by means of the galvano-caustic *écarateur* and a subsequent cauterization of points of attachment. Great pains were taken to make the cauterization complete and thus secure the entire removal of diseased tissue. Hemorrhage was inconsiderable. A disinfectant solution was used for about a week after the operation. The patient was allowed to return home two weeks after the operation. On May 27, 1885, the patient having returned at intervals of one or two months since the operation, careful examination failed to reveal the slightest recurrence of the disease. A microscopical examination of the tumor made by Dr. Frank Ferguson, of the Pathological Department of the New York Hospital, identified the tumor as a true melanotic sarcoma.

In the next paper, Dr. J. O. ROE, of Rochester, New York, presented the history of an extremely interesting tumor of the nasal cavity, which the microscope proved to be an angioma. The subject in general was thoroughly discussed by the writer and a full bibliography of the subject furnished.

Dr. MACKENZIE remarked that certain cases of angiomatous nasal growths might be referred to the category of hypertrophic enlargement of the turbinated bodies.

Dr. J. W. ROBERTSON, of Detroit, then read a paper on

DEFORMITIES OF THE NOSE AS A FACTOR IN NASAL CATARRH.

He inquired: (1) What are the causes of the large number of deformed noses? (2) At what age do these deviations from the normal take place? (3) In what way do these deformities produce catarrhal diseases? and (4) how can these abnormal conditions be prevented?

The author then related statistics from which it appeared that a large percentage of deformities of the nose were directly due to injuries received, syphilis, scrofula, tuberculosis, and allied diseases, which caused necrosis, ulceration, and also congenital improper development. The deviations from the normal took place, according to statistics given by Dr. Robertson, in large proportion between the ages of ten and twenty years, either through the receipt of injury or improper development due to malnutrition. These deformities, through blocking up of secretions, a local malnutrition, or a too free entrance of air, may give rise to catarrh. These abnormal conditions might be avoided by understanding that the time to prevent catarrh and its concomitant diseases is during the growing period of childhood. Deformities due to traumatism, such as fractures and dislocations, are more easily relieved in the young, and should be attended with as much care as corresponding injuries in a larger bone. In cases of syphilitic and scrofulous disease, where the secretions are profuse and inclined to adhere to the mucous membrane, the constant irritation should be relieved by appropriate measures. Care as to hygienic surroundings, and an attempt by proper treatment and feeding to develop, if possible, the bony structure of the nose in children, should be observed.

Dr. MACKENZIE referred to the custom of the ancient Persians with reference to securing symmetry of the nasal chamber in children of the royal blood.

Dr. CLARENCE C. RICE, of New York, then read a paper on

INFLAMMATORY ADHESIONS OF THE SOFT PALATE TO THE WALL OF THE PHARYNX.

The author recognized the lack of success which heretofore has characterized the efforts of most operators for the relief of this condition. In considering the prognosis such cases should be divided into two classes: first, where the sole lesion is the adhesion of the soft palate to the walls of the pharynx, and second, where, in addition to this, extensive cicatrization has narrowed the normal cavity of the naso-pharynx. The author paid a high tribute to the skill and success of the late Dr. Elsberg in the treatment of these cases, and closed the paper with the relation of an original case in which he had operated with success.

The session of Friday, June 26th, was opened by a paper on

ALIMENTATION IN LARYNGEAL PHTHISIS.

by Dr. BEVERLEY ROBINSON, of New York, which was read by the Secretary. The writer explained that three methods of treatment were in vogue for the alimentation of such patients: first, the method

of supralimentation, advocated by DeBove and others; second, the method by means of a tube of small calibre passed a short distance into the œsophagus, and proposed by Delavan; and third, the method by rectal enemata. Each of these methods he explained somewhat in detail, and opposed against them certain objections, fortifying his conclusions by the quotation of several original cases. He strongly advocated the application to the ulcerated parts of cocaine, which greatly diminished the dysphagia and enabled the patient to swallow with comparative ease. Without the use of a local anæsthetic, however, such as cocaine, it was admitted that in some cases of laryngeal phthisis when deglutition was otherwise painful, the patient might be sustained for months by means of injections of food into the stomach through an œsophageal tube. Moreover, that, in those severe cases in which the passage of the œsophageal tube occasioned considerable pain, dyspnoea, or nervous exhaustion, and despite the previous local use of cocaine, recourse might be had, as heretofore, to the use of nutrient enemata judiciously managed.

Dr. COHEN spoke favorably of the use of the small tube passed only part way into the œsophagus, which method he had used with good results.

Dr. DELAVAN also defended the method on the ground that by the use of the tube ulcerated parts were protected from irritation; that the use of cocaine was in many cases unsatisfactory; that the method, although not uniformly successful, would be found of value in a large number of these distressing cases, and objected to its condemnation by Dr. Robinson on the slender basis of two unsuccessful cases. As to the point raised by Dr. Robinson that the method had been described by Dr. Frank Donaldson in 1883, he desired to call the Association's attention to the fact that he had presented a full description of it in his candidate's thesis for the American Laryngological Association, submitted to the Council of the Association in the early part of 1880.

In the absence of Dr. F. H. BOSWORTH, of New York, his paper, "An Additional Note on the Therapeutic Action of Cocaine," was read by title.

A paper upon "Personal Experience with some Recent Additions to the *Materia Medica* of Laryngology," by Dr. J. SOLIS-COHEN, of Philadelphia, was next presented. In this the author's experience with several new drugs was related and many original and valuable suggestions communicated.

A paper entitled "A Case of Membranous Nasal Catarrh," in the absence of the author, Dr. G. W. MAJOR, of Montreal, was read by title.

The literary exercises of the session were concluded by a discussion on the efficacy of mild measures in the treatment of so-called nasal and naso-pharyngeal catarrh, which was opened by Dr. COHEN, who argued that less radical measures than those now in popular use were frequently indicated, and suggested the importance of distinguishing between true hypertrophy and mere turgescence of the nasal mucous membrane. He advocated pressure as an efficient means for the reduction of turgescence, and suggested an ingenious method by which equitable pressure could be employed. This was the introduction into the nostril

of a laminaria tent, cut down until its cylindrical form had been reduced to a thin, flattened oval; this in proportion to the size of the nasal cavity. The tent was to be introduced into the nostril and, moistened by the nasal secretions, allowed to swell; the patient meanwhile being directed to prevent the tent from swelling to such a degree that it could not easily be removed.

The discussion was participated in by Drs. DEBLOIS, COOPER, ASCH, RICE, MACKENZIE, and SUGELY, and the views expressed by Dr. COHEN very cordially received. A vote of thanks was made by the Association to the Detroit Medical and Library Association, to the physicians of Detroit, and to the members of the Detroit press, from all of whom many courtesies had been received.

The ballot for officers resulted in the election of Dr. Harrison Allen, of Philadelphia, President; Dr. H. A. Johnson, of Chicago, Vice-president; Dr. George W. Major, of Montreal, Second Vice-president; Dr. D. Bryson Delavan, of New York, Secretary and Treasurer; Dr. Thomas R. French, of Brooklyn, Librarian, and Dr. J. Solis-Cohen, of Philadelphia, Member of Council.

The next annual meeting will be held in the city of Philadelphia, on the last Thursday in May, 1886.

#### SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

APRIL 8, 1885. The meeting was called to order at 8 o'clock. The Chairman being absent, on motion of Dr. Vincent Y. Bowditch, Dr. JAMES C. WHITE was chosen chairman, *pro tem*.

The records of the last meeting were presented in abstract and approved.

The first business of the evening was the report of the committee appointed at the last meeting for the purpose of suggesting the means of defraying the necessary expenses of the Clinical Section. Dr. VINCENT Y. BOWDITCH presented the report, and stated that there was a small but continuous outlay for the purposes of the Section, for which no provision had ever been made by the members.

The sum at present expended in this way during the past three years was about twenty-five dollars; and it was proposed that the members of the Section contribute as they might feel disposed toward the liquidation of this amount. A paper was passed about the hall, and the amount of money needed was very soon subscribed.

Dr. F. F. DOGGETT then read a paper entitled

METALLIC POISONING FROM CANNED FOODS. WITH A REPORT OF SIX CASES OF POISONING FROM CANNED TOMATOES.<sup>1</sup>

PROFESSOR HILLS stated that the reader had given an impartial *résumé* of the literature of the subject, as it has appeared in the medical journals of the past few years. He criticized, however, the prevalent practice of attributing the symptoms which

<sup>1</sup> See p. 49.

sometimes follow the ingestion of tinned foods to metallic compounds, without first ascertaining that the article ingested actually contains such compounds. It is not sufficient, moreover, to show that the food contains an unknown quantity of some metal. A quantity sufficient to account for the symptoms must be demonstrated before one is justified in attributing the symptoms to metallic poisoning. Symptoms resembling those of irritant poisoning not infrequently follow the ingestion of food which has not been preserved in tins, and in which chemical analysis has failed to disclose any irritant poison. Cases are also recorded in which tinned foods, free from metallic salts, have given rise to similar symptoms. In these cases the symptoms could not have been caused by metallic irritants; and the speaker believed this to be true of a large majority of the reported cases of poisoning from tinned foods.

Two facts are well established with reference to these foods: First, they frequently contain traces of certain metals; they usually contain tin; not infrequently zinc or lead. Second, symptoms resembling those of acute irritant poisoning, and even death, have followed their ingestion. It has not been proved in any authenticated case, so far as the speaker could remember, that the symptoms have been caused by the metallic impurity.

It is important to bear in mind that the quantity of tin, lead, or zinc which a can of food contains is very small. The quantity of tin, when present, usually ranges from a few one hundredths of a grain to one grain per pound, rarely approaching, however, the higher figure. These amounts are not likely to give rise to symptoms of acute poisoning, though, it is true, but little is known regarding the poisonous action of tin compounds, if we except the chlorides and the oxide. The speaker believed, however, that a quantity sufficient to produce harm is rarely present. If present, he believed that it would be recognized by its taste, and the food thus contaminated be rejected as unpalatable. Such cases, so far as there is any evidence, are rare. Lead in tinned foods is derived either from the tin plate or from the solder. The quantity present in foods thus containing lead is too small to give rise to symptoms of acute poisoning. Zinc is frequently detected in tinned foods. Its presence is attributable to the use of the chloride of zinc solution as a soldering fluid. The speaker could not recall any cases in which a determination of the amount present had been made. He did not, however, deny the possibility of tinned foods, at times, containing a sufficient amount of chloride of zinc to cause symptoms of acute poisoning, or the possibility of such symptoms having been caused by this substance. He objected to attributing the symptoms in any case to chloride of zinc without a chemical analysis. The probability of the occurrence of such cases must be slight, since the solution employed is dilute, and a small amount only is used on each can. Through the carelessness of workmen, however, a quantity sufficient to produce symptoms might find its way into the food, but food thus contaminated would be rejected by reason of its disagreeable taste. It has been suggested that the excess of hydrochloric acid in the soldering solution may act upon the tin,

forming the poisonous chloride of tin. If the soldering solution is properly prepared, and an excess is avoided in soldering the cans, it is not probable that a quantity sufficient to produce harm will be formed. If present in injurious amount it would undoubtedly be recognized by its taste. On the whole, these cases of acute poisoning as a result of metallic impurities in canned goods must be very rare. All the cases thus far reported are based on insufficient evidence.

To what, then, are the symptoms to be attributed? Doubtless, in many cases, to idiosyncrasy on the part of the patient; in some cases perhaps to the decomposition of food. It is possible that in certain cases poisonous ptomaines may have been developed in the food. Finally, it must be borne in mind that cases of subacute poisoning may result from the use of copper utensils, or utensils containing lead, for the preparation of the food. Cases of poisoning from these causes are no more liable to occur with tinned foods than with other foods if proper care is exercised. The speaker thought that the principal danger to be apprehended from the use of canned foods was that of chronic lead-poisoning. Such cases have been reported and are always to be feared when these foods are used continuously for a considerable time. They are now used very largely in this way on shipboard and in the army. It is always a wise precaution to remove the food from the can as soon as the latter is opened, since the solution of the tin or lead may be favored by the presence of air. Analyses suggest the probability that time may be a factor in the solution of tin and lead. Foods which have been put up two or three years have been found to contain more of these metals than those put up more recently. It is advisable therefore to avoid old cans.

DR. VINCENT Y. BOWDITCH remarked that he recently had the opportunity to visit the office of the Board of Health in New York, and that he was there shown a large quantity of food preserved in tin cans, which had been found to contain alarming amounts of copper and lead. The same varieties of fruit were afterward preserved in glass jars but were still found to contain copper. It was supposed that the metallic contamination was derived from the employment of copper utensils in the process of preserving the fruits.

DR. DOGGETT maintained that as physicians we should regard any article of food as dangerous, when well-marked signs of deleterious action are observed to follow the ingestion of this substance. The chemist may not be able to detect all the injurious compounds which may either exist in or be formed in the various articles of food which are preserved in cans for human consumption. It would seem to be the duty of the physician to pronounce such articles of food to be poisonous even if no poison be detected by analysis.

PROFESSOR HILES objected to the position assumed by the reader. If sickness follow the ingestion of any article of food and chemical analysis demonstrates that no corresponding metallic contamination exist in the particular food, it is surely better to know that this is so than to blindly consider the sickness to be occasioned by the presence

of a metallic poison in the contents of the can. If no other good result should follow, it would surely direct the attention of scientific people to the discovery of some other unsuspected cause of the sickness.

Dr. BLODGETT observed that several cases of supposed poisoning from canned foods had recently been reported in the English journals, and that several important hints had been given as to the character of the contents of the can. The fact that the ends of the can are crowded outward, or *bulged*, is an indication that decomposition of the contained food may have occurred. The presence of two punctures in the cover of the can, would often indicate that the food as originally put up was not properly prepared, but underwent a process of chemical decomposition accompanied by the formation of gases which caused the ends of the can to be projected outward. The top of the can is then perforated a second time and the gas allowed to escape and a second drop of solder is then applied to the opening, thus showing conclusively that the contents of the can were not perfectly preserved when first sealed.

In England it has been found that cans of improper food are often stripped of their paper wrapper and that the second puncture is then made upon the side of the can instead of at the end, and on replacing the wrapper upon the can, the second puncture could not be detected.

PROFESSOR HILLS stated that the cases reported by Dr. Johnson before the New York Medico-legal Society were not proved, and should not be considered. The statements of Dr. Johnson rest upon pure assumption, and are not trustworthy. The flux that is commonly used is a saturated solution of zinc in chlorhydric acid; and no free acid exists by which any deleterious effect could be produced.

It is desirable that, in cases of suspected poisoning from canned goods, a portion of the contents of the *identical can*, which is supposed to contain the poisonous substance, should at once be submitted for chemical analysis. If, under these circumstances, poisonous ingredients or products are detected in appropriate amount, the claim against the foods might reasonably be entertained. Until this can be demonstrated, however, we must in most cases seek other causes for the unwholesome effects occasionally noticed after partaking of tinned or canned goods as articles of food.

Dr. WHITE asked how long the family had subsisted on tomatoes before symptoms of poisoning were observed.

Dr. DOGGETT stated that tomatoes had been almost the sole and continuous article of food for two months previous to the occurrence of sickness.

Dr. WHITE said that it would be quite improbable that two families should take water from the same supply-pipe and that lead-poisoning should occur in only one. The water must be excluded as the source of poisoning. We frequently notice that contaminated water will produce poisoning in some members of a family and not in others; but the freedom of one entire family from a disease which became general in another using the same water-service would seem to indicate that the water-supply was not the source of the poison.

Dr. DOGGETT, in conclusion, remarked that the attempt had been made to draw up the paper impartially and to exclude all evidence which might be called sensational. As stated in the paper, both with regard to the writer's cases and the reported cases drawn from all sources, the attempt was made to establish them on medical and circumstantial evidences and not on chemical, for in no case, so far as known, has a quantity of metallic poison been found in a can sufficient to produce death or dangerous symptoms. In regard to Dr. Hills's inference that the cases of the writer were not proved to be cases of metallic poisoning, Dr. Doggett replied that from the chemist's standpoint they were not so proved, nor had the attempt been made to prove them, but from the physician's standpoint, relying on the medical and circumstantial evidence, cases I., II., and VII. were certainly cases of metallic poisoning from canned tomatoes, and he presumed Dr. Hills would agree with him in this statement, chemical evidence apart. It would have been an interesting fact to the physician as well as to the chemist to have known how many grains or fractions of a grain of lead were present in the cans consumed, but in the absence of this information the fact of poisoning remains, and though Dr. Hills has said that as a chemist one should not believe it until he had demonstrated chemically the presence and amount of lead in the cans eaten, Dr. Doggett does not believe that even he, in light of the medical and circumstantial evidence given above, would have allowed the family to continue eating the tomatoes. As proved in this sense the cases reported should have weight in every candid mind. The danger most of us recognize as a slight one, but it is none the less a real one, and the writer believes that statements from chemists like Professor Atfield that "the public has not the faintest cause of alarm respecting poisoning from lead or tin in canned foods," are likely to do harm, for, besides making the consumer less careful in selecting the canned foods, it will make the producer more careless in the preparation.

Dr. T. A. DE BLOIS read a paper on

#### TWO CASES OF RETRO-PHARYNGEAL ABSCESS.<sup>1</sup>

Dr. HOOPER spoke of the extreme rarity of the disease, and stated that during the five years he had been connected with the Throat Department at the Massachusetts General Hospital he had seen but a single case. This was in a baby brought in from the surgeon's room by Dr. A. T. Cabot. It was under Dr. Cabot's treatment and made a good recovery. With reference to diagnosis, Dr. Hooper mentioned a remarkable case that he had operated upon when a student in Professor Schrötter's clinic, in Vienna, thinking that he had to deal with a retro-pharyngeal abscess, but which turned out to be something entirely different. The patient was an adult and presented all the subjective and objective symptoms of the disease. No pus followed the incision into the swelling, neither did it diminish in size. The patient had a small goitre, and Professor Schrötter finally determined that the tumor, which was situated low down in the pharynx, was a lobe of the

<sup>1</sup> See p. 53.

thyroid gland which had grown round to that position.

Dr. G. W. GALVIN said that he had nothing to add to the description given by the reader of the appearance of the case or of its treatment. It is quite easy to distinguish this disease from tonsillitis. A similar enlargement in or about the tonsil would prevent the patient from opening the mouth.

Dr. BLODGETT mentioned one case within his observation in which the nature of the disease was not fully recognized, and treatment was mainly expectant. After a period of four days the abscess suddenly opened spontaneously and a copious discharge of pus occurred, from which the patient was quickly suffocated and immediately died. Dr. Blodgett thought that too much stress could not be put upon the necessity of quickly inverting the patient so as to allow the contents of the abscess to escape from the mouth, as the amount of pus was frequently much greater than could have been anticipated and the danger of immediate death from suffocation is always present. It would seem that in hardly another form of surgical disease was timely and judicious operative interference more urgently demanded than in cases of retro-pharyngeal abscess.

Dr. Blodgett asked if necrosis of the vertebra or kyphotic deformity were ever produced by a purulent process located in immediate contact with the vertebral column.

Dr. DE BLOIS replied that this has not been observed, owing doubtless to the acute character of the disease as well as to the fact that some form of acute meningeal inflammation would probably be induced by the invasion of the vertebral column in the rapid manner in which this would occur from a pharyngeal process, and that a fatal result would almost of necessity ensue before necrosis or exfoliation of the bony tissues could occur.

#### NEW SPRAY-PRODUCING INSTRUMENTS.

A new pattern of spray-producing instruments was exhibited to the section, in which but one tube is employed, thus seemingly escaping the complication of two tubes of small calibre, and in which the flask containing the medicament was also the reservoir for the compressed air. The instruments seemed to work quite satisfactorily, although there seemed to be a question as to the durability of the tube owing to the fact that all the medicament is to be projected through the entire length of the tube.

Adjourned at 9.50 o'clock.

#### MASSACHUSETTS MEDICAL SOCIETY.

##### ANNUAL CONFERENCE OF CENSORS.

TUESDAY, June 9, 1885.

The delegates from the various district societies met, according to appointment, at 19 Boylston Place, at 2.30 p.m.

The meeting was called to order at 2.45 by Dr. ALBERT N. BLODGETT, Clerk.

On motion of Dr. F. C. Shattuck, of Suffolk, Dr. JOHN CROWELL, of Essex, North District, was elected Chairman.

The roll-call by districts was answered by fifteen

delegates accredited to the boards of censors of the various district societies.

The records of the last meeting were read and approved.

The following communication from the Board of Councilors was read by the Clerk and ordered to be placed on file:—

ROXBURY, MASS., February 5, 1885.

A. N. BLODGETT, M.D., Chairman of Committee of General Censors' Meeting.

DEAR SIR, — I have the honor to inform you that, at a meeting of the Councilors, held on the 4th inst., a communication from the Committee of which you were Chairman was read. It was voted that the Committee be informed that the Councilors received the communication and express sympathy with the efforts of the Censors toward securing uniformity in the examination of candidates.

Yours truly,

F. W. Goss,

Recording Secretary.

The CHAIRMAN in an appropriate manner presented the business of the present conference. He stated that, at a former meeting of this body at which he had the honor to be chosen chairman, the subject of uniformity of examinations for the admission of candidates by the various district societies of the Commonwealth was the principal topic of discussion and would no doubt claim attention at this meeting. At the former time the reports of the delegates showed a great diversity of methods in examination, as well as considerable variation in the standard adopted by the several boards of censors, which had certainly been changed for the better in some ways, as he could report on behalf of his own Society. The subject was then declared open for discussion.

Dr. SHATTUCK, of Suffolk, stated that the question seemed to be really one of simple conformity to the regulations already made and provided by the State Society for the guidance of the officers of the State Society in the admission of new members to that body. Some of the district boards have advocated a change in the existing laws so as to make their enforcement more severe, and thereby constrain the district boards to a more rigorous form of examination. The censors of Suffolk consider the present provisions of the by-laws as in every way ample and sufficient, and have never advocated a change, nor do they believe that additional legislation is either expedient or desirable.

Dr. COBURN, of Hampshire, said that his Society has in the past been lax in its system of examination, but he stated that he was to-day able to say that they had adopted a written and an oral system of examination, and the Society desires to go on record as complying with the by-laws of the State Society in this respect. Dr. Coburn also heartily endorsed the views of the delegate from Suffolk as to the inexpediency of further legislation by the State Society, but would use every endeavor to comply with the requirements of the existing laws.

Dr. DOLE, of Hampden, asked what action this body can take which shall compel the enforcement of any regulation for the guidance of the district boards of censors.

Dr. SHATTUCK, of Suffolk, stated that this is

simply a meeting for conference and consultation. We have no power to enforce any particular system upon the boards of censors, and no desire, in any way, to interfere with the doings of the various boards. We meet only for enlightenment and counsel. The good effect of these meetings is already to be observed in the greater uniformity of method which now prevails in the State in comparison with the practices of a few years ago.

Dr. EXST, of Norfolk, thought it very useful for our mutual information to know what the censors were doing in the various parts of the State.

Dr. J. B. RICH, of Worcester District, thought that a just account of the present methods in that district has not been given to the censors at large. The examination is now both oral and written. The credentials of the candidate are carefully examined and a record in the handwriting of the candidate is preserved in a book kept for that purpose. The oral examination first takes place and at another time the candidate is given a list of written or printed questions in order to further ascertain his fitness for admission. Few changes are made in the composition of the Board of Censors in Worcester District and each censor examines upon a special branch. The examination papers are marked on a scale of 100, and the candidate is accepted or rejected according to the result of the examination thus conducted.

It is considered that the by-laws are now complied with in this district. It is evident to all that the details of any system of examination must be left to the district boards, but the general plan in the various portions of the State is plainly becoming nearer to uniformity of examination than seemed possible a few years ago.

Dr. HUSE, of Essex North, asked how long this plan had been carried out in Worcester District.

Dr. RICH stated that printed questions were first used last year. Written questions have been in use for five years, but the influence of these conferences led to the adoption of printed questions.

Dr. HUSE said: "As censor for Essex North District, I am sorry to say that our district has no method of examination. We have no written examination at all. I sincerely hope that this will not long be the case, and I announce that, before another meeting of this conference, our district will come into line with a system of examinations which shall conform to the requirements of the State Society and the views of this meeting."

Dr. EXST, of Norfolk, stated that he did not know how Norfolk District Society is registered, but that there is no written examination of candidates for admission to the society in that district.

Dr. E. A. DEANE, of Franklin District, said that in this district it has been customary to conduct the examination entirely orally, and things have been very loosely managed, but last year a written examination was introduced though the influence emanating from this conference, and will form a prominent feature of all future examinations in this district.

Dr. EDGERLY, of Middlesex South District, stated that formerly the written examination constituted but

a small part of the examination in that district, but it has been recently much increased, and the examination has become much more satisfactory.

Three questions are sent by each censor to the President of the Board who causes all the questions to be written in books, which are distributed to the candidates. The answers are written in books also and are filed for reference.

Dr. BLODGETT, of Suffolk, spoke of the encouraging results which have attended the labors of this conference in past years, and thought that it was important that the censors should come together at times for comparison of results and consultation. A few years ago much opposition was experienced from several of the district boards, who seemed to fear that the conference was endeavoring to usurp the rights of the censors, but this feeling is now no longer apparent, and the censors of the entire State are working with a unanimity and harmony never before possible. It is to be hoped that these meetings may become a permanent feature of the annual proceedings of the State Society. Dr. Blodgett urged the censors present to endeavor to secure the attendance of delegates from every district board in the State that the conference might be made as cosmopolitan as possible and represent the views of the censors of the entire Commonwealth.

On motion of Dr. SHATTUCK, of Suffolk, it was Voted, That this meeting learns with pleasure the increasing uniformity with the by-laws as regards the method of examinations of candidates by the censors, and hopes to hear next year a report of further progress.

Dr. COOPER, of Hampshire, said that he should have opposed any other motion than the one just presented by the delegate from Suffolk. The censors of other district societies have suspected that the censors of Suffolk were endeavoring to control the action of the censors throughout the State. He could cheerfully vote for the present resolution but would oppose any motion which should seek to interfere with the action of the censors in other districts.

Dr. SHATTUCK disclaimed for himself and for the district which he represented any intention, in any way, to control or influence the action of the district boards. The sole effort of this conference should be to seek to do justice in examination of candidates in all parts of the State. The Suffolk censors do not consider further legislation either necessary or advantageous, but would seek to secure the compliance of the district boards with the by-laws already made, believing that they are calculated to accomplish all that is possible to hope from any legislative action. Dr. Shattuck said that he was glad the delegate from Hampshire had spoken with such candor and frankness, and looked upon this freedom of discussion as one of the more important benefits of these meetings.

On motion of Dr. BLODGETT, of Suffolk, it was Voted, That the delegates here assembled be requested to report the doings of this conference to their respective district boards of censors, and that the censors of each district be urged to send a full delegation to take part in its future meetings.

Voted to adjourn.

# Medical and Surgical Journal.

THURSDAY, JULY 16, 1885.

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CUPPLES, UPHAM AND COMPANY,

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## SUPRA-PUBLIC LITHOTOMY, EPICYSTOTOMY, ETC.

The operation of exposing and opening the bladder above the symphysis pubis, for the removal of stone, has come so prominently into favor again of late years, and its field of possible usefulness has been so widely extended by the additional advantages for the removal of tumors, and the radical treatment of hypertrophied prostate so approached, that it may not prove uninteresting to our readers to have laid before them a short sketch of the history of an operation which seems likely to take a new lease of life after falling almost completely into disfavor, and of the reasons which have led to its becoming a more popular procedure.

The supra-public operation properly had its origin in the hands of Pierre Franco, who performed it with success in Lausanne, about 1560. Franco, in this case, rendered the extraction of the stone more easy by pushing it upward by two fingers in the rectum. The case of Jean Doot may be quoted among the early operations as a matter of curiosity, he having removed a stone from his own bladder through an incision above the pubes, made with a shoemaker's knife.

In 1581 Rousset recommended the injection of the bladder with water, with a view to elevating it above the symphysis, previous to incising it. Piètre, in 1635, tried to accomplish the same result by the introduction of a sound into the bladder.

The operation was not much heard of until Douglass and Cheselden, almost a century later, revived it, both practising it successfully several times. It now was more frequently performed, meeting with varying success and failure, until it came into the hands of Frère Côme, who, in 1799, had operated one hundred times with only nineteen deaths. Perineal section was practised in combination with the high cut by Côme and by Serres before him.

In our century many surgeons have done the operation, among them Dupuytren, Sonnerbille, Sir Everard Home, Leroy d'Étiolles, Nélaton,

Civiale, etc. etc., but it may be said that throughout this time, until of recent years, the operation has steadily lost ground.

Up to six or eight years ago but little change was made in the technique. Since then three notable advances have again placed it in the category of favorite surgical operations; these steps are: (1) Antiseptics; (2) Vesical suture or drainage; (3) Combined vesical injection and rectal ballooning.

Of antiseptics little need be said. Any one of the favorite antiseptic routines may be associated with the operation.

Attempts at vesical suture date far back. In more recent times Lotzbeck (1838) used it in the human subject. And Tissière and Baddon made some experiments in regard to it in 1853. Since then it has been more or less employed, especially in Germany, by Uitzmann, Dittel, and others. Heath, Rivington, Willet, and others have used the suture in England for ruptured bladders; and ovariotomists, both in Europe and America, have had recourse to it with marked success after accidentally incising the bladder during the operation for the removal of a cyst. It should be noted that the fortunate issue in these latter cases, however, is probably in great part due to the fact that the operators have, in the majority of instances, had to do with bladders previously healthy, which have not been the seat of cystitis or of foreign growths, with resulting thickening of their walls and consequent indisposition to heal. In France the bladder suture has been for the most part discarded, and the drainage of Perier (to be described subsequently) substituted.

The union of the vesical wound has been undertaken in three principal ways: (1) The continuous Lembert suture. (2) The single line of interrupted suture. (3) And that which has become the favorite as being the safest—the double line of interrupted suture. In this last method the first line is inserted close to the wound without including the mucous membrane; the second line passes through the serous surfaces only, alternating with the first, and approximating the surfaces further out; the adhesive inflammation taking place between these layers being the important element in the union of the wound.

The sutures should be of carbolized silk, and not of catgut, as experience has shown that the latter does not hold long enough to secure union. Silver wire has also been employed, the sutures being allowed to remain in the tissues. This procedure has also its advocates, but the preponderance of opinion favors carbolized silk cut short and left to take care of itself.

Whatever the material and whatever the method, it must be confessed that thus far the wound has healed before union was complete in the majority of cases, although some are recorded in which a first intention was obtained. Perfection of bladder

suture, therefore, has not been reached, and consequently this method has been abandoned by some surgeons.

Villeneuve, of Lyons, in a recent monograph upon the subject of supra-pubic lithotomy (1883), concludes upon this head: "The vesical suture ought not to be used, but remains always the ideal to be sought, which, if realized, will place, owing to first intention of the bladder wound, the superiority of this operation beyond question."

Before the London International Congress, in 1881, Vincent reported favorably upon the suture, basing his conclusions chiefly, however, upon experiments with rupture of the bladder in dogs and rabbits.

The conclusions reached were as follows:—

(1) "Vesical suture applied immediately after injury to the bladder, and properly applied, almost always succeeds." (2) "Laparotomy and vesical suture succeed more often if undertaken within ten hours after the injury has occurred." (3) "That, in intra-peritoneal ruptures of the bladder followed by extravasation of urine into the peritoneal cavity, one can save the patient almost certainly by proceeding immediately to laparotomy and bladder suture." . . . (4) "The possibility of spontaneous bladder cicatrization has been demonstrated, but is not the rule." (5) "In view of the great fatality of such wounds when left to themselves, one should have recourse always and as early as possible to the operation."

Stein has recently urged the application of the bladder suture in a strong article published in *The Annals of Anatomy and Surgery*.

Of vesical suture, then, it may be said that, although it has not yet attained perfection, it is the thing to be sought; that it should always be tried in cases of rupture of the bladder, and at as early a date after the accident as possible; that its employment in the supra-pubic operation for stone, or for the removal of new growths, is still *sub judice*; bladder drainage being on trial in competition with it.

The two great dangers which have always confronted the surgeon in connection with epicystotomy have been the wounding of the peritonæum and infiltration of urine, giving rise to septic phlegmon.

By the three steps of progress already enumerated, — namely: (1) Antiseptics, (2) vesical suture or drainage, (3) rectal *ballonnement*, — these dangers are reduced to a minimum. To Petersen the credit of combining these steps belongs. He proposed the operation in 1880, and it has been adopted with considerable enthusiasm in various quarters. A description of the operation follows:—

The patient is washed, shaved about the pubes, anesthetized, every antiseptic precaution observed. A silver catheter is then introduced into the bladder, connected with which is a rubber tube carrying a cut-off forceps. The penis should be encircled

by an elastic band. The bladder is now thoroughly washed out, and then injected with a four per cent. solution of boracic acid, or a weak solution of carbolic acid, or whatever antiseptic solution the operator may prefer, care being taken not to overdistend it. (Cheselden and Monod report cases of rupture from overdistension.) An injection of 200 grammes is necessary to secure sufficient elevation, and if no great resistance is experienced it is safe and desirable to inject as much as 600 grammes.

In hypertrophied, contracted, or irritable bladders, a less quantity must be used. After injecting the bladder a colpeurynter is introduced into the rectum, and from 400 to 600 grammes of tepid water are injected into it. This seems to be the chief agent in raising the bladder above the pubes. Incision in the median line, eight to ten centimetres, extending upward from the symphysis pubis and down to the aponeurosis, is now made; the aponeurosis is divided on a director. The interstice of the muscles is sought and opened; a yellow layer of fat then appears, which doubles over the *eul-de-sac* of the peritonæum, and which is covered by the fascia transversalis. This is seized at the lower angle by fine forceps and divided; in the opening thus made the finger is introduced and the peritoneal sac is pushed upward out of the way. Care should be taken not to tear away with the finger the retro-pubic cellular tissue in the vicinity of the vesical neck, otherwise a receptacle may be made to collect fluids and give rise to septic phlegmon.

The left index-finger, which has pushed up the peritoneal sac, is maintained in this position and serves as a guide to the bistoury, which now punctures the bladder in the median line.

The incision may be prolonged three or four centimetres, according to the amount of room desired. The incision into the bladder should be made cleanly and boldly. A venous plexus of considerable size is often divided, but will do no harm, hemorrhage ceasing with collapse of the bladder. There is probably no advantage to be gained by incising the bladder layer by layer.

The fluid now escapes from the bladder and the catheter is removed, and the stone or new growth, or whatever condition called for the operation, dealt with. The wound is then carefully washed with an antiseptic fluid, and the rectal colpeurynter withdrawn. In order to prevent the dropping down of the bladder behind the pubes, after its incision, some operators insert a small pair of double hooks, or a suture, previous to opening it. And this is an important step, as exploration of the interior and operations within the bladder are thereby rendered much easier. The bladder suture is now applied, as already described above; or drainage, as proposed by Perier, in its stead.

In the latter case two parallel drainage-tubes, open only at their vesical ends, are inserted into the bladder through the wound, sutured at the level of the

outer wound to its edge, and led out over the pubes into a urinal, the ends dipping into an antiseptic fluid. These tubes are led through the dressing, which is applied afterward, and are intended to act as siphons. The upper third of the outer wound is now sutured, and the antiseptic dressing applied. Some operators, in addition to the drainage-tubes just mentioned, insert a catheter into the bladder by the urethra as well. If drainage be employed, as just described, the wound and bladder should be washed out gently, daily, with a warm antiseptic solution through the tubes.

In spite of any contrivance, however, the urine will drain away in part over the edges of the wound, though the tubes carry away most of it. Hence the necessity of the subsequent washings and also of frequent change of dressings, even if antiseptic.

The drainage-tubes can be generally removed at the end of a week, and the wound closes in favorable cases in from fourteen to thirty days.

This is the modern operation and its modifications.

Even with its advances, the mortality with operators in general is as high as thirty per cent. But it must be remembered that, with but few exceptions, it has been reserved for cases in which other operations were considered impracticable; and some authors claim that the mortality for a similar set of cases by the lateral method is much higher.

Thus far in all hands the small mortality, and the manifold advantages of Bigelow's litholapaxy, put it at the head of all operations for the removal of such stones as do not require a cutting operation. It must, however, be noted that the supra-pubic operation when it has been undertaken by skilful operators, with the improved methods just detailed, has of late been attended by remarkable success, and bids fair to have a large future of usefulness. Volkmann, in the Congress of German Surgeons this year, has pronounced strongly in its favor, and Antal, of Buda-Pesth, reported in the same assembly four cases, in three of which he obtained first intention of the vesical and outer wound; the fourth case—in which first intention was not obtained—making also a good recovery. The operation is daily gaining adherents on both sides of the Atlantic.

#### ANATOMICAL NOMENCLATURE.

PROFESSOR WILDER has the courage of his opinions, and this is all the better as his opinions are of a kind that it requires some courage to maintain. He, as is well known, advocates a new anatomical nomenclature, which however simple it may appear to him, and to those who drew from him their first anatomical knowledge, is rather startling to the rest of the world. Our attention is called to this question, which is far from a new one, by Professor Wilder's list of names and synonyms for the use of those who attended his course of Cartwright Lectures in 1884, who must, indeed, have found it

indispensable. No one will deny that anatomical nomenclature is out of joint, but we are far from convinced that Professor Wilder was born to set it right. The day of fanciful resemblances has passed. Physiological function has some use in the case of certain muscles as in the superficial and deep flexors of the fingers, but it is no safe basis. In German the sternocleidomastoid is called the *kopfsücker*,—the headnoder,—which rests on a mistaken notion of its action. If this uncertainty exist with muscles, how much more with regard to viscera? Chaussier wished to give names to muscles that would denote their origin and insertion, but the result was hardly encouraging.

Moreover, it is desirable to have a nomenclature that will identify analogous structures in different animals; but too much must not be expected in this direction, in view of the great uncertainty concerning the analogy.

The lectures to which we have referred, being on the brain, Professor Wilder's list of names and synonyms, which we now consider, refers only to parts of that organ. Most of them are not new to those who have paid attention to the subject, but some we believe salute the public for the first time.

Professor Wilder introduces *rima*, which means "the line formed by the rupture of the endyma along the lines of its reflection from entocellic surfaces." *Entocellicum*, it is perhaps needless to say, means intra-ventricular. The five divisions of the brain based on development are respectively: PROEX, DIEX, MESEX, EREX, and METEX, and are honored with capital letters. The great transverse fissure is *rima*. *Mala* is the "mesal region of the procele," which, further interpreted, means the space just below the openings of the third ventricle (the diacelia) into the lateral ventricles (the proceliae).

What is the advantage of the proposed system? We doubt very much if there be any that can counterbalance the evil of an additional nomenclature; for we hold as visionary the idea that it will ever be generally adopted. In these days of the downfall of the "Greek fetish" the jumble of Greek and Latin words seems peculiarly unfortunate. It is doubly surprising that it should flourish at Cornell, which, as far as we know, has never aspired to classical laurels. What we said above about the inconvenience of founding a nomenclature on function or on analogy applies equally to one founded on embryology. Science has not yet reached the point to justify it, and till then it is a house built on sand. Professor Wilder's nomenclature seems to us, however, to be utterly wanting in foundation. The system is partly embryological, partly morphological, partly topographical, partly, perhaps, functional, and the most definite idea that it suggests to us is of a growth from Greek and Latin roots, having fanciful branches and bearing an immense crop of words.

# THE THIRTY-FOURTH MEETING OF THE AMERICAN ASSOCIATION FOR THE ADVANCEMENT OF SCIENCE.

This meeting will be held at Ann Arbor, Mich., from Wednesday morning, August 26, until Tuesday evening, September 1, 1885. The original intention of holding it at Bar Harbor was obliged to be relinquished, as it was found that suitable accommodations could not be secured at the latter place at the time proposed for the meeting.

The invitation to Ann Arbor has been supplemented by the work of a large and active local committee which has already sent out a preliminary circular, in which members of the Association are assured that there will be no lack of comfortable accommodations, and that the State University has granted the use of its buildings and grounds for the purposes of the meeting.

The headquarters of the Association will be at the University, and all the offices and meeting-rooms will be in close proximity in the several buildings of the University. Board and lodging for members and their families have been secured at moderate rates, and reduced return rates have been obtained from many of the railroads. It is proposed to run a special through train from Buffalo to Ann Arbor, leaving Buffalo on Tuesday morning and arriving at Ann Arbor the same evening. This will allow stopping for one or two hours at Niagara Falls, and will prove a pleasant excursion before the meeting.

Arrangements have already been made for a free excursion (on Saturday, August 29th) to the Saginaw Valley, by rail and steamboat, and numerous excursions on the lakes are planned, at reduced rates, to take place after the meeting. For further information in relation to the local arrangements members should address the local secretary, Prof. John W. Langley, at Ann Arbor.

For all matters pertaining to membership, papers, and business of the Association address the permanent secretary, F. W. Putnam, at Salem, Mass., up to August 20th. From August 20th to September 2d his address will be Ann Arbor, Mich.

## MEDICAL NOTES.

— Professor Grube has recorded in a Russian journal quoted by the *Lancet* a case of disarticulation at the hip-joint for a large sarcomatous growth of the femur which weighed about sixty pounds, or nearly a third of the total weight of the patient. Distinct cardiac mischief being present, it was deemed necessary to avoid the use of an anæsthetic, also that of Eschmarch's bandage. The patient was convalescent in seven weeks.

A celebrated Parisian belle, says the *Popular Science News*, who had acquired the habit of white-washing herself, so to speak, from the soles of her feet to the roots of her hair with chemically prepared

cosmetics, one day took a medicated bath; and, on emerging from it, she was horrified to find herself as black as an Ethiopian. The transformation was complete; not a vestige of the "supreme Caucasian race" was left. Her physician was sent for in alarm and haste. On his arrival he laughed immoderately, and said: "Madame, you are not ill; you are a chemical product. You are no longer a woman, but a *sulphide*. It is not now a question of medicinal treatment, but of simple chemical reaction. I shall subject you to a bath of sulphuric acid diluted with water. The acid will have the honor of combining with you; it will take up the sulphur, the metal will produce a *sulphate*, and we shall find as a *precipitate* a very pretty woman." The good-natured physician went through with his reaction, and the belle was restored to her membership with the white race.

## NEW YORK.

—Health-officer Smith has issued a circular in regard to disinfection, in which he quotes the conclusions reached at the conference of representatives of the health departments of various seaboard cities, and of the New York State Board of Health, held at the Fifth Avenue Hotel, for the purpose of considering certain questions relating to quarantine. Having given the names of the gentlemen present, the circular goes on to say: "After careful deliberation the following conclusions were unanimously adopted: *First*, that the maximum period of incubation of Asiatic cholera may for quarantine purposes be assumed to be eight days, and that, in case of the disease occurring on vessels during the voyage hitherward, the quarantine observation of persons should extend to eight days from the last date of possible exposure. *Second*, that for fumigation of closed spaces, sulphurous-acid gas may be commended, two or three pounds of sulphur being burned for each 1,000 cubic feet. *Third*, that for disinfection of luggage reliance may be placed on fresh chloride of lime, bichloride of mercury, or dry heat to 230° F., maintained for three hours, or boiling. *Fourth*, that in view of the danger of other contagion, as well as that of cholera, all rags imported to this country should be disinfected, either at the place of departure or on their arrival here. *Fifth*, that, if such disinfection be done abroad, it be required that either the rags be boiled for not less than thirty minutes and dried before baling, or treated with superheated steam for not less than eight minutes, and in such manner as to be heated to, or above, 230° F. in every part. *Sixth*, that inspectors should be appointed (by the department having control of the epidemic fund) to certify to the sufficiency of disinfection of rags according to the above rules, and that a consular indorsement be added to such certificate when disinfection is effected at the place of dispatch. *Seventh*, that, in absence of such certificate and consular indorsement, all rags be disinfected at the port of

entry. The above regulations will be the rules of this department until further notice.

“WILLIAM M. SMITH,

*Health-officer of the Port of New York.*

“P. S.—Rags disinfected by the sulphurous-acid gas, as per direction of Treasury Department circular, will be admitted when there is reason to believe such disinfection is faithfully and efficiently performed.”

Dr. Smith omits to include in the circular the following conclusion, which was suggested by Dr. Durgin, of Boston, and which was agreed to by the others present at the conference: “That, in the absence of such certificate and consular indorsement, all rags should be disinfected at the port of entry, except when accompanied by satisfactory evidence in writing that they have not been collected or baled in any district or place contiguous thereto, in which cholera, yellow fever, smallpox, typhus fever, scarlet fever, diphtheria, or the plague has prevailed during any part of the twelve months last preceding such collection.”

—The managers of Lodging-house No. 1, of the Sanitary Aid Society for the Tenth Ward, have submitted a report to the Board of Directors, showing that during April, when the house was first opened, they accommodated 600 lodgers. In May the lodgers numbered 1,579, and in June 1,774, making a total of 3,953 during the quarter just ended. All but 90 of this number were foreigners, and all came from the tenement-house districts of the Tenth Ward. The charge for a clean, comfortable bed and a warm bath is ten cents, and good meals are provided for three, five, and ten cents. The house has already become very popular among the class which it is designed to benefit, and it is gratifying to learn that it is now on a self-sustaining basis.

## Miscellany.

### BEFORE MEALS OR AFTER.

THE question whether a prescribed medicine should be taken before or after a meal is often put to the physician, remarks *The Therapeutic Gazette*, and occasionally requires some special consideration. The medicines which act as local irritants, such as the salts of copper, iron, zinc, and arsenic, in large doses are to be taken after a meal when the stomach is full, while small doses of medicines acting on the gastric terminations of the vagus ought to be taken before a meal. In some instances we have to consider chemical changes. Oxide and nitrate of silver, if intended to act locally on the gastric mucous membrane, must likewise be exhibited when the stomach is empty. It is not generally known, or at least observed, that iodine and its salts are to be administered on an empty stomach, as the presence of starch and acids, modifying or decomposing the preparations of iodine, would reduce or prevent their effect. The acids intended to affect the gastric juices are to be taken before a

meal in order to provoke an ample secretion of the gastric glands. If alkalis are to modify the gastric juices, they must be given during the meal; but if their absorption into the blood is desired, they ought to be ingested on an empty stomach, in order not to hinder the process of chymification by weakening the acids. [Bartholow has pointed out that acids before meals check undue acidity by preventing the osmosis of the constituents of the blood which form the acid gastric juice. Alkalies before meals in like manner increase the diffusion from the blood of its acid-forming constituents.] Metallic salts, especially corrosive sublimate, likewise tannic acid, alcohol, and other drugs, modify or destroy the digestive power of pepsine, and are hence to be exhibited solely before meals. Small quantities of alcohol, as contained in the ordinary and medicinal wines, do not injuriously affect pepsine like the liquors rich in alcohol. Iron, phosphates, cod-liver oil, and similar medicines may be taken during mealtime.

### THE TREATMENT OF OLD AGE.

DR. H. C. WOOD, in a clinical lecture on this subject (*Philadelphia Medical Reporter*, April, 1885), lays down three cardinal points to be observed in prolonging life in the aged: First, the protection from untoward influences, from exposure to which a large proportion of those die who are said to die of old age. An amount of exposure which may be nothing to a young man becomes a very serious matter to an old one; and one of the best protections from cold is a buckskin jacket. Every one who is seventy-five years of age, and whose physical powers are beginning to fail, should be put into a buckskin jacket extending from the shoulders to the hips. There is no flannel, silk, or anything else which will compare with buckskin in preventing chilling of the body. Chilling of the surface in an old person means a rush of blood to the internal organs, where from weakness of the vaso-motor system and the condition of the vessels contraction cannot take place, and the congestion is even apt to be followed by pneumonia or other inflammatory result. Such patients must be especially guarded against exposure to wind. Damp is feared by many and credited with causing many affections; but where damp has slain its thousands among the aged, high winds have slain their tens of thousands. This caution applies not only to old age, but to all cases in which there is a tendency to cardiac failure. High winds chill the surface, oppress respiration, and are exceedingly disastrous to the life of any person whose circulation is without power. I need not say anything in regard to preserving the nervous system from all shocks. Fortunately, as the intellectual powers become blunted, so do the emotional energies, and the old man is not so susceptible to emotional disturbances as is the man whose nervous system is unaffected by age. All accidents are, of course, to be carefully guarded against, and all excessive bodily and mental exercise. Remember, excessive is a relative term, and for the weak excessive may be very little. Rest is of great importance. Indeed, old people should spend many hours in bed. Second, the next point is in reference to diet. The

food should be light, but nutritious. Stimulating food should be withdrawn. Meat should be used but sparingly. What we start with to that we must come in this life. Man, who begins on milk, should in the last years of his life make milk the chief article of his diet. Finally, in regard to medicines. There are two drugs which are of the greatest importance to old persons. These are alcohol and opium. If your patient, approaching his eightieth year, can be made an opium-eater, you will in the majority of cases protract his life many months or years. In these cases the opium is to be used carefully, and in such a way that the patient cannot rapidly increase the dose. A number of years ago I was called to see an old man who was thought to be dying, but he is still alive at eighty-four. For the last ten years he has taken an opium suppository every night, but beginning with one grain, he has now only reached two and a half or three grains. Unless the patient has more than the ordinary will-power, it is essential that the opium be administered by some one else. Again, the use of alcohol in old age is of great importance. Every old person should take alcohol in some form three or four times a day. It should be given at meal-time. I think that it makes little difference whether dilute brandy, or whiskey, or some of the wines are selected; the wines are more palatable to some. It is also important to study the digestion of the patient, for in some it is found that the diluted liquors answer best, while in others the wines are most serviceable.

#### MIGRAINE AND ITS RELATION TO UREMIA.

Some light is cast upon this obscure disease by Mr. A. Drysdale, in *The Practitioner* for April, 1885. The cause of the disease is still left unexplained. Its hereditary nature is evident; it often affects several members and generations of the same family. It is sometimes related with phthisis, usually of the more chronic variety. Enforced chastity seems in some way to predispose to it, and it often disappears after marriage. Summer and hot weather certainly determine the periods of the attacks. Some suppose it to be due to want of sufficient sleep; others say that it is caused by excess of sleep, and especially by the habit of napping during the day. The author considers that the symptoms depend upon the accumulation in the blood of a peculiar poisonous substance, possibly allied to creatin and creatinin, and that this poison has a special affinity for the roots of the great nerves at the base of the brain, the optic, the ophthalmic, and the pneumogastric. The reason for supposing that this substance is allied to creatin and creatinin is the close resemblance of the symptoms to those of uremia. The blindness, headache, vomiting, and subsequent stupor, bordering upon coma, in migraine are undistinguishable, except in degree, from the same symptoms in uremia. The poison speedily produces its own elimination. The author then describes a severe attack, and states that, with regard to treatment, a drug must be administered which is known, from its physiological action, to be certain to reach the seat of the complaint. Caffeine, theine, and guarana fulfil these

conditions to a certain extent, but the best results are obtained from the use of nitroglycerin and sepiä. The latter is especially successful in mitigating an attack, though it is not able to completely arrest one. Exercise, regularly pushed to the point of fatigue, is the only means of prevention. With reference to prognosis, the author states that, even when it is most intense, patients are not permanently injured by this malady; and that, when it occurs in conjunction with phthisis, the latter generally has a favorable issue.

### Correspondence.

#### THE IMPRISONED FELLOWS OF THE MASSACHUSETTS MEDICAL SOCIETY.

*Mr. Editor.*—Will you permit a few final words upon "Imprisonment of the Fellows of the Massachusetts Medical Society"?

If my former communication seemed to show "scant courtesy" toward the Committee of Arrangements, it was unintentional. My criticism was not upon motive, but upon method.

The motive, however, appears to be revealed in Dr. Haven's letter in the *JOURNAL* of July 2d, which implied that some of the Fellows had shown, by their action at previous meetings, that they were deficient in good breeding, and that this meeting was deemed a fitting occasion to give them an object-lesson in manners.

Admitting that some of us who inhabit the outlying districts are open to this implication and need reproof, we are constrained to ask if some gentler method cannot be adopted in the future. The method chosen at the late meeting was an apt illustration of the old fable of "The Spider and the Fly."

When the crafty old spider, lying in wait, saw, in response to his invitation, the simple and confiding flies becoming entangled in his web, no doubt he enjoyed it hugely, but history informs us that the poor flies were not so cheerful.

When the unsuspecting Fellows were invited to "walk into my parlor," it was done with such an air of suavity and politeness that suspicion was disarmed. When, from their place of enforced detention, they saw the procession leaving the hall, and endeavored to join it in their proper places, "in order of their seniority," they were politely refused the privilege. When they protested against what appeared to them "scant courtesy," if not an indignity, they were told: "You cannot leave now, but you will be permitted to leave by another door later," which door was at the time fastened. When they then insisted upon their *right* to leave their prison and join the advancing column, they were politely informed: "You cannot get out unless you use violence."

And, finally, when the entrapped Fellows were on the point of asserting what they assumed to be their rights, and of making "a strike for freedom," a means of exit was happily secured through another channel, but whether or not by the grace of their captors, the writer is ignorant.

Although, doubtless, no allusion to the members of the Society who were thus so adroitly captured and confined, was intended, it would seem that some other course of procedure would be better in the future, as it is doubted that the gentlemen who were placed as sentinels over their compeers at the late meeting will consent to perform that humiliating service again. The writer would suggest, as an effective means of restraining the impatience of the hungry Fellows to reach the dining-hall, that the "bill of fare" for the dinner be printed and distributed to the members at the place of meeting. Probably a very brief study of

it would sensibly moderate their desire for an early seat at the dining-tables.

If some of the Fellows should still prove refractory and physical restraint still be deemed necessary, they would, no doubt, submit gracefully to the authority of policemen, who might use their billets in case of necessity. Or perhaps Mr. John L. Sullivan, the distinguished Boston "slugger," might render efficient service at the next meeting.

In point of dignity, this method would have a slight advantage over the one adopted at the last meeting. Seriously, this affair, which is now a matter of history,

was a *faux pas*, and only that, and its ludicrous side only will be remembered, for no one who knows Dr. Haven or his associates will suspect them of any intended discourtesy, and least of all does

ONE OF THE IMPRISONED.

[Membership of the Committee of Arrangements of this Society is very far from being a sinecure. The labor is fully proportioned to the honor involved. The arrangements, as a rule, are creditable to the Society and to the Committee. This fact, too, deserves more recognition than it always gets. — Ed.]

# REPORTED MORTALITY FOR THE WEEK ENDING JULY 4, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Diphtheria and Croup.	Measles.
New York	1,340,114	809	435	36.08	12.52	26.29	4.34	2.36
Philadelphia	927,995	409	189	34.06	11.52	13.72	3.92	1.47
Brooklyn	644,526	477	312	49.56	7.14	42.21	2.10	.63
Chicago	632,100	183	96	27.50	8.80	17.60	7.15	.55
Boston	423,800	141	47	13.49	11.36	7.10	3.05	—
Baltimore	408,520	161	93	31.62	9.92	25.42	1.86	.62
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	135	74	31.82	15.54	26.64	1.48	—
New Orleans	234,000	142	66	18.20	13.30	10.00	.70	.70
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	117	64	42.50	10.20	18.00	—	.85
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	—	—	—	—	—	—	—
New Haven	62,882	32	16	34.43	9.39	15.65	3.13	12.52
Nashville	54,400	42	21	19.04	21.42	16.66	—	—
Charleston	52,286	21	9	18.04	23.80	14.28	—	—
Lowell	71,447	23	11	30.45	8.70	13.05	4.35	4.35
Worcester	69,442	18	6	16.66	11.11	11.11	—	—
Fall River	62,674	18	11	5.55	5.55	—	5.55	—
Cambridge	60,955	17	11	17.64	11.11	11.11	5.58	—
Lawrence	45,516	12	—	25.00	—	16.66	—	—
Lynn	44,885	6	3	16.66	33.33	—	16.66	—
Springfield	38,090	13	6	46.14	—	30.76	—	—
Somerville	31,250	—	—	—	—	—	—	—
Holyoke	30,515	16	5	—	31.25	—	—	—
New Bedford	30,144	14	4	7.14	7.14	7.14	—	—
Salem	29,563	8	1	—	25.00	—	—	—
Chelsea	24,347	1	1	33.33	16.66	—	—	—
Taunton	22,023	6	2	—	—	—	—	—
Gloucester	21,400	9	2	22.22	22.22	—	22.22	—
Haverhill	20,905	6	1	16.66	33.33	—	—	—
Newton	19,421	5	1	—	—	—	—	—
Brockton	18,323	0	0	—	—	—	—	—
Malden	15,273	4	1	—	25.00	—	—	—
Newburyport	13,947	6	1	—	16.66	—	—	—
Wilmington	13,568	3	0	—	—	—	—	—
Pittsburg	13,423	2	1	1	—	—	—	—
Northampton	13,165	0	0	—	—	—	—	—
86 Massachusetts towns		46	5	2.17	32.55	—	2.17	—

Deaths reported 2,967: under five years of age 1,495; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 922, consumption 338, lung diseases 227, diarrheal diseases 664, diphtheria and croup 93, measles 37, scarlet fever 34, typhoid fever 29, malarial fevers 23, cerebro-spinal meningitis 16, whooping-cough 11, puerperal fever 10, erysipelas eight, French-scarlet fever, Brooklyn 11, New York and Philadelphia four each, Chicago three, Boston, District of Columbia, and Chelsea two each. From typhoid fever, Philadelphia 11, New York four, District of Columbia three, Chicago, Cincinnati, and New Orleans two each, Brooklyn, Boston, Lowell, Lawrence, and Waltham one each. From malarial fevers, Brooklyn and New Orleans six each, New York five, Chicago and Baltimore two each, Nashville and Springfield one each. From cerebro-spinal meningitis, New York four, Chicago three, Philadelphia and District of Columbia two each, Boston, Cincinnati, New Haven, Haverhill, and Fitchburg one each. From whooping-cough, Brooklyn three, New York and Philadelphia two each, Chicago, Boston, Baltimore, and New Orleans one each. From puerperal fever, Chicago three, New York, Philadelphia, Brooklyn, Baltimore, Nashville, Charleston, and Springfield one each. From erysipelas, New York five, Philadelphia, Baltimore, and Cincinnati one each.

In 117 cities and towns of Massachusetts, with an estimated population of 1,451,584 (estimated population of the State 1,955,104), the total death-rate for the week was 13.48, against 15.00 and 16.56 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,300,416, for the week ending June 27th the death-rate was 17.6. Deaths reported 3,011: infants under one year of age 501; acute diseases of the respiratory organs (London) 183, measles 137, whooping-cough 106, diarrhoea 70, scarlet fever 36, fever 32, diphtheria 28, smallpox (London 13, Liverpool three, Manchester, Sheffield, and Sunderland one each) 19. The death-rates ranged from 12.0 in Bristol to 30.6 in Manchester; Birmingham 16.5; Bradford 18.7; Hull 12.3; Leeds 20.0; Leicester 15.7; Liverpool 21.3; London 13.3; Nottingham 12.4; Sheffield 20.5; Sunderland 18.3. In Edinburgh 15.4; Glasgow 24.4; Dublin 27.5.

For the week ending June 27th in the Swiss towns there were 26 deaths from consumption, lung diseases 20, diarrheal diseases 10, typhoid fever five, smallpox four, scarlet fever, erysipelas, and puerperal fever each two, diphtheria and croup one. The death-rates were: at Geneva 10.2; Zurich 7.8; Basle 17.4; Berne 21.

The meteorological record for the week ending July 4th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.		Relative Humidity.			Direction of Wind.		Velocity of Wind.			State of Weather. <sup>1</sup>		Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.
Saturday, July 4, 1885.														
Sunday, 28	29.944	70.9	78.8	63.6	84	65	100	83.0	W	W	W	O	O	R
Monday, 29	29.609	66.4	75.9	57.3	92	92	90.0	80.0	W	E	W	O	O	O
Tuesday, 30	29.633	61.2	70.9	54.0	78	59	84	73.7	N	W	N	O	O	O
Wednesday, 1	29.656	59.3	63.6	51.4	77	60	68	68.3	N	W	W	O	O	O
Thursday, 2	29.762	66.6	76.3	56.0	52	36	65	51.0	W	S	W	C	F	O
Friday, 3	29.833	62.3	75.3	57.6	78	70	89	75.0	W	E	W	C	C	C
Saturday, 4	29.969	66.2	77.8	56.2	72	72	79	74.3	N	W	E	C	C	C
Mean, the Week.	29.785	64.9	74.1	56.6				74.2						

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 4, 1885, TO JULY 10, 1885.

HAYARD, VALERY, captain and assistant surgeon. Assigned to duty at Fort Wadsworth, New York Harbor.

WYETH, M. C., first lieutenant and assistant surgeon. Assigned to duty at Fort Wayne, Mich. S. O. 140, Department of the East, July 2, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING JULY 11, 1885.

BYRNES, J. C., passed assistant surgeon. Detached from the Powhatan for duty at Navy Yard, Norfolk, Va.

CORDEIRO, F. J. B., assistant surgeon. To the Powhatan, as relief of Passed Assistant Surgeon Byrnes.

CURTIS, L. W., assistant surgeon. To Philadelphia, for examination preliminary to promotion.

BRENNAN, M. C., surgeon. Placed on waiting orders.

FITZSIMMONS, P., surgeon. Duty on Receiving-ship Franklin, Norfolk Navy Yard, continued until July 1, 1885.

#### APPOINTMENTS.

BOSTON DISPENSARY.—At the July meeting of the Managers of the Boston Dispensary the appointments of medical officers were as follows: Dr. C. M. Green to be Obstetric Physician; Dr. G. A. Leland, Aural Surgeon; Dr. J. B. Swift, Physician to the Department for Diseases of Women; Dr. G. H. Monks, Surgeon to Central Office; Dr. R. A. Kingman, Physician to Central Office; Dr. W. D. Hodges, Surgeon to the Department for Diseases of the Rectum and Anus; Dr. H. W. Cushing, Dr. J. S. Howe, and Dr. W. F. Temple to be District Physicians.

#### BOOKS AND PAMPHLETS RECEIVED.

The Regiment to be adopted in cases of Gout. By Dr. Wilhelm Ebslein, Professor of Clinical Medicine in Göttingen. Translated by John Scott, M.A., M.B. London: J. & A. Churchill, 1885.

A Treatise on the Science and Practice of Midwifery. By W. S. Playfair, M.D., F.R.C.P. Fourth American from the fifth English edition, with notes and additions by Robert P. Harris, M.D. Philadelphia: Lea Brothers & Co. 1885.

Palliative Measures in Ruptured Extra-uterine Pregnancy. By W. W. Juggard, M.D., Adjunct Professor of Obstetrics, Chicago Medical College. (Reprint from Journal of the American Medical Association, December 13, 1884.) Chicago, 1884.

The College of Medicine of the University of Southern California, 1885. Los Angeles, Cal.

Asiatic Cholera. A Sketch of its History, Nature, and Preventive Management. By Oscar C. DeWolf, A.M., M.D., Commissioner of Health. Chicago, 1885.

An Accidental Division of a Pterygium leading to an Improvement in the Regular Operation. By A. E. Prince, M.D.,

Jacksonville, Ill. (Reprint from Archives of Ophthalmology, vol. xiv., No. 1, 1885.)

The Pulley Modification of his Limiting Tenotomy and Advancement of the Rectus Operation. With a report of a case of Section and one of Excision of the Rectus. By A. E. Prince, M.D., Jacksonville, Ill. (Reprint, New York Medical Record.)

Floating Minute Organic Matter in the Air and its Management to prevent Disease, and to mitigate or control it with a new Device for Atmospheric Purification, with an original illustration. By David Prince, M.D., of Jacksonville, Ill.

An Anomalous Human Lung, having four Lobes on the Right Side. By William A. Edwards, M.D., Assistant Demonstrator of Clinical Medicine, University of Pennsylvania, etc.

Submucous Laryngeal Hemorrhage. By Ethelbert Carroll Morgan, A.B., M.D. (Reprint from Medical Record, March 21, 1885.)

The Forty-sixth Annual Report of the Superintendent of the Boston Lunatic Hospital to the Board of Directors of Public Institutions for the Year ending April 30, 1885.

History of the Clamp Suture of the Uterus. Dr. J. Marion Sims, and why it was abandoned by the Profession. By Nathan Bozeman, M.D. (Reprint from vol. ix. Gynecological Transactions. 1884.)

Surgical Notes from the Casebook of a General Practitioner. By William C. Wile, M.D., of Sandy Hook, Conn. (Reprint from New England Medical Monthly.)

Does Quinine abort Pneumonia. By L. Emmett Holt, A.M., M.D., New York. (Reprint from New York Medical Record, February 21, 1885.)

Pneumonia in Young Children. By L. Emmett Holt, A.M., M.D. (Reprint from Medical Record, February 14, 1885.)

Medical Society of the State of Tennessee. Transactions. 1885. Fifty-second Annual Meeting. Nashville, Tenn. 1885.

Suersen's Obturators: their Construction and Uses. By Dr. Th. Weber, Helsingfors, Finland. (Reprint from Independent Practitioner, April, May, June, 1885.) New York Dental Journal Association, Buffalo, N. Y.

The Climate of Canada and its Relations to Life and Health. By William H. Hingston, M.D., D.C.L., L.R.C.S. Edin., etc. Montreal: Dawson Brothers, 1884.

Deviation of the Nasal Septum. By J. W. Gleitsman, M.D., Instructor in the New York Polyclinic, etc. (From the American Journal of the Medical Sciences, July, 1885.)

Atlanta Medical College, Atlanta, Ga. Annual Announcement. Session 1885-86.

Cholera: its Origin, History, Causation, Symptoms, Lesions, Prevention, and Treatment. By Alfred Stillé, M.D., LL.D., Professor Emeritus of the Theory and Practice of Medicine, University of Pennsylvania. Philadelphia: Lea Brothers & Co. 1885.

Laryngeal Hemorrhage. By J. W. Gleitsman, M.D., Surgeon to the German Dispensary, etc., New York. (From the American Journal of the Medical Sciences, April, 1885.)

Third Annual Announcement of the Medical Department of Niagara University, Buffalo, N. Y. Session of 1885-86.

The College of Medicine of the University of Southern California. 1885.

## Original Articles.

## THE PATHOGENESIS OF CERTAIN AFFECTIONS OF THE SKIN.

BY GEORGE H. TILDEN, M.D., OF BOSTON.

"Diseased nature oftentimes breaks forth in strange eruptions."

It is well known that the introduction of various drugs into the stomach is sometimes followed by the appearance of a cutaneous eruption, and that the connection between them is one of cause and effect. One of the most common of the so-called medicinal eruptions, consisting of the acneiform, pustular, and sometimes furuncular lesions due to the administration of the iodide or bromide of potassium, has been attributed to direct irritation of the glands of the skin because of the attempted cutaneous elimination of the drug from the system, and the detection of iodine and bromine in the pus obtained from the cutaneous lesions gives to this idea apparent support. The histological character of such lesions, however, according to Duckworth, does not indicate that the cutaneous glands are primarily involved, while more recent microscopic investigation shows that although lesions caused by the internal use of iodine and bromine preparations may originate in dilatation and cellular infiltration of the capillary network which surrounds the sebaceous glands, the same process also affects bloodvessels which have nothing to do with the glandular apparatus of the skin, and may develop to such an extent that the consequent lesions represent a pustular dermatitis. The attribute of an eliminative pathogenesis, therefore, cannot be given to this variety of eruption until more evidence in its favor is forthcoming, although the occasional inception of the process in the neighborhood of the cutaneous glands is suggestive of the ancient maxim, *ubi irritatio, ibi affluens*.

Other forms of cutaneous lesions may also arise from the internal use of iodine and bromine compounds, and offer for consideration a large class of medicinal eruptions which differ in appearance from those just mentioned, and are independent of the physiological or therapeutic action of the drug to which they are due. They may be caused by many different drugs, and present a variety of forms, the most common and well recognized of which are as follows:—

(1) Simple and evanescent erythematous patches, unattended by constitutional disturbance, and not apt to be followed by desquamation, which have been observed after the use of quinine, antipyrine, copaiba, iodide and bromide of potassium, cubebs, and benzoate of soda.

(2) Papular erythematous lesions, attended with exudation into the cutaneous tissues, and resembling in some cases measles, in others the various forms of erythema multiforme, have been produced by the ingestion of quinine, antipyrine, copaiba, and iodide of potassium.

(3) A diffuse form of erythematous dermatitis, not infrequently accompanied by constitutional derangement, generally followed by desquamation, and often closely simulating the rash of scarlet

fever, has occurred in consequence of the administration of salicylic acid, quinine, opium, morphia, and iodide of potassium.

(4) An urticarial eruption, consisting of wheals, is the most common of the medicinal eruptions, is apt to be combined with other forms and attended with constitutional disturbance, and has been described as following the use of copaiba, quinine, salicylic acid, antipyrine, iodide and bromide of potassium, opium, morphia, chloral hydrate, and arsenic.

(5) Purpuric eruptions, or circumscribed exudation of blood into the dermal tissues, sometimes accompanied by hemorrhages from the mucous membranes, are reported as having occurred from the use of quinine, salicylic acid, iodide of potassium, and chloral hydrate.

Much less common than the above are:—

(1) Bullous or pemphigoid eruptions. Such cutaneous lesions occurring after the use of iodide of potassium are rare, but well recognized, and isolated instances of the same are recorded as taking place after the use of bromide of potassium and copaiba.

(2) Vesicular eruptions resembling eczema have been described as following the use of various drugs, but they are exceptional, and the details with regard to them are meagre.

Attacks of typical herpes zoster are described by Hutchinson and others as occurring during the administration of arsenic, but it is a question whether such eruptions are not to be regarded as coincidences rather than consequent phenomena.

(3) A scaly eruption, resembling psoriasis, is mentioned by Gower as appearing, in three cases, during the administration of borax.

The drugs which are most apt to excite cutaneous eruptions, when given internally, are quinine, salicylic acid, copaiba, preparations of iodine and bromine, and it is worthy of notice that the new remedy antipyrine is especially prone to give rise to cutaneous manifestations, being followed by them, according to one observer, in ten per cent. of the cases in which it is used. Contrary to the opinion of Biesnier, who supposed them to be due to reflex nervous disturbance, caused by gastric irritation, these eruptions may ensue whether the drugs which excite them are introduced into the system by way of the stomach, by absorption through the mucous membrane of the rectum, by subcutaneous injection, or by contact with a wounded surface. They make their appearance shortly after absorption of the drug has taken place, are acute, and run a rapid course in comparison with the pustular dermatitis due to iodine and bromine; are not infrequently ushered in by a chill and accompanied by vomiting, headache, and fever, offering a temporary but striking likeness to the acute exanthemata; are aggravated by the continuance or increase in the dose of the drug which causes them, and disappear upon its disuse. In some cases, however, the system seems to acquire a tolerance of the drug, and the cutaneous and other symptoms disappear, notwithstanding its continued administration.

The pathogenesis of the medicinal eruptions is of importance as throwing light upon other and analogous pathological processes, but its nature is too

<sup>1</sup> Read before the Massachusetts Medical Society, June 9, 1885, and recommended for publication by the Society.

complicated, and our knowledge too limited, to permit any such syllogistic and sweeping assertion of its neurotic character as has recently been made in the *Journal of Cutaneous and Venereal Diseases*.

With regard to the pustular lesions so often caused by the use of iodine and bromine compounds, the evidence, taken for what it is worth, indicates that the changes in the skin are due to direct irritation of its tissues, on account of the presence therein of iodine and bromine, two very irritating substances. The deposition of finely divided metallic silver in the corium, and consequent discoloration of the skin, which sometimes follows the long-continued administration of nitrate of silver, demonstrates the possibility of the accumulation of a drug in the cutaneous tissues after its internal use, while the typical inflammatory and suppurative character of the lesions in question suggests reaction to direct irritation, and the detection of iodine and bromine furnishes the material for such irritation. In most cases these inflammatory changes in the skin do not appear until the drug has been taken for some time, and personal idiosyncrasy does not seem to play so prominent a part in their causation as in that of the other varieties of medicinal eruptions, there not being manifest the same general condition of vascular irritability which is often connected with the latter. The production of the pustular dermatitis caused by iodine and bromine seems rather to be a question of the amount of the drug received into the system compared with the individual's capacity for its elimination by the proper channels; an interesting fact in this connection being the observation that in cases of Bright's disease, where the eliminating powers of the kidneys are crippled, this form of eruption takes place sooner and after smaller doses of the drug than usual.

As to the other varieties of medicinal eruptions, although they differ widely from each other in appearance, many of them are due to what looks like disturbance of the vaso-motor system, and belong to the so-called angio-neurotic lesions of the skin, the type of which is furnished by the wheal of urticaria; and both Pellizzari and Erb call particular attention to the general and increased irritability of the cutaneous vascular system which is present in these cases, a condition of things revealed by the ready formation of the so-called "taches cérébrales," first pointed out by Trousseau in connection with meningitis. Pathologically speaking, angio-neurotic lesions of the skin consist in various and varying degrees of dilatation of its capillaries, attended with more or less exudation of serum and wandering cells, separately or in combination, and such processes manifest themselves clinically by erythema of various types and urticarial eruptions. With regard to the bullous eruptions due to iodide of potassium, it may be stated that an angio-neurotic lesion of the skin, such as erythema or urticaria, may, by sudden and excessive exudation of serum, which causes the elevation of the epidermis *en masse*, develop into a bullous eruption, and it is a question as to how many of these pemphigoid lesions are of this nature. For the production of the hemorrhages into the cutaneous tissues which take place in the purpuric eruptions, there is apparently necessary some change in the capillary walls

themselves, for the red blood globule does not possess the power of amoeboid movement which enables the white blood cell to migrate through the protoplasm of which the walls of the capillaries are composed. This process is generally independent of any angio-neurotic manifestations, although it may be combined with them, and thus give rise to a hemorrhagic variety of such lesions. In what manner the presence of a drug, or some modification of the same, in the system causes such pathological changes in the skin: whether by disturbance of the central or peripheral nervous system, by irritation of the capillaries themselves, or by a combination of the two processes: is a matter of speculation which is premature in proportion to the extent of our ignorance, but the truistic assertion may be made, that the entrance in some way into the circulatory system of the drug which causes them is requisite for the production of these eruptions. In any individual instance the factor which seems to determine the morphology of the eruption is personal idiosyncrasy, or what Virchow has called the "mystery of individuality," the same drug generally causing the same form of eruption in the same individual, and it is an interesting fact that such idiosyncrasy may be hereditary.

The entrance into the circulation of vaccine matter and so-called septic material is also competent to excite pathological changes in the skin. In vaccination, besides the more common and localized eruptions of erythema, eczema, and erysipelas, which start from the point of inoculation and spread by continuity, there sometimes occur exanthemata, which, appearing after a certain period of incubation, upon regions of the body distant from the point of inoculation, often resemble in appearance angio-neurotic eruptions, and are apparently due to entrance into the circulation of vaccine matter, or possibly in some cases, as Behrend supposes, of the products of suppuration which has taken place at the point of inoculation. During the course of diphtheria and other septic processes, and notably puerperal fever, there not unfrequently occur eruptions of the angio-neurotic type, being made up of erythematous and urticarial lesions, and probably the so-called puerperal scarlet fever and the "scarlet fever" after operations are of a septic nature, and not genuine scarlatina. Bullous, and very commonly purpuric, lesions may also ensue in consequence of septic infection, and several observers have expressed the opinion that all cutaneous lesions, occurring as a result of such infection, are metastatic in character; and although this may not be true of all, it is not unlikely that the petechial lesions are of this nature, namely, hemorrhagic infarcts of the skin caused by plugging of its capillary bloodvessels by emboli composed of microorganisms, more especially as some recent microscopic observations, by Watson Cheyne, of the lesions occurring in purpura hemorrhagica seem to confirm this idea.

In the cases already considered the foreign material, or *materies morbi*, which excites cutaneous manifestations of its presence in the system, is introduced into the organism from the outside, and this may also be said of the acute and contagious exanthemata, of typhus and typhoid fever, of glan-

ders, of syphilis, of the oriental pest, and of infectious maladies, where cutaneous eruptions are exceptional and not characteristic of the disease, such as cholera, relapsing fever, and acute miliary tuberculosis; but instances are not wanting in which similar appearances may be caused by the formation in the organism itself of material which by its presence in the blood is competent to give rise to changes in the skin, and examples of this are furnished by scurvy, uræmic poisoning, and diabetes.

Chemical examination of scorbutic blood shows, besides other changes in its composition, increase in the amounts of water, fibrin, and albumen, and decrease in the quantity of its globular elements, and these changes, which are apparently caused by exposure to hardship combined with deprivation of certain articles of diet, notably fresh vegetables, are attended by the development of purpuric lesions in the skin and hæmorrhages into other tissues of the body. There is no reason for supposing scurvy to be an infectious malady, and the suggestion that the purpuric lesions of the disease may be due to the influence of the same microorganisms which are ordinarily harmless denizens of the mouth and other cavities of the body, but which in these cases are furnished with unusual opportunities for growth and development on account of the altered composition of the blood, is a curious instance of bacteriomania.

In chronic diminution or complete arrest of the renal functions, the consequent retention in the blood of waste products which should be eliminated by the kidneys usually manifests itself by headache, symptoms of gastric disturbance, and in severe cases by coma, but occasionally there are likewise produced cutaneous symptoms, consisting of a papular form of erythema, attended with exudation and followed by desquamation, which has been described under the name of erythema uræmicum. This form of eruption usually makes its first appearance upon the extremities, notably upon the extensor surfaces, and subsequently spreads to other parts of the body. Confluence of the original lesions sometimes causes the eruption to assume a likeness to that of scarlet fever, and in one case of unusual severity bullæ and purpuric lesions were formed in the skin, and hæmorrhages took place into the mucous membrane of the mouth.

The cutaneous manifestations which occur during the course of diabetes, apparently in consequence of the overproduction of sugar in the system, have been made the subject of a special article by Kaposi, and may be of the angio-neurotic type represented by roseola, erythema, and chronic urticarial lesions, or of a more frankly inflammatory nature, consisting of furunculosis, carbuncular lesions, and even gangrenous dermatitis. The presence of sugar has been demonstrated in these inflammatory lesions, which call to mind the similar cutaneous changes caused by iodine and bromine.

The eruptions which have thus far been mentioned are, properly speaking, not diseases of the skin, but changes in the skin, which are symptomatic of the presence in the circulation of some material which is foreign to the organism, and which either enters into it from without or is the result of perverted and incomplete performance of its physiological func-

tions. In an erude way they may be arranged in three groups, namely: those of an angio-neurotic nature, represented by the various forms of erythema and urticaria; those of a reactive inflammatory and suppurative type, consisting in acneform, furunculæ, and carbuncular lesions, and those of a hæmorrhagic variety, manifested by purpuric eruptions, and it is worthy of notice that eczema, which is so common a disease of the skin, is so rarely met with in this connection.

The pathological changes in the skin, which are regarded as cutaneous diseases properly so called, are not unfrequently purely symptomatic in their nature, and a rational method of treatment does not lose sight of this fact, although the exact indications to be met are often obscure or entirely unknown.

The acute outburst of urticaria, sometimes accompanied by vomiting and febrile symptoms, which occurs after the use of certain articles of food in susceptible individuals, has its exact counterpart in the similar eruption following the use of various drugs, and many strange examples of such personal and gastronomic idiosyncrasy are recorded. The typical and self-limited course of erythema multiforme, erythema nodosum, and certain varieties of purpura; the prevalence of these diseases during the spring and autumn; the individual susceptibility which renders the patient liable to renewed attacks with the return of these seasons; the general feeling of languor and debility and arthritic pains which are often evident, and the occasional development of cardiac murmurs during the course of these maladies, all go to show that their cutaneous lesions are merely symptomatic of some general and possibly infectious influence, the exact nature of which is entirely hypothetical.

The chronic varieties of erythema and urticaria, on the other hand, which by recurring attacks form such an unpleasant feature in the existence of the sufferers therefrom, are symptomatic of some disturbance of the various physiological functions of the body, and external applications have upon them but a temporary and palliative effect. They may often be associated with manifest symptoms of dyspepsia, with costiveness, and with improper modes of living, in which case the appropriate and generally effective remedy is to set right whatever is wrong, so far as lies in our power. The evil effects of the incomplete performance of the digestive and excretory functions are not limited to symptoms referred to various parts of the alimentary canal, and may even make themselves felt without any marked manifestations of the latter, and the lassitude, drowsiness, and general debility so often met with in these cases are probably but milder manifestations of changes in the blood which may even result in symptoms of coma, such as have recently been described as following, and probably caused by, dyspepsia. A sedentary life in a vitiated atmosphere, and improper food, are to many the ordinary conditions of existence, and plenty of fresh air, physical exercise, and regulation of the habits and diet are often more called for than drugs; but occasionally instances are met with where there is no obvious derangement of any but the cutaneous system, and where the functions of digestion and elim-

ination are performed with regularity and apparent completeness, and consequently our therapeutic efforts must sometimes be made at random. But the facts which come within the narrow limits of personal experience, that such cases are sometimes much relieved or even cured by the administration of salicylate of soda, atropia, or by a thorough-going course of purgative waters, are suggestive of future possibilities in the way of therapeutics, when our knowledge of the action of drugs and the indications for their employment is more exact than it is at present. There is no doubt also that eczema and other cutaneous disorders, which are not so purely symptomatic in their nature as those already mentioned, may be aggravated and kept up by similar conditions of the system, and a strict attention to the functional integrity and vigor of the body, in addition to local treatment, is often necessary to secure a successful result. Disturbance of the nervous system and exudative or inflammatory tissue changes are but the machinery of pathology, which is set in motion by what in the broadest sense of the word may be called irritation, and doubtless one form of such irritation is change in the composition of the blood by quantitative or qualitative modification of its various constituents, or by the introduction of foreign material, and the patient who makes the traditional demand for its purification may, in many cases, be nearer the source of his malady than the physician who is busy with the symptoms. However clumsy and ineffectual our therapeutic efforts may be, they should not be employed without a clear recognition of the close relations existing in matters of pathology between the body and its cutaneous envelope, which renders Dermatology, of all the special departments of medicine, the least independent of general pathological states of the system.

#### TEN CASES OF ABDOMINAL SECTION.

BY L. S. FOX, M.D., OF LOWELL, MASS.

THE surgical treatment for the removal of ovarian tumors and kindred diseases has reached that degree of success that ordinary cases seem to excite but little attention; but, as some of my cases present more than ordinary interest, and are my first series of ten unpublished ones, I offer no apology in presenting them to this Society.

It is proper for me to state, however, that my experience in laparotomy has not been confined to this handful of cases, but covers a space of twenty-three years as assistant to one of America's leading ovariologists, Dr. Gilman Kimball, together with having witnessed many such operations performed by the masters in this line—Sir Spencer Wells, Knowsley Thornton, and Lawson Tait. Therefore, if I venture an opinion, it will not be based upon a lack of experience and observation.

As regards the *modus operandi*, in a general way my experience has been that the minimum incision should be the rule in all cases of ovariectomy; one merely large enough to admit the hand is sufficient, unless the tumor is quite solid or firmly adherent.

Before tapping the cyst I have the patient turned upon her right side, and, while the fluid is running through the cannula, draw the sack forward into the

incision by a pair of vulsellum forceps. If a bulk of the tumor remain, — as frequently happens, if it be multilocular in type, — enlarge the opening into the sack, turn the edges out over the lips of the incision, pass in the hand and carefully break up the remaining cysts, after which, barring out firm adhesions, the sack can be readily extricated.

By using care in this step of the operation none of the cysts' contents can enter the peritoneal cavity.

The sack being extricated and the parts cleaned, the patient is then turned back in the usual position, and the pedicle secured. For this purpose I use a coarse, loosely braided silk, manufactured by Heppner, of New York, which has served me better than any other kind of ligature I have ever used. The ordinary hard-braided silk has so often got me into trouble by cutting the softer tissues and causing bleeding that I have ceased using it altogether.

The sack being cut away, the peritoneal edges of the stump are brought together and overcast with fine carbolized catgut, thereby covering the stump and open vessels by a layer of peritonæum. The abdominal cavity is now carefully sponged out, and all bleeding vessels secured. The wound is brought together in the ordinary way — by passing the needle through the entire thickness of the abdominal parietes, muscles excluded, taking each layer separately. The wound is now thoroughly cleansed, and covered with a strip of oiled silk, over which is a padding of Seabury and Johnson's antiseptic gauze. This is held in place by strips of adhesive plaster, enveloping the entire length of the dressing and passing two thirds around the body.

The silk used in these operations undergoes no preparatory treatment, except that of being boiled fifteen or twenty minutes. It is then put into a bowl of water and the instruments are kept in a tray of the same liquid. It is my purpose to have the water that is used at these operations previously boiled. As for the use of antiseptics, I believe in them only so far as is necessary to procure a strictly antiseptic condition of the room and its contents. For this purpose I use carbolic acid in spraying the room and mopping the floor. I also use it in preparing my instruments and sponges.

The clothing used about the patient is previously washed and carbolized and thoroughly dried. The patient's bowels are emptied the third day before the operation by a dose of castor oil.

The day previous to the operation she is bathed in weak carbolic water, and a vaginal douche of the same is given. On the morning of the operation the bowels are emptied by a warm-water enema. If there is any coldness of the hands or feet a dose of brandy is given before the patient is etherized. The temperature of the room should be comfortable, — neither too hot nor too cold — between 70° and 74° F.

I would like to suggest a slight modification of Keith's drainage-tube, which is simply a constriction, or neck, made just below the flange. It must not, however, be made at the expense of the glass, but must be of uniform thickness throughout. Its advantage — that of holding the tube in position — will be readily seen.

CASE I. This patient was thirty-four years of

age; single; had never suffered any inconvenience from the tumor; and was in good health at the time of the operation. It was a multilocular cyst, weighing eighteen pounds, and was removed from the left side. It was slightly adherent to upper left peritoneal surface. Patient made a good recovery.

CASE II. Multilocular cyst, weighing twenty-seven pounds, was removed from left side. There were no adhesions, pedicle stout and broad, and was tied in three sections. Patient made a rapid recovery, and returned to her home—forty miles away—in just four weeks from the day she entered the hospital. Pulse and temperature never above normal after the first day.

CASE III. This patient, sixty-five years of age, and always rather delicate, was operated upon at her own house, without any particular preparation of the room or herself. She was losing flesh and strength rapidly. Her nervous system was disturbed, and she was getting but little sleep. Both legs and feet were badly edematous up to the knees. The tumor was multilocular, weighed thirty-five pounds, and was removed from the left side. The adhesions were firm and extensive. The sack, which was very tender, was ruptured several times in its removal, filling the abdominal cavity with its contents. The cavity was carefully sponged out, and the patient got well without any bad symptoms. No drainage-tube was used.

CASE IV. This patient, forty-three years of age, was always delicate. At the time I first saw her, although her trouble had been properly diagnosed by her attending physician, and she had been kept under a vigorous tonic treatment, yet she was extremely weak and emaciated. Her pulse was rapid, extremities moist and cold, and there was edema of her feet and legs. Appetite and power of assimilating food were poor. Cystoma complicated with uterine fibroma was diagnosed and verified by the operation. There was no history of flooding; but for the preceding four months she had not menstruated. She had been tapped nine weeks prior to the operation, and eighteen pounds of fluid drawn off. The tumor was removed from the right side, was multilocular in type, and weighed twenty-seven pounds. There were adhesions to the upper left peritoneal surface and to the omentum. The pedicle, being short and very broad (five inches), was tied in three sections. The silk I was using at that time cut through in places and caused slight, but troublesome, bleeding. Patient made a good recovery. Temperature never above 99° after the first day. Heard from patient last week by her sending me another patient with the same trouble. She reported herself in good health, and has had no trouble since the operation.

CASE V. A multilocular cyst weighing twenty pounds was removed from the left side. There were extensive peritoneal and omental adhesions, and considerable oozing of blood followed their breaking up. Septic peritonitis set in on the fourth day, and for a week the patient seemed to be in great danger. Quinine and alcoholic stimulants, with opium, to relieve pain, were freely administered. The patient, after a lingering sickness, got well.

CASE VI. was a young Englishwoman, aged twenty-seven, mother of one child, who had never

enjoyed very firm health, and had always been subject to glandular swellings about the neck. At the time I first saw her the tumor would not have weighed more than five or eight pounds, but she had not then decided to have it removed.

The next visit she made me there were well-marked symptoms of pregnancy, and my advice was to postpone having anything done until the fourth month. I did not see her again until she was five months pregnant, when she came to the Lowell Hospital to have the tumor removed. On opening the abdomen only the lower border of the cyst could be seen, it being crowded upward by the impregnated uterus. It was a unilocular cyst of the left side, and weighed about fifteen pounds. The pedicle was very short and thick, which necessitated its being tied closely to the body of the uterus. Patient did nicely up to the fourth day, when she began to complain occasionally of sharp pains in the hypogastric region. Quite large doses of morphine did not control them, and at the beginning of the fifth day, without any apparently expulsive pains, she miscarried. The sex was well-defined, being that of a male child in the fifth month of development. There was a slight rise in the temperature following the miscarriage, also an increased fulness of the bowels. After rest and sleep the temperature fell to 99°, and remained so for three days. Then the lochial discharge increased and assumed an offensive odor, and she complained of chills, heat, and thirst. The left parotid, which was slightly enlarged at the time of the operation, increased to an enormous size, and was extremely painful. Leeches, poultices, and the external application of laudanum, gave her little or no relief. Deglutition was becoming very difficult. The temperature rose to 104° F. and the patient had every indication of being in a very critical condition. Let me here state that now, for the first time, I learned in talking with her husband that in her former childbirth she had puerperal fever and parotiditis. Following the advice of Dr. Thomas, I immediately washed out the uterine cavity with a two per cent. solution of carbolic acid at a temperature of 105° F. The fever abated, the parotid inflammation subsided, and all the unpleasant symptoms about the case disappeared within a week.

CASE IX. This patient, twenty-seven years of age, had always enjoyed the best of health; but for the past eight years had suffered the most agonizing pains through the pelvis, always distinctly referable to one or the other ovary, or both. The pain was described by her as lightning pain. At first these pains were associated with dysmenorrhœa, and for two weeks out of the four she would be incapacitated for work. For the last three years they have come on without special reference to her menses and were always accompanied by a variety of reflex symptoms, the most prominent and persistent of which was vomiting. For days at a time she would be unable to retain food on her stomach, and at times was unable to be nourished by the rectum from periodical attacks of diarrhœa. She was extremely wasted, pale, and nervous. Before I saw her she had received skilful treatment, but without benefit; and latterly her sufferings could not be even palliated,

unless by the use of anaesthetics. Foreight months I treated her with the utmost persistence, using the best means at my command, including galvanism. Finally I advised the removal of the ovaries, and the patient gladly accepted my proposition, preferring death, even, to a life of pain and misery. A consultation was held with Drs. Kimball and Bass, who confirmed my opinion.

The operation was performed a little over two months ago, and thus far her suffering has been entirely relieved. The ovaries were non-adherent; not larger than normal, but were perfectly studded with small cysts, and contained about a tablespoonful of serum.

CASE X. This patient, forty-one years of age, mother of one child, — born sixteen years ago, — had enjoyed good health up to within two years, since which time she has had a history of menorrhagia; in fact, she was unwell a larger part of the time, and had grown quite pale and weak, so that she was unable to work.

I first saw her in consultation with Dr. Carolin, and diagnosed fibroma of the uterus and cystic tumor of the right ovary of the size of a large orange, but with a pedicle that would admit of its being easily pushed up under the ribs and down to Poupart's ligament. Operative interference was advised and accepted, it being my purpose to remove the cyst together with the left ovary. Making a small incision in the median line, the cyst was soon reached and removed; also a subperitoneal pedunculated fibroid, of the size of a goose-egg, from the posterior part of the uterus. This little growth had escaped observation, for it lay in a position that could not be reached, either externally or by rectal or vaginal touch.

The left ovary, which I was very anxious to remove, was so firmly held by the fibroid uterus against the bony pelvis that I could not extricate it without doing damage, and was obliged to leave it. The patient made a good recovery, and left the hospital in four weeks from the time of the operation.

#### THE RESULTS OF THE USE OF ANTIPYRINE AT THE BOSTON CITY HOSPITAL.<sup>1</sup>

BY GEORGE R. SHATTUCK, M.D., VISITING PHYSICIAN.

In October, 1883, with my colleague, Dr. F. W. Draper, I reported to this Society the effects of kairine as an antipyretic in typhoid fever, as shown by cases in which it was exhibited at the Boston City Hospital. In commenting on these cases I remarked "that the behavior of kairine as shown by them leads one to believe that a better antipyretic is possible, and that such will probably be ultimately arrived at, it may be by further experiments in the same direction which led to this discovery." Shortly after this was written, Professor Knorr, of Erlangen, and one of his assistants, succeeded in obtaining an alkaloid, a derivative of quinoline, of remarkable antipyretic properties, to which the name of antipyrine was given. Filehne, who introduced kairine to the profession in Germany, and who was a laboratory assistant of Professor Fischer, his dis-

coverer, made the first clinical experiments with antipyrine. This derivative of quinoline takes the form of a white crystalline powder, with but little taste, extremely soluble in water, especially in warm water; also soluble in wine. It is generally well borne by the stomach, even in large doses, and may be agreeably administered in wine or aromatics.

Kairine has already passed out of favor and out of use, as there were good reasons why it should; but antipyrine has met with a much greater and more uniform success. The different reports concerning its mode of operation and effects agree in all essential particulars; its antipyretic influence is fully as marked as that of kairine, whilst the administration is less frequent, and the fall in temperature is rarely accompanied by the chills and tendency to collapse, so often attendant upon the action of kairine. Its administration, even in full doses, is rarely attended by other inconveniences than profuse sweating and a slight vomiting without distress. Exceptional instances do occur in which the vomiting is prolonged and trying, and of course in such one loses more than one gains by giving the drug.

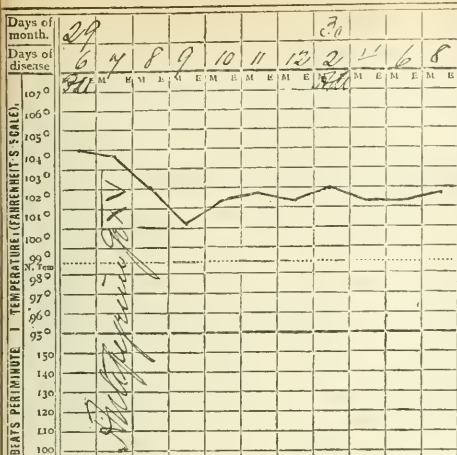
In a small proportion of the cases at the City Hospital here, and in a larger percentage of some of the German reports, the exhibition of antipyrine was followed by a somewhat variable eruption, which, however, commonly resembles that of measles — an eruption occasioning no inconvenience, and disappearing not infrequently during the continued use of the medicine.

Filehne's experience led him to recommend that antipyrine be given in three hourly doses of two grammes each; and it was in that way that it was at first generally given to get the full antipyretic effect. Latterly various doses have been tried. At the City Hospital we have given it according to Filehne's formula; we have also given only one full dose of two grammes, followed by two others of one gramme each, and we have tried single doses of one gramme. In some cases, after the effect of the three two-gramme doses had been attained, single repeated doses of five grains were given, with the aim of keeping down the temperature.

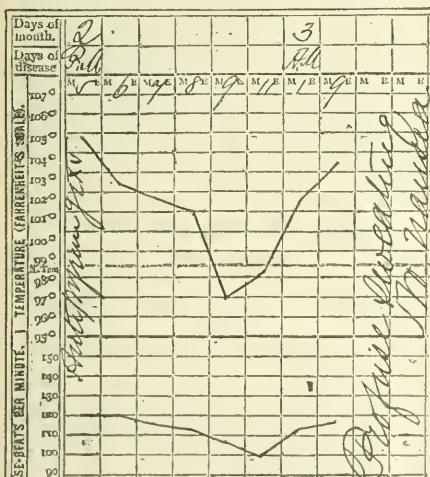
The charts which are shown, and which were prepared by the Senior Medical House-officer, Dr. W. L. Munro, show the results of these different methods. The charts are of patients in my own service and in those of other members of the staff. Most of the cases are of typhoid fever; but there is one of facial erysipelas, several of pneumonia, one of scarlet fever, one of sunstroke. In the last case two grammes were given subcutaneously at one time, and the patient made a rapid recovery, though brought to the hospital with a temperature of 107°.

Antipyrine was administered in several cases of intermittent, without interrupting the chills and without appreciable effect. This failure was anticipated from our previous experiences with kairine. A few instances are reported from Germany, in which the periodicity of the attacks was broken temporarily by large doses; but such instances are exceptional, and no antiperiodic action has been claimed or can be allowed. All these coal-tar derivatives resemble quinine in their antipyretic action, but differ from it in lacking the specific antiperiodic action upon malarial conditions.

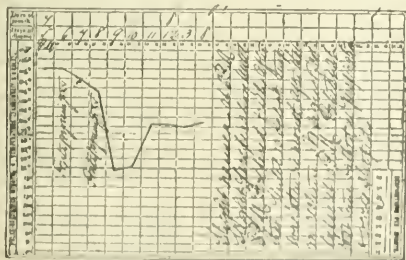
<sup>1</sup>Read before the Clinical Section of the Suffolk District Medical Society, May 13, 1885.



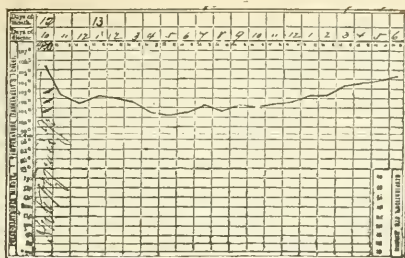
Female. Typhoid Fever. Days of Month. Hours of the Day.



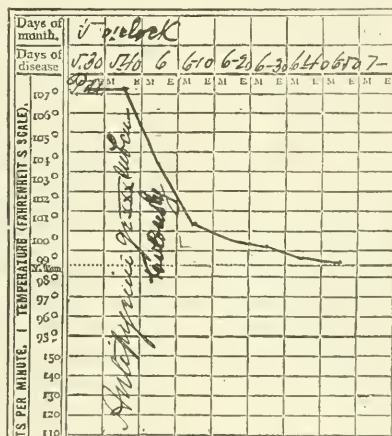
Female. Typhoid Fever. Days of Month. Hours of the Day



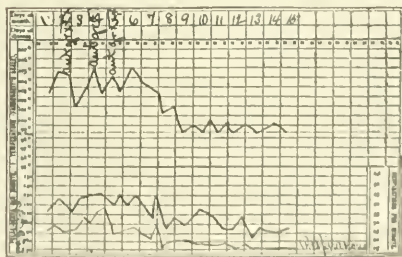
Female. Typhoid Fever. Days of Month. Hours of the Day



Female. Typhoid Fever. Days of Month. Hours of the Day.



Male. Sunstroke. Hours of the Day.



Female Double Pneumonia. Three Thirty-grain Dose,  
of Antipyrine on Three Successive Days.

*Note.*—A few selected charts showing the effect of different dose

The fall in temperature ordinarily begins to declare itself in an hour after giving antipyrine, reaching its maximum in from three to five hours after the full dose of six grammes, divided in the German fashion, continuing on an average about eight hours, though sometimes lasting twice as long. A fall of from three to five degrees F. is very easily secured. The change in the pulse is by no means always proportioned to that in the temperature. The urine is somewhat diminished, free from albumen, and but little altered in color—in the last respect offering a contrast to urine after kairine.

We have had no experience with antipyrine in children. Two<sup>2</sup> of the German observers who used it largely in a children's clinic report that it is well borne by them, and suggest one decigramme for each year of age as a rule for the dose to be given.

Antipyrine has been in use at the Boston City Hospital since last June (1884), and was first suggested to me by Dr. F. H. Williams, who procured a small quantity and sent it to the hospital. An editorial notice of the drug will be found in the *Boston Medical and Surgical Journal* of August 14, 1884. For some months the supply was limited and had to be husbanded; at present it is in better supply, at \$1.25 the ounce, and may be had of Lutz & Movius, wholesale dealers, 37 Pearl Street, who import 200 ounces a week into New York to supply the country. The discoverer, I regret to say, put a patent upon the article, a proceeding which, however plentifully it may be prepared, will always be reflected in the price.

As a general result of our experience at the City Hospital, where further trials are still being made, I am able to endorse antipyrine as: (a) An efficient and reasonably safe antipyretic, without antiperiodic qualities.

(b) Whose exhibition in proper doses is, as a rule, unattended by serious discomforts or drawbacks.

(c) By reducing a high temperature it frequently substitutes calm for excitement and sleep for restlessness.

(d) Otherwise it does not usually modify the course of disease, and certainly not of typhoid fever.

(e) The quality of the sample used must be carefully watched in these synthetical compounds. A poor article will produce vomiting, chills, and collapse, when a good one will not; or, on the other hand, may be inefficient when the pure drug would have proved effective.

Antipyrine may be employed in a variety of febrile conditions, though its desirability in phthisis is questioned; but typhoid fever is the disease in which it is likely to be most largely and frequently used. When used in typhoid it should be distinctly without expectation of modifying the course of the disease. To emphasize our own experience on this point I may quote that of Alexander,<sup>3</sup> who reports a severe relapse in typhoid after the administration of fifty-four grammes of antipyrine in divided doses throughout the first attack; and of Dr. William H. Draper, in whose service at the New York Hospital,<sup>4</sup> of five patients dying from typhoid fever, one took ten grammes in ten doses during five days; a second

twenty-seven grammes in seven doses during six days; a third thirty-four grammes in twenty-one doses during eight days; a fourth forty-eight grammes in ten doses during seven days; a fifth three hundred and twenty-one grammes in sixty-five doses during thirty days.

It is extremely probable that we have only just begun to make the acquaintance of these synthetical laboratory compounds, and that, as kairine was a prelude to antipyrine, so the latter will be followed by something even better.

Thaloin<sup>5</sup> is another quinoline product with which clinical tests have lately been made in Germany. Its antipyretic action is more like that of kairine than of antipyrine. The fall in temperature begins generally in from two to three hours after administration, and is usually accompanied by sweating. The rise is rarely postponed more than four or five hours, and often less, in which case it is apt to be attended by a chill. Neither vomiting, cyanosis, nor collapse have been remarked. The fall and rise of temperature are, however, less gradual than with antipyrine. The dose is from a quarter to three quarters of a gramme.

The laborer is undoubtedly worthy of his hire, and much special chemical knowledge and laboratory work is required for the evolution of these compounds; but one regrets that they should be covered by patents. This is not in accordance with a true scientific or professional spirit, or with what the past has led us to expect from Germany, and it is to be hoped in the future, if her physiological chemists furnish the profession with new means for alleviating human suffering, it will be, as in the past, without commercial restrictions.

## Hospital Practice and Clinical Memoranda.

### FLUID EXTRACT OF MANACA IN RHEUMATISM.

REPORT OF CASES TREATED AT THE BOSTON DISPENSARY SERVICE OF DR. G. M. GARLAND.

The following cases of rheumatism were treated with the fluid extract of manaca in the men's room of the Boston Dispensary during the winter of 1883. The extract employed was furnished gratuitously by Parke, Davis, and Company, with the request that its merits might be tested:—

CASE I. R. J. C., twenty-eight years of age, muscular rheumatism, acute attack. The left arm was much swollen from the wrist to the elbow, was tender, painful, and helpless. Patient also complained of his leg. Temperature 98.2° F. Ordered salicylate of soda.

Nov. 7th. No better. Stop salicylate of soda. Take fluid extract of manaca—fifteen drops every three hours.

Nov. 9th. Reports that leg is less lame, but arm is bad as ever. Increased the manaca to thirty drops four times daily.

Nov. 14th. Swelling of arm is nearly gone. Ankle is better, but patient still walks lame. Patient says he took salicylate of soda for one week

<sup>2</sup> Preussel and Sartorius, Berlin. Klin. Wochn., July 28, 1884.

<sup>3</sup> Fortschritte der Medicin, vol. II, p. 679, 1884.

<sup>4</sup> New York Medical Journal, April 18, 1885.

<sup>5</sup> V. Jacksch, Wiener Med. Wochschr., No. 18, 1884.

before applying to the Dispensary, but he perceived no benefit from it.

Nov. 16th. Doubled the dose to sixty drops four times daily.

Nov. 20th. Patient reports himself much better, but the arm is still somewhat swollen.

CASE II. P. G., sixty-four years of age; laborer.

Nov. 10th. Has had rheumatism for four months. Was all over him but now is confined to the left knee and instep. Ordered manaca, fifteen drops four times daily.

Nov. 17th. No improvement. Increased manaca to sixty drops.

Nov. 20th. Still no improvement. Stopped the manaca and gave him liquor potassii, which also failed to relieve him. Finally showed some improvement under the iodide of potash.

CASE III. P. M., thirty-two years old; laborer.

Nov. 15th. Has had rheumatism for three weeks. Confined to his bed with it for ten days. Is unable to work. Pain in both heels and insteps, which makes him lame. Also pain in shoulders. Finger-joints swell. Pulse 78. Temperature 99° F. Ordered manaca, thirty drops four times daily.

Nov. 17th. No improvement. Manaca, sixty drops four times daily.

Nov. 19th. Reports himself a great deal better. Ends of fingers still numb. Felt itch every evening. Would like to tear them to pieces. Never troubled so before. Continue manaca, sixty drops.

Nov. 25th. Reports no improvement. Instep and ankles very lame. Difficult for him to walk. Stopped manaca. Gave him liquor potassii, which he thought helped him more than the former.

CASE IV. J. R. K., fifty-nine years old; wheelwright.

Dec. 3d. Acute attack; one week standing. Began in the right arm. Abandoned that arm and went into the left arm yesterday. The left wrist is now swollen and red; the swelling extends some distance up the arm. There is great tenderness and continual pain. Patient could not dress himself this morning. Pulse 76. Temperature 98.5° F. Ordered manaca, thirty drops every three hours.

Dec. 6th. Reports considerable improvement. Pain and swelling have left the hand. Can move his fingers now.

CASE V. C. F. W., fifty-one years old.

Dec. 4th. Rheumatism began two months ago. Was in both arms, but is now limited to the left arm and hand. The hand is very much swollen. Cannot sleep at night on account of pain. Pulse 100. Temperature 98.5° F. Ordered manaca, thirty drops four times daily.

Dec. 5th. Has taken four doses of the medicine and feels better. The hand is less swollen and more movable. Dose increased to sixty drops.

Dec. 12th. Left arm almost entirely well. Right arm is now affected and is worse than the left one was. Pains him up to his shoulder. Renewed the manaca.

Dec. 26th. Reports himself about well.

CASE VI. J. D. D., fifty-one years old.

Dec. 10th. Has been troubled with rheumatism for four weeks. Grown worse during last week. Pain is situated across the sacro-pelvic articulation.

Patient has difficulty in standing or walking. Lies on the right side. Cannot lie upon his back. Never had rheumatism before. He aches when quiet and more so on moving. Pulse 80. Temperature 98.5° F. Ordered manaca, thirty drops four times daily.

Dec. 12th. Reports improvement. Can stand up straight now. Says the medicine makes him dizzy about half an hour after taking it.

CASE VII. M. M., sixty-five years old; fireman.

Dec. 12th. Never had rheumatism before. Yesterday was suddenly seized with pain in the right hip. Shot down into the calf of his leg and makes him very lame. Unable to work. Walks with a cane. Could not sleep last night on account of blisters. Appetite is poor and tongue is red. Pulse 74. Temperature 98.2° F. Ordered manaca, thirty drops four times daily.

Dec. 14th. Reports his hip improved, but the leg is still stiff. Limp on walking. Increase manaca to sixty drops.

Dec. 19th. No improvement. Changed to salicylate of soda.

Dec. 22d. Thinks the last medicine did him the most good.

Four cases of rheumatism were treated at the Carney Hospital with manaca. Two of the cases were old women over seventy years of age who had been complaining for a long time of rheumatic pains all over the body. No improvement in their condition was noticeable after the use of the manaca. The third case was a young woman of twenty-nine years, who had severe pains in her legs, from which the manaca gave her no relief. It was very doubtful if her pains were due to rheumatism, because there was a partial loss of motion in the legs. The fourth case was a man of twenty-nine years, who had suffered for six months with rheumatism. It affected his right knee at first. The pain and weakness attacked the right wrist until he was unable to work. He was discharged well after fourteen days' use of the manaca.

It will be noticed that all the above cases were non-febrile, as no case of rheumatic fever presented itself during the trial of the drug. Some of the cases, however, exhibited severe local symptoms and great personal suffering. Of course, very few deductions can be drawn from such a limited number of trials, but it is safe to infer that the fluid extract of manaca does help some cases of subacute rheumatism, and therefore deserves a place among other remedies recommended for that class of diseases. It would also seem that the drug must be used in large doses—from one half a drachm to a full drachm—in order to obtain satisfactory results. The remedy causes but little disturbance in the doses mentioned. Only one or two of the patients complained of feeling dizzy after using it.

— A correspondent writes that a woman, formerly a nurse, but now flourishing in the role of a "doctor," lately sent a written request for him to "bring a catheter and draw her patient's water." He found a catheter was large enough and more portable.

## Therapeutic Memoranda.

### ON THE INCOMPATIBILITY OF CHLORAL HYDRATE IN THE PRESENCE OF POTASSIUM BROMIDE AND ALCOHOL.<sup>1</sup>

BY GEORGE F. H. MARKOE,

*Professor of General and Pharmaceutical Chemistry in the Massachusetts College of Pharmacy.*

IN December, 1884, the writer had sent to him a bottle containing a mixture and a prescription, of which the following is an exact copy:—

R Bromid. Potass. . . . .	āā ʒ iij.
Chloral Hydrat. . . . .	
Tr. Opil et Camph. . . . .	āā ʒ iss.
Syr. Zingiber. . . . .	

M.

Sig. One or two teaspoonfuls in half a wineglass of water every two to six hours. For sleep.

The claim was made by the physician that the pharmacist who dispensed the mixture had made a mistake, and the matter was put into the writer's hands for investigation. The mixture, as received, consisted of two layers, a clear dark-brown liquid, floating upon a light-colored dense liquid. The dark-colored supernatant liquid had an intensely strong taste in which the characteristic taste of chloral hydrate predominated, but it was modified by the presence of ginger, camphor, and anise, all of which could be recognized. On shaking the two liquids together a somewhat turbid mixture resulted; on standing, the two layers formed again.

The prescription was then made up, with the result that the ingredients separated into two layers, apparently in the same way with the mixture sent for examination. The writer could discover no practical difference in the two samples, and therefore concluded that some decomposition had taken place.

Anhydrous chloral (Trichlor-aldehyde  $C_2HCl_3O$ ) is a thin oily liquid, which will combine with an equivalent quantity of water to form Chloral Hydrate  $C_2HCl_3O, H_2O$ . Chloral also combines with an equivalent of alcohol to form chloral alcoholate  $C_2HCl_3O, C_2H_5O$ . Chloral alcoholate forms white needle-shaped crystals, is much less soluble in water than chloral hydrate, has a more disagreeable taste and is harsher in its action upon the system. When chloral hydrate was introduced into the practice of medicine, the writer was one of the first to make it in this country, and incidentally prepared and studied chloral alcoholate; two or three physician friends made trials of it, but found that, while it acted as a hypnotic, it was more disagreeable to the taste and harsh in its action, leaving unpleasant secondary effects. Knowing that chlorate hydrate is changed into the alcoholate by solution in alcohol, it occurred to the writer that a similar decomposition had taken place in the mixture in question, the alcohol being furnished by the paregoric elixir called for in the prescription.

The following experiments were then made with a view to prove the supposition:—

(1) Potassium bromide . . . . .	60 grains
Chloral hydrate . . . . .	60 grains
Water . . . . .	4 fl. drachms
Syrup of ginger . . . . .	6 fl. drachms

<sup>1</sup> Read before the Massachusetts State Pharmaceutical Association, Pittsfield, Mass., June 4, 1885.

These articles formed a perfect solution which did not separate on standing.

(2) Potassium bromide . . . . .	60 grains
Chloral hydrate . . . . .	60 grains
Water . . . . .	3 fl. drachms
Alcohol . . . . .	3 fl. drachms
Syrup of ginger . . . . .	6 fl. drachms

In this experiment it will be noted that the ingredients differ from the original prescription only in the substitution of diluted alcohol for the paregoric. After standing a short time this mixture separated into two layers, the upper layer being of a light straw color.

(3) This experiment was with the same ingredients used in No. 2, except that the alcohol was not added until after the mixture had been standing for an hour. No separation took place before the addition of the three fluidrachms of alcohol, but the separation occurred promptly after the addition of the alcohol. These experiments prove that the alcohol is the cause of the trouble, and the writer thinks that the chloral hydrate is changed into the less soluble chloral alcoholate.

In addition to the experiments which have been described, numerous other ones were tried which served to confirm the results of those named. The writer found that the addition of potassium bromide, sodium bromide, sodium chloride, and magnesium sulphate to strong solutions of chloral hydrate, together with the presence of alcohol, determined a separation of the liquids into two layers. Ammonium chloride, ammonium bromide, potassium nitrate, and calcium bromide did not disturb the same chloral solutions.

The practical lesson to be learned from this incompatible prescription is that alcoholic preparations should not be prescribed with chloral hydrate, especially not in connection with the bromides of potassium and sodium, because if the solutions used are at all concentrated the chloral will separate as alcoholate, float on the surface, and a great risk will be incurred of giving a large overdose, the patient having received no caution with regard to the necessity of shaking the contents of the bottle before taking a dose.

## Reports of Societies.

### EIGHTEENTH ANNUAL SESSION OF THE AMERICAN OTOLOGICAL SOCIETY.

The Eighteenth Annual Session of the American Otological Society was held at the Pequot House, New London, Connecticut, July 14, 1885.

The President, Dr. C. H. BRUNETT, in the chair.

The Business Committee was announced as follows: Drs. C. J. Blake, Roosa, and E. W. Bartlett.

Dr. CHARLES J. KIPP, of Newark, exhibited the work of Gustav Retzja on the Anatomy of the Organ of Hearing of Vertebrate Animals.

The President reported the death of two members: Dr. John H. Dix, of Boston, August 25, 1884, and Dr. Edward T. Ely, of Colorado Springs, April 8, 1885.

The first paper was on

## INFLAMMATION OF THE ATTIC OF THE TYMPANUM,

by SAMUEL SEXTON, M.D., of New York.

After showing the greater importance of inflammation arising in the attic as compared with that arising in the atrium, the subject was introduced and discussed under two headings: acute and chronic inflammation of the attic. The latter had already been the object of considerable attention. It presents itself in the form of deep sinuses containing polypoid tissue, crusts, pultaceous matter, etc., leading from the inner end of the canal up into the attic into the antrum and sometimes through the membrane flaccida. These are often the result of acute inflammation in early life.

The atticus tympanicus is that portion of the tympanum lying above a plane extending transversely from the prominence on the inner wall, formed by the external semicircular and facial canals to the auditory plate on the outside. Beneath this plane lies the atrium tympanicum, over the attic arches the tegmen which also covers the antrum, the petro-mastoid canal, a varying number of cellules, and the Eustachian tube. The attic communicates freely with the antrum by means of the petro-mastoid canal of Sappey. The mastoid antrum lies behind and to the outer side of the attic in the spongy substance of the mastoid. It is usually larger than the attic and, as a rule, extends downward among the cellules of the mastoid process, giving off frequently a small passage, communicating with the cellules overlying the external auditory meatus. The attic is divided below into two compartments, the inner being the larger, by the incus and malleus, the cord ligaments, etc., which form a partial partition standing fore and aft. These compartments communicate freely with each other, overhead; with the atrium, below; the Eustachian tube in front, and with the antrum behind. The outer compartment is wedge-shaped, larger above and shut in below by the close approximation of the large ossicles to the auditory plate, except anteriorly and posteriorly, where two small openings allow drainage into the atrium below. The inner compartment also communicates with the atrium by an elliptical opening, surrounded on the inner side by the facial canal and on the outer by the large ossicles, the cord, ligaments, etc. All of these cavities are lined throughout with mucous membrane.

Acute inflammation of the attic may follow catarrh of the head, the exanthemata, the entrance of fluids propelled along the Eustachian tube, in bathing or from the use of the nasal douche. The very frequent occurrence of inflammation of the attic from these causes is readily accounted for when we remember that the Eustachian tube at its tympanic orifice opens by a free sweep into the attic as well as into the atrium. Irritating fluids seem always to be better borne in the lower than in the upper part of the tympanum. Inflammation of the attic may be simultaneous with, consecutive to, or independent of inflammation of the atrium. It is the more serious from the fact that swelling of the mucous membrane clogs the outlets and prevents drainage. In such cases, the membrana flaccida is red, the vascular turgescence extending above into the external auditory canal and sometimes downward about the short process of the mallet. Should

the disease progress further, the inflammation may extend beneath the margo tympanicus of the auditory plate, followed by effusion of serum and blood which presses away the membrana flaccida and integument of the canal, producing a bulging sac so great sometimes as to entirely conceal from view the membrana tympani, and may entirely fill the canal and present at the lumen as a purplish tumor. In some cases rupture of a bloodvessel of the tympanic plexus takes place, producing a sudden extravasation of blood. The outer tumor may not at first communicate with the attic.

Periostitis of surrounding parts may occur and extend along the surfaces of the canal, mastoid or squamous portions of the temporal bone. Inflammation may extend downward to the atrium; but as long as this does not happen, and the membrana tympani is unaffected, there may be little deafness, though autophonia may be present. In nearly all these cases inflammation in some degree extends into the antrum and mastoid cellules, or those overlying the external auditory canal, or in the tegmen. If the escape of secretions into the atrium or Eustachian tube is prevented, the case is more severe, and extension to the cranial cavity more to be feared. Inflammation of the antrum often persists after the tympanum has healed, drainage taking place through the Eustachian tube, or by a sinus through the cortex of the mastoid.

The subject of treatment resolves itself into a question of drainage and the employment of such constitutional remedies as tend to check the inflammation and prevent the formation of pus, as aconite, calx-sulphurata, etc. Owing to the impossibility of making an accurate differential diagnosis between the pains of pachymeningitis and neuralgic pains of otitis media, we should be very cautious about trephining the mastoid where pain is our only indication. It is manifestly useless to perform this operation after pachymeningitis has set in. Moreover, this question is one which in any given case must be left to the judgment of the attending surgeon.

## DISCUSSION.

DR. B. ST. JOHN ROOSA, of New York, said: "I have nothing to say in regard to the anatomy of the tympanum; but the remedies mentioned, mercury and calcium-sulphide, are not in common use in the way recommended by the speaker. I have used mercury in the dose of one-tenth to one-fifth grain; and also sulphide of calcium without any favorable effect. I consider a warm room, a good nurse, taking care of bowels, and local measures as the most important measures. The internal treatment is of expectant nature. I should like Dr. Sexton to describe a case, indicating the manner in which he would use these remedies."

DR. SEXTON: "The particular point of my paper was in regard to the inflammation of the attic, and not as regards the use of remedies. The remedies are given in small doses, but these are frequently repeated. In this way the effect is quickly obtained. The moment there are symptoms of purulence, I use the calcium-sulphide, and I think it controls the process. It has been used by Ringer and Otis in suppurative affections in other parts of the body. I have seen congestion and swelling over the mastoid disappear under the use of the calcium. When pus

collects in the mastoid region we should lose no time in operating."

Dr. J. A. ANDREWS, of New York: "I have here a drawing illustrating a case in which the inflammation was most intense in the upper part of the tympanic cavity, and a perforation was established between the mastoid antrum and external auditory canal. When I saw the case there was a great deal of swelling of the external auditory canal. Examination under ether showed a fluctuation in the superior posterior part of the canal, which I incised, and considerable blood and pus escaped. The patient made a good recovery. Two months later almost the entire canal was occluded with a membrane, which has since disappeared without operative treatment."

Dr. O. D. POMEROY: "Does Dr. Sexton believe that the administration of mercury in acute inflammation where there is pain relieves this pain, and if he does what is his theory of its action?"

Dr. SEXTON: "I have never used it exclusively to relieve pain, nor have I recommended it for that purpose. For the relief of pain I would recommend the use of aconite and pulsatilla, the latter especially, as there is no danger of a cumulative action with it. Four or five drops may be added to a wineglassful of water, and a sip taken every fifteen or twenty minutes. I am very sure that the sulphide of calcium given alone will relieve pain."

Dr. C. R. AGNEW: "When there is acute otitis media it is desirable to cut it short as soon as possible. It is important that we should know exactly what we want to do when we are called to such a case, just as we know what to do when called to any other emergency. If a patient came to me with the symptoms of beginning otitis media I should give him fifteen grains of calomel and order a Turkish bath, if that were accessible. With children there is always a certain amount of indefiniteness in the symptoms. I would ask Dr. Sexton what he would do in a case of acute otitis media catarrhalis in an infant six months old."

Dr. SEXTON: "In such a case I should examine the history, ascertain the general condition, ascertain whether it was subject to catarrhal trouble, ascertain the condition of dentition, ascertain whether there had been a previous attack of inflammation of the middle ear. If there were accumulation I should not hesitate to let it out. In the majority of cases where inflammation occurs at this age the membrane has already ruptured when the case comes under observation. If there were suppuration I should give calcium-sulphide. If there were simply catarrh I should give mercury."

Dr. CHARLES J. KUPP, of Newark: "I am surprised to hear nothing said of inflation of the middle ear. This relieves the pain. Where there is protrusion in front of the membrane incision gives relief to the suffering."

Dr. THEOBALD, of Baltimore: "I have found the instillation of a warm solution of atropia of great service, a solution of the strength of four grains to the ounce. With this cathartics may be combined with great benefit. Another remedy which has been specially recommended by Dr. Allan Smith in inflammation of other parts of the body is the pyrophosphate of sodium in fifteen-grain doses

every two hours, keeping it up for four or five days. I have used it in inflammation of the middle ear with the threatened mastoid implication, and I am convinced that it is of real value. After perforation of the drum membrane I would recommend the use of boracic acid."

Dr. C. J. BLAKE, of Boston: "There is one anatomical point which has not been referred to by Dr. Sexton, and that is the reduplication of the mucous membrane in the upper portion of the tympanic cavity. This I have found in fifteen or twenty per cent. of two hundred specimens examined. These serve to separate the upper portion of the tympanic cavity from the lower. They become an important element in inflammation of this part, and may tend to retain secretions. Dr. Sexton has not referred to the acute congestions of the upper portion of the tympanic cavity. I have lately observed a series of cases of this condition in which there was a history of overstrain and nervous exhaustion. This condition suggests the acute pneumonias with precedent history of nerve exhaustion. In these cases free phlebotomy is the remedy. I would make an incision along the line of the posterior fold. This is followed by improvement in the symptoms."

Dr. SEXTON: "I would say, in conclusion, that I have used mercury and the sulphide of calcium for the last ten years in a large number of cases, and I am convinced that they are beneficial in a certain number of cases. If I had to give up anything I should rather give up the local applications than give up these internal remedies."

The next paper, on

#### THE TREATMENT OF CHRONIC OTITIS MEDIA,

was by W. W. SEELY, M.D., of Cincinnati.

He said that for quite a number of years the catheter almost supplanted all other interference. Then came the addition of medicated air and vapor and injection of various fluids, astringent, irritant, and alterative.

Of late years more attention has been concentrated on naso-pharyngeal affections as the starting-point and continuing-cause of this trouble. At this point attention was called to the possibility of treatment of ordinary pharyngeal troubles giving rise to ear complications. Every one knows the disastrous results following treatment of nasal catarrh. The great difficulty in these cases is to so treat the nose and throat as to benefit the tube and middle ear.

The speaker alluded to the abandonment of the nasal douche and the posterior nares syringe, and held that all applications to the naso-pharynx should be made with care, as all were liable to do harm. All of the points thus far were to justify the author's condemnation of the slurring of these cases by specialists in various ways, such as putting the catheter or balloon into the hands of the patient or parents, throwing over the treatment of the throat also to the patient. He claimed that this class of cases were almost all amenable to treatment, and only time and patience were necessary to manage them.

The speaker thought that the attention of the general profession was becoming too much centred on the Eustachian catheter as the only means of treatment, and especially as the only means of opening the

tubes. Often catheterization does harm rather than good, and some applications of boracic acid and vaseline, or what is still better, of the yellow oxide of mercury and vaseline through the nostrils, will open the tubes when the catheter has little or no effect. He said that salves had almost, if not quite, supplanted all other applications for nasal and naso-pharyngeal troubles.

The speaker concluded his remarks with the following:—

(1) That only experience of sufficient length of time (often lasting over months), in each case, can determine whether treatment shall be continuous (daily) or interrupted, that is, perhaps daily for a week, followed by an interruption of some weeks or months.

(2) Only experience in each case can inform us whether treatment is to be entirely directed to the middle ear, or entirely to the naso-pharynx, or combined against both.

(3) Only experience in each case can inform us whether injections into the *cavitas tympani* are called for. Under this head it was stated that direct medication either of the middle ear or naso-pharynx as routine treatment was unwise, till simple inflation had failed.

(4) Mechanical dilatation of the tubes is rarely necessary or advisable. Only in extremely dry states of the tube is dilatation followed by much success.

(5) Hearing-tests are not reliable, and hence patients with great deafness, great loss of bone conduction, etc., should not be sent away till the test by trial has been gone through with.

(6) Simple inflation failing, the greatest attention should be given to the naso-pharynx, even though it is in an apparently fair condition.

(7) Syringing, douching, and swabbing the naso-pharynx should be abandoned.

#### THE RELATIONS BETWEEN CHRONIC CATARRHAL OTITIS MEDIA AND CHRONIC RHINITIS.

By CHARLES H. BURNETT, M.D., of Philadelphia.

Dr. Burnett finds (1) a constant causal relation between chronic catarrh of the middle ear and chronic rhinitis and rhino-pharyngitis. The latter is chiefly of the hypertrophic form. The atrophic form, which is made to include the fibrous degenerations and the sclerotic forms as well as the truly atrophic, with shedding of epithelium and exposure of basement membrane, constitutes about fourteen and one-third per cent.

(2) The appearances of the *membrana tympani* in the first or numerous class are very diversified; so much so as to preclude a predication of the state of the middle ear and hearing from them alone. In the second class, however, the atrophic, the symptoms presented by the *membrana tympani* are more uniform and consistent, and the surgeon is able to predicate from them more precisely concerning the aural disease. Yet, on the whole, the appearances of the drum taken by themselves cannot aid greatly in the diagnosis of chronic aural catarrh. The faucial symptoms play a very subordinate part in diagnosis in chronic catarrh of the middle ear, because faucial and throat disease have little or no causal relationship to aural disease.

(3) Tinnitus aurium is more marked in the atro-

phic class than in the hypertrophic, as a rule. There is also a greater patency of the Eustachian tube in the atrophic forms of aural disease than in the hypertrophic, though it is found in both forms of naso-aural disease. It is most relieved by treatment of the nares and naso-pharynx.

(4) The treatment in the first class should be by cleansing and astringent sprays, with applications of preparations of iodine, never stronger than half-and-half. Nitrate of silver is not to be used at all in hypertrophic rhinitis. In the atrophic form the treatment must be cleansing, the removal of inspissations, if they occur, and then the application of stimulant sprays, preferably nitrate of silver, not stronger than four grains to the ounce of water.

Where the hypertrophies have become dense and large, requiring surgical removal, Dr. Burnett thinks the case should pass into the hands of the rhinologist.

A word of caution is given in regard to the use of the galvanocautery in the nares, since it, like the nasal douche, may lead to inflammation in the naso-pharynx and middle ear. The aural surgeon should always examine the nares, being prepared to treat the non-surgical forms of chronic rhinitis in order to properly cope with chronic aural catarrh.

#### DISCUSSION.

DR. AGNEW, of New York: "It seems to me that there is an anatomical objection to the use of salves, and that is the impossibility of applying them to the whole of the diseased surface by means of Bowman's probe. I have used the nasal syringe for twenty years, and I am not prepared to accept the law that it should be abandoned.

"I am more willing to agree with the views of Dr. Burnett, but I think more stress should have been laid on the importance of hygiene, which is the most important element in the treatment."

DR. ROOSA: "I think with the last speaker that the principal and only benefit to be obtained in the majority of these cases is from proper hygiene. I think that we do not need to continue our examinations very long or repeat them very often to determine whether or not we may expect to give the patient any relief. If I find diminished bone conduction, I think it unnecessary to go on and treat that patient."

DR. E. WILLIAMS, of Cincinnati: "I have been in the habit of using the Eustachian catheter in every instance where I thought it indicated. Not only so, but I often introduce a flexible bougie through the catheter sometimes into the middle ear. In some cases of stricture of the tube this is quite useful."

DR. KERR: "I have lately suffered with a catarrhal affection which at times causes me considerable annoyance. I have employed a salve of iodoform with vaseline with considerable advantage."

DR. SELBY: "Since I have adopted the use of salves as a routine treatment, I have had more satisfaction than by any other treatment. They remain longer in contact with the affected part than do solutions, thus giving a more decided effect."

#### AFTERNOON SESSION.

DR. SEXTON presented a conversation-tube for the aural instruction of deaf-mutes. By means of this

tube the patient was able to hear his own voice and compare it with the voice of his teacher.

Dr. GRAHAM BELL was then introduced, and called the attention of the Society to the greater number of children who were classed in institutions as deaf-mutes, but who, under proper treatment and education, could be made simply hard-hearing members of society.

He also referred to the importance of otologists formulating a list of causes of deafness to facilitate the proper registration in institutions for this class of individuals.

#### A CASE OF FATAL EAR DISEASE, BEGINNING AS A CIRCUMSCRIBED INFLAMMATION OF THE EXTERNAL AUDITORY CANAL.

By CHARLES J. KIPP, M.D., of Newark, New Jersey.

The patient, a married woman, aged twenty-eight years, was first seen nine months before her death. Since the previous confinement, which occurred four months before coming under observation, she had suffered occasionally with severe pain in and about the left ear. There was swelling and redness of the posterior upper wall of the external canal. There was no perforation and no otorrhea. Under the use of leeches, instillations of morphia, and inflation of the middle ear, there was decided improvement in the course of a month, when she passed from under observation.

Eight or nine months later the pain again appeared, shortly after a confinement. Examination showed furunculosis of external meatus. This was soon relieved. There was no affection of the membrana tympani or middle ear. The patient continued to have headache, but there were no symptoms of mastoid disease. The patient continued to fail and finally died.

At the autopsy there was found evidence of intense inflammation over the entire extent of the arachnoid and pia mater. There was a collection of pus immediately over the posterior surface of the petrous portion of the temporal bone. Pus was also found on the pons varolii. A small abscess was found in the anterior part of the left lobe of the cerebellum near its junction with the pons. The mastoid cells were filled with pus. There was only a thin exudation in the middle ear.

#### DISCUSSION.

Dr. BURNETT reported a case similar in many respects to that of Dr. Kipp, in which the patient died from what was diagnosed as cerebral abscess, but no autopsy could be obtained.

Dr. E. E. HOLT, of Portland, Maine, reported the present condition of a patient from whom teratoid tumors were removed two years ago. The patient had remained free of the disease for one year, when they again appeared and have since progressed quite rapidly.

#### THE LOCAL USE OF COCAINE AND BRUCINE IN DISEASES OF THE EAR.

By Dr. C. H. BURNETT, of Philadelphia.

Dr. Burnett had used both the sulphate and hydrochlorate of cocaine in painful affections of the ear to produce anaesthesia. He found neither efficient when the pain was due to inflammation in

dense tissues of the external auditory canal, as in furunculosis of this part, nor when acute inflammation occurs in chronically thickened periosteal and mucous tissues in the tympanic cavity. The hydrochlorate of cocaine, however, is efficient to induce local anaesthesia in four per cent. solution in cases of not excessive congestion of the skin of the fundus of the auditory canal and in the membrana flaccida of the drum membrane, as is observed in acute coryza, and attended with pain of a not continuous or intense variety. The solution may be applied to the inflamed tissues either by mopping it gently upon the affected portion, or by soaking a small dossil of lint and laying it upon the seat of inflammation, both procedures being done under perfect illumination of the fundus of the auditory canal by means of the forehead mirror. But solutions of cocaine are not competent to produce local anaesthesia in the external auditory canal profound enough to permit painless incision into it. The speaker had also employed brucine to produce anaesthesia in the ear; a five per cent. solution had been quite efficient.

#### DOES COCAINE HYDROCHLORATE, WHILE RELIEVING THE PAIN IN ACUTE OTITIS MEDIA, PROLONG THE CONGESTION?

By E. E. HOLT, of Portland, Me.

The speaker was satisfied that while cocaine relieves the pain and for the time holds the inflammation in check, yet after the effect of the remedy passes off the inflammation goes on unaffected.

Dr. THEOBALD and Dr. J. O. GREEN had found that in the nasal passages the drug exerted a similar effect; that although it at first relieved congestion, yet the congestion returned, and was even greater. Drs. Theobald and Green had come to the conclusion expressed by Dr. Holt.

#### ON THE DESIRABILITY OF ADOPTING A UNIFORM METHOD OF EXPRESSING THE RESULTS OF TESTING THE ACUTENESS OF HEARING.

By H. KNAPP, M.D., of New York.

After referring to the various methods which had been recommended, the following nomenclature was suggested, in which the plan pursued in recording the condition of vision is applied to the hearing:—

$H = \frac{3}{4}_{40}$ , normal audition for watch.

$V = \frac{2}{3}_{20}$ , normal hearing for whispering voice.

$V = \frac{6}{60}$ , normal for conversational speech.

$V = \frac{2}{20}$ , whisper or speech heard, but not understood; that is, qualitative perception of sound.

$V = 60' = 0$ , voice not heard at all.  $H = 0$ , complete deafness for all sounds.

$H = \frac{3}{4}_{40}$ , a watch of 24" hearing distance is heard in contact.

$H = \frac{3}{4}_{40}$ , a watch of 24" hearing distance is heard when pressed on ear.

$H = \frac{3}{4}_{40}$ , a watch of 24" hearing distance is heard when applied to mastoid.

$H = \frac{3}{4}_{40}$ , a watch of 24" hearing distance is heard when applied to temple.

$H = \frac{3}{4}_{40}$ , a watch of 24" hearing distance is heard when applied to teeth.

$H = \frac{6}{24}$ , a watch of 24" hearing distance is heard when applied to forehead (glabella).

$H = \frac{3}{24}$ , a watch of 24" hearing distance is heard when applied to vertex.

$H = \frac{v}{24u}$ , a watch of 24" hearing distance is heard everywhere (ubique).

To indicate that the watch is not heard at the places indicated the following are used:  $h_{\frac{c}{24u}} = O$ ,  $h_{\frac{m}{24u}} = O$ , etc., means that the watch is not heard in contact, over mastoid, etc.;  $h_{\frac{v}{24u}} = O$ , means that bone conduction for the watch is lost.

A committee consisting of Drs. Knapp, Roosa, and Prout was appointed to consider the subject of a uniform method of expressing the results of examinations of the acuteness of hearing, and to report in 1886.

Dr. Knapp was appointed a committee of one to present the matter at the coming meeting of the German naturalists and physicians.

PRESBYKOUSIS.

By B. ST. JOHN ROOSA.

The speaker applied this term to the failure of hearing which is incident to old age and which is not dependent upon inflammatory affections. It comes on after the age of forty or fifty years. Such persons hear badly in a noisy room. They hear the watch badly, but in a quiet room they can hear quite well. This is characteristic of this affection. In inflammatory troubles with the ear, the person often can hear pretty well in a noise, while in a quiet room he hears badly. These three symptoms go together: diminished bone conduction, hearing worse in a noise, and the disproportion between the ability to hear the voice and the watch.

Dr. E. E. HOLZ had examined a large number of persons with ear disease, who claimed that they could hear better in a noise than in quiet, but was unable to find that this was a correct observation. In noisy places the voice is raised and this might account for it.

Dr. ROOSA, in conclusion, said, in regard to the hearing better in a noise, he was convinced that patients with tympanic disease could hear better under such circumstances and cited examples.

Dr. SEXTON exhibited a glass ear syringe and an ear forceps with several attachments.

Dr. E. DYER, of Newport, Rhode Island, reported the case of a fistula of the helix greatly benefited by the application of the galvano-cautery.

The following papers were read by title: "A Case of Chronic Otitis Media Suppurativa, Resulting in Cerebellar Abscess, with the Autopsy," by O. D. POMEROY, of New York. "Otitis Media Suppurativa, Mastoid Disease, Pyæmia, Mastoid Operation, Recovery," by Dr. G. BACON, of New York.

The meeting then went into executive session. The following officers were elected: President, Dr. J. S. Prout; Vice-president, Dr. S. S. Sexton; Secretary and Treasurer, J. J. B. Vermynne, of New Bedford, Mass; Publication Committee: Drs. Vermynne, Blake, and J. O. Green; Committee on Membership: Drs. Carmalt, Kipp, and Theobald. Dr. F. L. Capron, of Providence, Rhode Island, was elected to membership.

The meeting then adjourned.

## SUFFOLK DISTRICT MEDICAL SOCIETY.

SECTION FOR CLINICAL MEDICINE, PATHOLOGY, AND

HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

MAY 13, 1885. The meeting was called to order at 8.20 o'clock, Dr. R. T. Edes presiding.

A summary of the records of the last meeting was given by the Secretary and approved.

Before the reading of the regular papers, Dr. J. W. ELLIOT presented a cancerous uterus, which he had removed by the vaginal operation on the previous day. The uterus was about twice as large as the normal uterus. The walls were much thickened and very firm. The mucous membrane was very thick and redundant, presenting the appearance of the so-called hyperplastic endometritis. There was no ulcerating cancerous surface on the specimen, the cancerous cervix having been torn off at the operation. Dr. Elliot called attention to the fact that it was impossible to define the limits of the disease without the microscope. The peritoneal surface was thickened, injected, and ragged. The uterus was found retroverted and bound down by tough peritoneal adhesions, which were with difficulty torn away at the operation. The uterine artery was enormously dilated, very tortuous, with an increased number of branches.

The patient was thirty-nine years old, and the mother of two children. About ten months ago she began to flow too much. This symptom continued to grow worse until she was much reduced. On December 29, 1884, she entered the Free Hospital for Women. On January 8th Dr. Baker removed the posterior lip of the cervix with a cancerous mass the size of half an orange. The patient was discharged from the hospital with the wound healed, except a few granulations. Two months after the operation she had gained twenty-eight pounds; but there was a slight return of the disease, which Dr. Elliot removed with the curette and scissors. Two months later the general health began to fail again, and the disease was found to have returned in the cervical canal.

On May 11th she returned to the hospital, and on May 12th Dr. Elliot removed the entire uterus through the vagina.

The operation was done by a new method described by Boekmann in *Archives für Gynäkologie*, 1884. 1. Heft. By this method the parametrium is at first opened on both sides, then the bladder is dissected off from the uterus. The body of the uterus is then turned out through the anterior cul-de-sac. The broad ligaments are next ligatured, and the posterior vaginal wall is separated last of all.

The operation was very difficult on account of the adhesions which surrounded the uterus, and in tearing there was considerable hæmorrhage.

In answer to questions by Dr. Putnam, Dr. Elliot said that the patient was thus far doing well.<sup>1</sup> The following is Dr. Whitney's report on the diseased part first removed: "Sections of tumor composed entirely of epithelial cells arranged in alveolar spaces by the presence of bands of connective

<sup>1</sup>The patient did well for four days. The temperature never rose above normal, on the fifth day she died. Examination of the wound showed some peritonitis and a quantity of blood in the pelvis. There had probably been a gradual oozing from the torn adhesions.

tive tissue. In places there is an arrangement simulating that of a gland, or as if the masses of cells had originated from such rather than from the epithelium of the free surface. The growth is evidently epithelioma."

DR. VINCENT Y. BOWDITCH read a paper describing Dr. Herbert F. Williams's

TREATMENT OF PULMONARY DISEASES BY MEANS  
OF "PNEUMATIC DIFFERENTIATION."

The paper reviewed the history of the various forms of medical treatment of disease by the attenuation of the atmosphere surrounding the patient, and gave an explanation of the physical and physiological phenomena upon which their efficacy depends, and then described the subjective and objective effects which were observed to follow the employment of Dr. Williams's appliance.<sup>2</sup>

DR. HENRY I. BOWDITCH said that for many years he had wished to get some apparatus whereby parts or the whole of a lung might be made to expand, for example, in certain cases of consolidation of the apices in early phthisis, so called, or larger portions compressed by pleuritic effusion, unresolved pneumonias, etc. When he read the pamphlet published by Dr. Williams it seemed to Dr. Bowditch that his wish had perhaps been attained. Accordingly, he had recently spent a week at Brooklyn, and, by the kindness of Dr. Williams, had seen some of his cases. Certainly most remarkable results had been obtained. One lady, the picture of robust health, had, according to her own account, and according to the report of Dr. Williams, had all the rational and strongly marked physical signs of phthisis. Dr. Bowditch could, on examination, find nothing but apparently perfect health, and no marked sounds in upper parts of the chest where marked signs were found before treatment in the cabinet. A youth who said he did his full day's work with other laborers at the navy yard had unmistakable signs of disease of the upper lobe before he began treatment. In one very singular case, where, according to Dr. Williams, there were signs of a large cavity in the right breast about the third rib, Dr. Bowditch found complete flatness on percussion from the clavicle to the third or fourth rib, and total absence of all vesicular or bronchial murmurs or r  le, even on coughing. Dr. Williams believed the cavity, and parts near, had been closed by cicatricial tissue. The appearances were certainly unique to Dr. Bowditch's experience. In the navy yard lad he found a slight crumple only upon strong effort made by the patient. The patient whom he observed under treatment expressed great comfort on coming out of the cabinet. One lady said she felt exhilarated, as if she had taken a glass of champagne. Dr. Bowditch tried the effect himself. The instant he made an inspiration the external air seemed to *rush* into every part of the chest and to distend the lungs throughout. For a moment he feared that he *would be unable to expire* and had to make strong contraction of all the respiratory muscles in order to breathe. In a short time he became accustomed to the unusual method of breathing. He observed that for several minutes after coming out he took, with great satisfaction and without the least difficulty, a series of

very deep but pleasant inspirations. Such, Dr. Williams said, was the usual effect on all patients.

In conclusion, Dr. Bowditch said that the instrument was a very powerful expander of the lungs. By it also medicated vapors could be thrown into the minutest air-cells, as had been amply proved by Dr. Williams by experiments on animals. It should be managed by intelligent persons. Dr. Williams frankly confessed that, while many cases had seemed to be cured or become stationary under it, he feared that possibly he had at times broken down old adhesions which it would have been well not to have severed, as judged from the subsequent course of the case. Only once or twice had he had these results. In consequence of the vast preponderance of unqualified good that had been accomplished, and notwithstanding the instrument was still on trial, Dr. Bowditch had determined to get one, so important did he deem it as an adjunct to our present method of treating pulmonic diseases. Dr. Bowditch was much impressed by the fair and honorable views expressed by Dr. Williams in reference to the whole matter. All he asks is that the profession should look at the apparatus and carefully watch its effects. He means, if possible, to prevent it from falling into the hands of ignorant pretenders to medical knowledge.

DR. F. I. KNIGHT said that there is now hardly a doubt of the benefit to be derived from the forced expansion of lung tissue. Striking proofs of the usefulness of this treatment may easily be produced from the records of many practitioners. This has been going on constantly since the introduction of the cabinet, in 1883, with striking results and mostly of excellent curative character. The physiological effects of the use of the cabinet are well presented in Dr. Bowditch's paper, and are often most desirable in pulmonary diseases. The cabinet is necessarily large, cumbersome, and expensive, and thus not adapted for general use, but doubtless the class of pulmonary specialists will largely employ the cabinet, as an important adjunct to other treatment. The advantages of the present instrument over the previous forms consists in the fact that the patient respires only the ordinary atmospheric air at a natural density, with or without the addition of medicament in the form of spray. In the earlier forms of the same instrument the air for *breathing* was frequently rendered more dense; or it was rarefied, and thus probably prevented from exerting its highest degree of efficacy. This apparatus is certainly the best yet devised for this mode of treatment. Purely local treatment by Waldenberg's method may be practised when a cabinet is not at hand. If, by means of the cabinet, we are enabled to bring bichloride of mercury and other disinfectants into immediate contact with tubercle, we may certainly hope to influence thereby the course of this and other pulmonary disorders.

In reply to questions, Dr. V. Y. BOWDITCH stated that nothing specific was claimed for the iron as the substance from which the cabinet is made. Iron is used on account of its making an air-tight joint. The iron cabinet can be more thoroughly cleansed than can a wooden one. The mouthpiece is changed and replaced by a fresh one after each patient. All instruments and appliances are thoroughly cleansed and disinfected after each patient. It is

<sup>2</sup> See p. 55.

noticed that some forms of medication may be more comfortably employed in the cabinet than in the ordinary manner. Thus, iodine, which produces irritation and coughing when inhaled from the ordinary spray, can be inhaled in the cabinet without discomfort.

The increased ease of inhalation may be due in part to a more minute division of the medicines when given in the spray used with the cabinet. It is not known whether other drugs are rendered more easy of administration, as but few have thus far been made the subject of experiment. One theoretical disadvantage has been mentioned, which is that the forcible distension of the diseased pulmonary structures might allow the bacilli of tuberculosis to be carried into parts of the lungs not before affected by the strong and unaccustomed influx of an unusually large volume of air, and thus aid in the spread of the disease. This result has, however, thus far apparently not been demonstrated, and its frequent occurrence may well be considered doubtful.

The second paper was by DR. GEO. B. SHATTUCK, entitled

THE RESULTS OF THE USE OF ANTIPYRINE AT THE  
BOSTON CITY HOSPITAL.<sup>3</sup>

DR. C. P. PUTNAM asked if antipyrine can be kept indefinitely.

DR. SHATTUCK stated that the substance is extremely soluble in water or wine, and can be kept in solid form or in solution for a long time. It is easily administered and is usually well borne by the stomach, causing, as a rule, neither nausea nor vomiting.

DR. HAVEN thought that the qualities which antipyrine apparently possessed would make it especially valuable in infancy and childhood. One is in constant need of an efficient and safe antipyretic during these periods. A drug which will accomplish this and which can, moreover, be easily administered in small bulk, without irritation of the gastrointestinal canal, has many advantages. These conditions seem to be met by antipyrine, and, judging from published reports of its use in childhood, it is destined to become widely used and deservedly popular. The injurious effects of high temperature are much more marked in childhood than in adult life. The frequent occurrence of an irritative fever, producing, through the high temperature, symptoms and lesions of greater moment than the original condition or disease, make antipyretics almost essential in the treatment of sick children.

DR. HAVEN reported the following cases in which the effect of antipyrine had been noted.

CASE I. Child aged ten years. Disease, pneumonia. Temperature 102°; 0.50 gramme of antipyrine given, which was followed by a fall of 2° in temperature in four and one-half hours, with no subsequent elevation until the evening of the next day, when the temperature was 101°; 0.25 gramme of antipyrine was now given, and in half an hour 0.50 gramme in addition, when the temperature again sunk rapidly and was not thereafter raised to an alarming degree.

CASE II. Child aged ten years. Temperature of 102°; 0.50 gramme of antipyrine was given when,

in less than two hours, the temperature fell to the remarkable extent of 4.8°. In six hours there was an increase of heat, and on the same evening the drug was again administered, with the result of reducing the temperature 2.1° in less than one hour. Subsequently in the history of this case there occurred a temperature of 105.2°, when, after the exhibition of one dose of antipyrine, the temperature fell 5.4° in less than two hours, with great relief to the distress and dyspnoea. The child was perfectly comfortable for ten hours.

CASE III. Child aged twenty-two months. After a dose of 0.66 gramme of antipyrine a fall in temperature of 4.6° occurred, which has not been followed by a subsequent rise since that time (two days).

CASE IV. Child aged two months. Antipyrine was given in the dose of 0.10 gramme, and was followed by a reduction of body heat to the extent of *five and two-tenths degrees*. During a subsequent rise of temperature another dose of the same drug produced a fall of temperature of *five and eight-tenths degrees*.

Antipyrine seems to accomplish the reduction of body temperature by allowing an increased loss of heat from the dilatation of the cutaneous blood-vessels. As an antipyretic agent this drug must certainly be placed in the first rank, for we have only one other so effective means of securing a reduction of body heat at our command, namely, the cold bath. The drug seems to be equally applicable to all febrile conditions, which must recommend its use in exanthematic affections with high temperatures.

DR. SHATTUCK added that it seems quite an easy thing to obtain a reduction of the body temperature to the extent of 4° to 6°. It is given equally well by the stomach or by hypodermic injection.

DR. HAVEN stated that Dr. Mahomed employed antipyrine in a case in which the temperature was 100° F., and, after three doses of the medicine, the temperature fell *sixteen degrees*, and the patient made a rapid and complete recovery.

DR. SHATTUCK observed that there is doubtless a variable degree of activity of the drug in different individuals, owing to personal idiosyncrasy, whereby usual doses may be followed by unexpectedly active results.

DR. HAVEN thought that its effect is not so marked in pneumonia as in other febrile diseases, but was doubtless as great as that of any other antipyretic agent.

## Recent Literature.

*The Nature of Mind and Human Automatism.* By MORRIS PRINCE, M.D. Philadelphia: J. B. Lippincott Co. 1885.

If we divide the human race into Philosophers and Philistines, we may begin by saying that Dr. Prince's book is a very hard one to review; because, being a work on metaphysics by a metaphysical layman, there is danger, if we say nothing of its shortcomings, of ignoring the just demands of the Philosophers, and, if we attack it, of rejoicing the Philistines, who habitually desire to see the Philosophers at loggerheads, and all "higher speculations"

<sup>3</sup> See p. 78.

coming to grief. The person in whose honor the Philistines ought to erect a statue is the unknown genius who first made current the phrase of the moon being made of green cheese. If the worth of a formula be to relieve the mind that utters it, probably none ever did such service as this. What mode of dealing with a subtle or difficult inquiry can possibly compare for ease, completeness, and dispatch with the mode of classing it among speculations as to whether the moon be made of green cheese? And when we say that Dr. Prince's book is an inquiry into what kind of stuff real being is made of, and that he answers that it is made exclusively of mind-stuff, to whose lips among those of our Philistine readers does not the time-hallowed formula immediately recur? That reality is as little made of mind-stuff as of green cheese is the devout conviction of all Philistines, though if you ask what, then, it is made of, the only reply you get is: "Heaven save us from all such inquiries as that!"

Now we firmly believe that against the Philistine intolerance of speculation Dr. Prince's essay ought to be warmly defended and the importance of his hypothesis upheld. But we also believe that if he had given more time to the study of the philosophers who have preceded him he would have made a much better piece of work of it and carried it beyond the point at which it stops. The notion that the innermost reality of things is of psychic quality is no new one in philosophy. In modern times its career begins with Leibnitz's monads—not to count such writers as old Glisson the anatomist—and ends with men like Fechner, Zöllner, Renouvier, Clifford, Haeckel, Taine, Barratt, and others of less note. The merit of the theory is that it supposes no unknown and unverifiable form of being like "substance," or "matter," but presents us with something the *like* of which we already know by our own consciousnesses to exist: for it is a rule in hypothesis-making to assume nothing with which you are not, at least generically, familiar. But the difficulty with the theory is to represent it to the mind clearly, and to make concrete deductions from it of a positive and verifiable sort.

Now, as far as formulating his hypothesis goes, we think that Dr. Prince has left nothing to be desired. The first half of the book is really admirably written, and the clear discriminations of the author's own theory from representations of a vaguely similar sort throw the former into a high relief from which it ought never again to be suffered to lapse. We cannot but look upon this sharp accentuation of the theory as a point now for the first time permanently acquired to science.

Dr. Prince's theory is that the inner nature of matter is consciousness—not that consciousness and matter are two "aspects" of a transcendental reality, but that there is but one kind of reality in the world, which is consciousness pure and simple, and that material phenomena are only the result in one consciousness of influences exerted upon it by another. Verified in the case of brain matter, this theory is extended by analogy to all matter. In brain activity consciousness "is the actual physical change as it really occurs, not as it appears to us objectively. It may be called the essence of phys-

ical change in cerebral protoplasm. In other words, a mental state, and those physical changes which are known in the objective world as neural undulations, are one and the same thing; BUT THE FORMER IS THE ACTUALITY, THE LATTER A MODE BY WHICH IT IS PRESENTED TO THE CONSCIOUSNESS OF A SECOND PERSON, that is, to the non-possessor of it" (p. 55).

Nothing, as we said, can be more luminously brought home to the reader than this theory, and nothing is in its way better than Dr. Prince's exposure of the unintelligibilities involved in some other views of the relation of brain and mind. But it is somewhat a case of the beam and the mote, for to our thinking the unintelligibilities in Dr. Prince's own theory are not a whit smaller or fewer than those he finds elsewhere. It is easy, of course, to say that one consciousness can appear to another as a mass of cerebral matter, or as a stone. But how it can do so, or why it should do so, are riddles of the sphinx. If the consciousness that appeared bore any resemblance to the form under which it appeared, the strangeness would be alleviated. But Dr. Prince expressly shows (p. 81) that such likeness only occurs in exceptional cases, and in a generic way. If you are consciously thinking of your own brain, then the brain of yours which I think of does resemble its "reality," your consciousness, but in no other case. Even this case leads to paradoxes too subtle for expression here, but which may be found on page 160 of an article by Mr. Edmund Gurney in vol. vi. of *Mind*. But in the other cases the feeling of confusion one gets from trying to follow the processes out is perfectly bewildering, especially when one takes into view that states of consciousness not only must appear to each other as bits of matter, but *also* in their own proper shape, as when we enter into, and sympathize with, the mind of another. The purpose of a hypothesis is to give intellectual ease and abolish the sense of confusion. The postulate that all being is psychical banishes the notion that it may be foreign and unassimilable by our intellect, and is so far a welcome postulate. But when the panpsychism thus postulated is displayed under the form of a multiplicity of conscious agents (or patients) producing hallucinations in each other, whilst themselves intent on the entirely different hallucinations aroused in themselves, the intellectual relief begins to disappear in the effort to find *who's who* in this strange game of disguise and hide-and-seek. Dr. Prince propounds the hypothesis, but seems never to have thought of the jungle of difficulties it leads us into. The hypothesis should be but the starting-point of a long and tangled research. Dr. Prince propounds it rather as one who has said the last word on the subject. One may say that the entire drift of speculation nowadays is toward clearing up the hypothesis of panpsychism and redeeming it from the intolerable unintelligibilities that cluster over it at first sight. Many think this can be best done by giving up its atomistic and pluralistic form, and assuming an *anima mundi*, a total all-inclusive thought, as the one *real* reality, of which the finite consciousnesses are elements, like the words in a sentence. The only thing that is apparent in the midst of it all is what is apparent in Dr. Prince's book: that there is an immense intellectual pressure urging men who think in that

direction, and that the labors of any one of them may clear up particular points. For the unintelligibilities of panpsychism or idealism are all unintelligibilities of detail. Its *essential* assumption is of a thing with which we are at home. But the unintelligibilities of every philosophy that says reality is *non-mental* are unintelligibilities of essence. It is the fountain-head here which is forever an "unknowable," a thing foreign and alien and opaque to our rationalizing powers. Of course, the line of least intellectual resistance is through the difficulties of detail, and hence one cannot but believe an author to be guided by a sound instinct when he heads that way. On such premonitory instincts are great intellectual conquests often based.

The latter half of Dr. Prince's book has not the peculiar forcibleness and clearness of statement that distinguish the beginning. In the controversy between those who say consciousness is an inert accompaniment of brain action, and those who say it has a causal efficacy of its own, he sides with the latter. If consciousness is the reality, and the brain an appearance, the reality must be what does the work, if work there be to be done. But by what seems a rather arbitrary preference Dr. Prince, leaning on the law that all mental action is of the reflex type, and due to antecedent stimulation, says the work is done *passively, not actively* (p. 95), and so takes away from readers of a spiritualistic tinge of sentiment the comfort his words at first seemed to promise. These chapters on "Automatism" are, however, vigorous and incisive, and some very acute remarks are made in the discussion on Dr. Mesnet's case of the French sergeant, to which Professor Huxley gave such celebrity by his lecture "On Descartes's hypotheses that animals are automata."

Chapters on "Self-determination" and "Materialism"—less original than what precedes—end the book. If Dr. Prince will regard it as a beginning, and not an end, he may do good work in a direction in which, let the Philistines say what they will, work *must* be done, and in which any one may be proud of scoring his mark. Dr. Prince has scored his already by sharpening distinctions and clearing the fog, and by propounding certain solutions in a way so radical that once heard they are not to be forgotten.

#### ANOTHER INVESTIGATION OF THE DISCOVERY OF ANÆSTHESIA.

DURING the recent meeting of the Medical Association at New Orleans a paper was introduced by the delegates from South Carolina, requesting that the Association should investigate the facts relating to the discovery of the anæsthetic power of sulphuric ether. The subject was referred to the Medical Section, and was there again brought up for action by Dr. William Abram Love, who moved that a committee of three be appointed by the chairman to make the desired investigation and report at the next annual meeting. Accordingly Dr. Didama, the chairman, appointed the following committee: William Abram Love, Atlanta, Ga., Henry J. Bigelow, Boston, Mass., R. J. Dunglison, Philadelphia, Penn.

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#### REPORT OF THE SURGEON-GENERAL OF THE NAVY FOR THE YEAR 1883.

HOWEVER merited may be the general criticism that has been passed of late years upon the efficiency of our navy, it is a source of just pride and gratification to the medical profession that the naval surgeons and the departments over which they are placed have so rarely fallen under any imputation against their ability or their honesty. We still are able to look with confidence to the army and the navy for the most accomplished and honorable of physicians.

The deliberateness of bureau methods doubtless explains the fact that the work of the year 1883, embodied in a report dated November 1, 1884, is first printed and distributed in the middle of the year 1885.

The ratio of mortality for the year was 4.55 per thousand of the force. This is a slight increase over the average mortality of previous years, the mean death-rate for the last fifteen years having been 4.40 per thousand. The total force afloat numbered 9,874. It seems, we must confess, somewhat surprising that these men, who might be expected to be of more than average physical health, should furnish upward of 8,500 cases of sickness during the year, the average duration of each being about eight days.

The vaccination record is of some interest, particularly with regard to the susceptibility to vaccination of those already having had the smallpox. In persons having good cicatrices about two fifths were revaccinated successfully, the remaining three fifths not taking. Where there was evidence of a former attack of smallpox 137 of the men were vaccinated without success, but 22 developed good vesicles.

From the incomplete returns for the year 1884 it appears that in the examination of 1,272 persons 52 are reported as rejected for color-blindness (4.08 per cent.).

The several naval hospitals at Chelsea, New York,

Philadelphia, Norfolk, Washington, and at Mare Island, California, are reported as being in need of further appropriations for repairs and to secure a greater number of employees to attend the sick. The inmates of the Government Hospital for the Insane at Washington were about sixty.

The Museum of Hygiene has received some important accessions since the last report, and facilities are now offered for the testing and the exhibition of various forms of sanitary apparatus. It also has an experimental laboratory, with apparatus requisite for work both in organic and inorganic chemistry, and for germ-culture. It has lately received Hemple's and Winkler's gas apparatus, with the spectroscope, polariscope, photometer, and other special instruments. The division for microscopy and photomicrographic work is also well supplied. The purchase of certain articles from the International Health Exhibition, London, has been ordered, including the apparatus designed by Mr. Francis Galton for anthropometrical examinations.

A quarantine station is required for the Maine coast, and Widow's Island, Penobscot Bay, some seventeen miles from the city of Rockland, is recommended as a suitable location for this purpose. It is fifteen acres in extent, and easily accessible from the sea, while furnishing safe anchorage. For building a wharf, digging a well, and erecting a small pavilion hospital, with offices, only \$5,000, it is estimated, will be required. A keeper will occupy the island when not in use for quarantine. On arrival of an infected vessel the keeper will be withdrawn, and the charge of the island and anchorage turned over to the commander of the vessel. Additional medical assistance and supplies can be furnished from Portsmouth in a few hours.

An important suggestion is made in reference to the post-graduate instruction of the naval surgeons, in special diseases of shipboard, those of various climates, and matters relating to the aetiology and prevention of epidemic diseases. Attempts have several times been made to establish some form of school of instruction in connection with the medical department, but without much success. Post-graduate instruction is now furnished the naval officers at Annapolis, at the Torpedo Station, and at other places, and it is desirable that a similar work be done for the medical officers of the service. The Surgeon-general suggests, therefore, that as admirable instruction is afforded by the polyclinic courses at New York, Boston, and Philadelphia, the government purchase tickets for the principal subjects of the courses, — three months each, — to enable a certain number of the officers to attend the instruction during the winter and spring months.

#### THE THERAPEUTICAL USES OF RESORCIN.

By fusing galbanum and other resins with potash, acidifying the fused mass with sulphuric acid, and

shaking it with ether, there is obtained, after distillation, a soluble hydrocarbon belonging to the group of phenols, and called resorcin. Its chemical formula is  $C_6H_4(OH)_2$ . It crystallizes in colorless prismatic crystals, or shining needles, fusible at  $110^\circ$  C., boiling at  $270^\circ$ , and is soluble in water, alcohol, and ether. Resorcin has a bitterish-sweet savor and a feeble odor, somewhat like that of carbolic and benzoic acids, and its general properties very much resemble those of carbolic acid, a two per cent. solution arresting fermentation and decay. It coagulates and precipitates albumen; its crystals produce speedy though superficial cauterization. It is interesting to note that the synthesis of this substance has been effected by several continental chemists (Koener, Oppenheim, and Vogt). The known antiseptic properties of resorcin early led to its employment in medicine, experimentation on animals having proved it to be safe of administration. Extensive trials were made in hospitals by Desnos, Dujardin-Beaumetz, Callias, Andeer, Sarbeck, Liehtheim, Brnger, and others. It is a decided antipyretic. It reduces temperature more quickly and to a greater extent than any other antithermic agent (Sarbeck). It renders the pulse slower and firmer, dilates the vessels of the face and skin generally, and causes great perspiration, almost like pilocarpine; the respiration is also slowed; these results are believed to be due to the reduction of the temperature. The action of resorcin in lowering the temperature is exceedingly rapid and is very transitory, the pyrexia speedily returning. It is more apt to produce cerebral symptoms than quinine or salicylate of sodium; restlessness, delirium, rapid respiration, and even dyspnoea and muscular twitchings are not unfrequently noted after administration in sufficient doses to produce antipyresis. On account of these inconveniences, and the short duration of the fever-fall obtained by it, this medicament is not now given for antipyretic effect.

Resorcin was employed by Desnos in the treatment of typhoid fever, acute rheumatism, and phthisis. In typhoid fever its use was soon discontinued for reasons above given; in phthisis and rheumatism it was without effect.

It is in diseases of the alimentary canal that the utility of this drug has been most signal. Andeer has found it efficacious in chronic catarrh of the stomach with flatulence and frequent vomiting of mucous and food after meals. The stomach was washed out with a five per cent. solution. In intestinal affections with putrid decomposition and diarrhoea it was found beneficial. Dr. Asa F. Pattee, who read a paper on the "Therapeutical Considerations of Resorcin," at the late meeting of the American Medical Association, has used this medicine extensively in various forms of gastric disturbances, as in eructations of gas due to food lying in the stomach and not acted upon by the gastric

juice, also in pain and vomiting from the same cause, in gastric dilatation, in ulcer of the stomach, in chronic catarrh of that organ, where "it breaks up the thick tenacious mass which coats the mucous membrane." He recommends using the siphon and washing out the stomach with a five per cent. solution, also the internal administration of resorcin, which may be given in doses of five grains an hour till six doses are taken. He asserts that he has found small doses of resorcin useful in chronic nasal catarrh and in the cough of chronic bronchitis, and recommends, especially in irritative spasmodic coughs, as whooping-cough, spraying the larynx with a fifty (?) per cent. solution. Dr. Pattee also speaks highly of the uses of resorcin as a gargle in sore throats (a one per cent. solution); and in diphtheria he would apply a fifty to seventy-five per cent. solution in glycerin to the diphtheritic membrane and surrounding parts, repeating it every hour, also at the same time giving internally from thirty to sixty grains during the twenty-four hours. Dr. Manino, in a recent article on resorcin in the *Zeitschrift f. Therapie*, reports favorably of the use of this medicament as a local application in epithelioma. He reports an interesting case of this kind which commenced as a small growth on the right cheek, about the size of a split pea, which caused a good deal of pain:—

"Continued scratching caused an abrasion of the skin, and on the slightest irritation it would bleed. Cauterization and excision only caused the growth to enlarge to a size of ten centimetres in diameter. The wound had a dark-red fungous appearance, with indurated edges, and gave off a profuse, thin, watery discharge. An ointment of resorcin and vaseline, 1—3, was applied twice a day for eight days, when a marked change for the better could be seen; a portion of the wound was beginning to heal over. After two weeks the ointment was weakened a little, and the case continued to progress rapidly. In a short time the whole surface was bridged over, and only a red scar remained. The treatment was painless and far more satisfactory than when caustics are used."

An ointment similar in strength to the above (one part resorcin to two or three of vaseline) has been used by Andeer as an application to simple or malignant carbuncle and phlegmonous erysipelas. "Resorcin," he says, "even when concentrated, causes no vesication or eruption, and is safer and more agreeable than any other of the aromatic disinfectants. Under the form of ointment it is the most absorbable of all, while never in the least toxic."

It would seem to be indicated as a topical agent in uterine catarrh and ulcers of the cervix uteri, and it is actually so employed and with success by many gynecologists. Prager speaks favorably of the uses of resorcin as a hypnotic, the medicine to be taken in half-drachm doses in sweetened water; it has

caused sleep in some cases where chloral had failed. He states that in all cases of paroxysmal colic, accompanying cancerous, dysenteric, tuberculous, and other diseases of the intestinal tract, and inability to sleep, resorcin exerts an important action, and the same is true of the intense pains of vesical and biliary calculi, which prevent sleep.

On the whole, it would seem that the profession has in resorcin a valuable remedial agent, worthy of further trial; one which especially as an antiseptic and disinfectant is free from many of the dangers and inconveniences which attend carbolic acid when too freely used.

#### THE TREATMENT OF HÆMORRHOIDS BY INJECTION.

UNDER the above title is an article by Dr. Charles B. Kelsey, of New York, in *The American Journal of Medical Sciences* for July. Dr. Kelsey is a strong advocate of the essentially modern method of the treatment of piles by injections of carbolic acid. The acid is of varying strength. He has three solutions constantly ready, one of fifteen, one of thirty-three, and one of fifty per cent. He sometimes uses the strong acid. In a severe case he would begin with the strongest solution; in a mild case, with one of the weaker solutions. He finds this method to be comparatively painless and uniformly successful.

The famous Western "pile cure" is composed of equal parts of strong carbolic acid and sweet oil, of which half a dozen drops are injected into each pile.

Dr. J. M. Matthews, of Louisville, gives the following rules: (1) Use the acid only in the smallest tumors. (2) Should it be used in a large tumor, inject once only in one portion, and wait several days, and then inject another portion. (3) Use the smallest amount possible in injecting, say one to three drops of the mixture of sweet oil and carbolic acid.

The injection turns the pile white, coagulates the blood in its vessels, and results in its shrinking away without the inflammation being severe enough at any one time to prevent the patient from attending to his business.<sup>1</sup>

#### Miscellany.

#### THE INTERNATIONAL MEDICAL CONGRESS AND THE MEDICAL PROFESSION IN BOSTON.

The following resolutions were adopted at a meeting of the physicians in Boston concerned in the organization of the Ninth International Medical Congress, and held in that city July 2d:—

Whereas, we had been led to believe that the authority to organize and control the Ninth International Medical Congress had been permanently delegated by the American Medical Association to its original committee, thus providing against any radical changes in its published programme, and

Whereas, the American Medical Association has reversed the action and annulled appointments of that

<sup>1</sup> Naphrey's Surg. Therapeutics, seventh edition, p. 310.

committee in a way which we regard as detrimental to the interests of the medical profession of America and fatal to the success of the Congress:

Therefore, be it resolved that we, the undersigned, members of the medical profession in Boston and vicinity, concerned in the organization of the Ninth International Medical Congress, decline to hold any office in said Congress as now organized.

J. Orne Green.

J. C. White.

D. W. Cheever.

W. F. Whitney.

W. H. Baker.

E. F. Dunbar.

F. H. Gerrish, Portland, Me.

S. C. Gordon, Portland Me.

E. P. Hurd, Newburyport.

Nathan Allen, Lowell.

T. F. Breck, Springfield.

G. J. Engeshmann, St. Louis.

G. P. Conn, Concord, N. H.

The above signatures have been sent in since the previous publication of names on page 45.

## Correspondence.

### SURGERY IN NORTH GERMANY.

[FROM AN OCCASIONAL CORRESPONDENT.]

HAMBURG, July, 1885.

Mr. Editor.—For those of us who for a while wish to free ourselves from our surgical traditions and to look at facts from the standpoint of well-trained and vigorous schools, nothing can be better than a trip to the surgical clinics in Northern Germany. We are so allied in communication with England that a visitor finds but little that is absolutely new to him in the London hospitals; Paris was the nurturing stepmother of most of our surgical teachers, and Vienna is the El Dorado now from which annually the rising generation of medical wanderers return with their portmanteaus filled with medical lore.

In Hamburg, Kiel, Berlin, Leipsic, Halle, one finds hospitals which a paternal government has found it for its interest to support, conducted by men whom an excellent system of drill and selection has made masters. At Hamburg, differing from the other mentioned places, one finds an old hospital, at present (though a new one is being built) of faulty construction and crowded with patients in ill-ventilated, untidy wards. The hospital has some 1,500 beds and a surgical service of 800; 100 under a continued service of one surgeon, Schede. It is at this hospital that the chief point of difference in the "point of attack" of the North German Surgical School and our own is most noticeable. With us soiled linen, dirty paint, unclean plastering, untidiness of the ward, sloppy and unneat floors are justly considered hygienic crimes. But we never think it obligatory for a surgeon to put on a freshly washed coat on every visit, or that one who operates with an old blood-bespattered coat may be hygienically a great sinner, and that one who operates without thoroughly scrubbing his hands with antiseptics until they are scientifically clean, may, in fact and not in fancy, be a death-dealing Azrael. It is not thought necessary for the dressers and the house students to wear every day, on their visits, freshly washed coats; they are often allowed to wear their own ordinary woollen clothes, even though the day before they may have been coughed upon by diphtheria and the sleeves may have been wet with the pus of a foul wound. The dresser, who may have just done up a sloughing compound fracture, assists at an ordinary operation without having scrubbed his hands, satisfied with a superficial dip in a solution of carbolic acid. The result is, that although our hospitals are models in appointments, ventilation, general cleanliness, and although we attempt antiseptic surgery, and take pains to isolate patients, yet we cannot claim to have banished erysipelas, or that form of cellular wound inflammation which prevents first intention,

makes compound fracture often an introduction to long suppuration, caries necrosis, fistula, etc. At the above-mentioned North German clinics, what may be termed general dirt is not always well looked after, but the specific dirt, on the hands, instruments, sponges, dressings, etc., is avoided as carefully as in a biological laboratory where pure cultures are sought for, and the result is that in all of the above-mentioned places they claim to have banished erysipelas in all of the cases operated upon, the few cases of the disease being practically only those where erysipelas had been developed before the patients entered the hospital. This statement certainly corresponded with the temperature charts, the granulating wounds, the appearance of the patients as seen by the visitor. First intention appeared to be much more commonly gained than with us, and sinuses left after operations upon bone to be much more exceptional. And the following list of patients seen at the clinic on a morning's visit will be sufficient to prove that a rate of success is not due to the fact that the operations are not grave ones: ten cases of excision of the hip-joint, four being of adults, four laparotomies, three cases of trephining, two cases of excision of the knee, one case of removal of three fourths of the left iliac bone by a chisel, one case of removal of two thirds of the left parietal bone for caries and consequent cerebral abscess, one case of sawing through the patella, and dissection of the diseased synovial membrane, several cases of removal by a chisel of carious portions of bone in the epiphyses of the knee-joint, several primary amputations, one case of excision of the wrist, two cases of excision of the ankle.

These cases were all found to be in a very satisfactory convalescent condition, with the exception of one case of laparotomy, for malignant disease, where the patient showed signs of recurrence of the disease, though no fever was present; one case of excision of the hip, and one of the knee free from fever, but showing evidence of extension of the disease of the bone. A laparotomy for examination of disease of the gall-bladder was performed after the morning visit.

Varying in important matters, the detail of operations and dressings at the hospitals in North Germany may be described as follows: The surgeon washes his hands and arms in soap and water, then in a solution of corrosive sublimate (and in the graver cases in ether first to remove all fatty matter), using a nailbrush, which is kept in a solution of corrosive sublimate, and a knife to remove any foreign matter under the nails. The patient's skin is shaved and washed and scrubbed in the same way. An antiseptic spray is used in the room before the operation, but except in a few clinics, sepsis is prevented by irrigating the wound by solutions, weak antiseptic solutions, and by rigorous cleanliness of the instruments. These are kept in a tray under a carbolic solution, and as they are used and laid aside they are scrubbed by an attendant with a brush and again put in the tray. The assistants use the same precautions in cleanliness that the surgeons do, and all are dressed in freshly cleaned linen jackets and the operator and his immediate assistant wear india-rubber aprons, which are washed with corrosive. At the close of the operation the wound is well drenched with a solution of corrosive (1-2,000 and 1-5,000) and the dressing applied. In general it may be said that iodoform is much less used in South Germany than with us, the dressings consisting chiefly of a few carefully folded layers of corrosive gauze, covered by layers of absorbent cotton prepared in sheets and covered so as not to pack in layers of corrosive gauze. At Hamburg and at Kiel, dressings are allowed to remain as applied immediately after the operation for two or three weeks (unless drainage-tubes are to be removed), and a large outer fold of peat prepared in gauze so as to resemble in size a large poultice, or dried moss (sphagnum) which is thoroughly absorbent; wood-wool is also used. Wounds treated in this

way appeared to do excellently, and the patients are spared the disturbance of frequent dressings. A change of dressings is done under the same precautions used in operations. Spray is used at the clinics of Bergmann and Thiersch, but at the latter clinic the care with which it is directed and looked after is not as great as is seen in London under Lister. In general it may be said that the German surgeon does not attempt to fight an enemy floating in the air, but is vigorous in putting an end to the opponent lurking in the unnoticed dirt on instruments, fingers, cloths, and sponges. Whether in long and large operations, where irrigation cannot be carefully carried out, spray as used in London may not be an additional safeguard, is a question which a traveler cannot be expected to answer. It is certain, however, that the results claimed by Schede can hardly be surpassed.

The improvement in hospital construction in the last ten or fifteen years in North Germany is very noticeable. The hospitals at Leipzig, Kiel, Berlin, and Halle are in many respects models, even looking at the matter from the standpoint of the best American hospitals. The same cannot be confidently said in regard to the nursing, which appears to be inferior to our training-school wards; at least as far as the impressions of a visitor can be trusted. Defective certainly is the custom, common in the university clinics, of allowing the students to crowd about the operating-table, thus interfering noticeably with the operator and transferring what should be a well-arranged, quiet, and orderly procedure into an arena crowded like a cockpit with a dispute as to the stakes—and in general it

is, of course, noticeable that the rights and feelings of patients are not regarded as considerably as is the aim with us. These mistakes we are not likely to make surrounded by the community American surgeons live in, but we certainly shall need to learn the perfection of drill in thorough asepticism the Germans excel in; a lesson which is by no means a difficult one, for an eye-witness can testify that after the students have once been drilled, the details of an operation or a dressing are conducted with as little friction and delay as could possibly be desired even by those who have been brought up to regard promptness and handiness an essential in the operating-theatre. It is to be hoped that, if any of the prominent continental surgeons, as they propose, visit us at the time of the coming International Congress, we in Boston may be able to show them our hospitals, not only models in nursing, in construction, and in neatness of surroundings, but also perfect in surgical cleanliness, and with a record which will show an absence of erysipelas, septicæmia, etc., in all operative cases.

As an example of Chauvinism, which the Germans are not free from, it was amusing for a Bostonian to be asked by a Berlin physician, and one who by his position as in charge of an enormous service must be a man of education and attainments, whether in Boston they aspired for *pleurisy*, as he considered it excellent treatment. On another occasion the question was put at Kiel, as the house-surgeon was showing with pride a newly built pavilion, whether the pavilion system of hospital construction had reached America yet.

## REPORTED MORTALITY FOR THE WEEK ENDING JULY 11, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Diphtheria and Croup.	Measles.
New York . . . . .	1,340,114	929	542	42.66	10.25	32.08	.65	4.43
Philadelphia . . . . .	927,995	476	261	32.13	11.13	21.84	1.68	3.99
Brooklyn . . . . .	644,526	585	415	53.55	5.61	48.32	.34	2.04
Chicago . . . . .	632,100	325	177	36.58	7.75	38.87	5.89	2.48
Boston . . . . .	423,890	202	89	23.03	15.68	10.78	1.47	2.94
Baltimore . . . . .	408,520	247	145	38.55	10.66	34.44	1.23	.41
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	145	83	38.64	5.52	33.41	2.07	.69
New Orleans . . . . .	234,000	142	56	31.50	11.20	15.30	.70	3.50
Raffa . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	135	63	33.30	13.32	13.32	2.22	.71
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	47	17	23.43	17.04	17.04	2.13	2.13
New Haven . . . . .	62,882	48	33	43.68	4.16	14.56	—	—
Nashville . . . . .	54,400	24	6	20.80	20.80	16.64	4.16	—
Charleston . . . . .	52,286	34	14	17.40	8.70	—	5.80	2.00
Lowell . . . . .	71,447	31	17	32.26	—	29.07	—	—
Worcester . . . . .	69,442	23	12	21.75	—	17.40	—	4.35
Fall River . . . . .	62,674	—	—	—	—	—	—	—
Cambridge . . . . .	60,995	21	9	33.33	4.76	14.28	—	9.52
Lawrence . . . . .	45,546	18	6	33.33	22.22	11.11	—	11.11
Lynn . . . . .	44,895	14	2	7.14	35.70	7.14	—	—
Springfield . . . . .	38,690	12	4	41.66	8.33	33.33	8.33	—
Somerville . . . . .	31,350	7	2	28.56	14.28	14.28	—	14.28
Holyoke . . . . .	30,515	—	—	—	—	—	—	—
New Bedford . . . . .	30,144	12	1	—	25.00	—	—	—
Salem . . . . .	29,503	15	6	46.66	6.66	26.66	6.66	13.33
Chelsea . . . . .	24,347	9	4	—	22.22	—	—	—
Taunton . . . . .	22,693	6	3	50.00	16.66	33.33	—	16.66
Gloucester . . . . .	21,400	4	3	—	—	—	—	—
Haverhill . . . . .	20,905	5	3	—	20.00	—	—	—
Newton . . . . .	19,421	2	0	—	—	—	—	—
Brookline . . . . .	18,323	5	3	60.00	20.00	60.00	—	—
Malden . . . . .	15,273	7	1	—	28.56	—	—	—
Newburyport . . . . .	13,917	4	1	—	25.00	—	—	—
Waltham . . . . .	13,568	4	0	—	25.00	—	—	—
Plattsburg . . . . .	13,433	3	0	—	—	—	—	—
Northampton . . . . .	13,165	0	0	—	—	—	—	—
88 Massachusetts towns . . . . .	—	52	18	—	—	—	—	—

Deaths reported 3,881: under five years of age —; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 1,038, consumption 344, lung diseases 176, diarrheal diseases 1,038, diphtheria and croup 102, typhoid fever 53, scarlet fever 47, measles 36, malarial fevers 31, whooping-cough 29, cerebro-spinal meningitis 16, erysipelas five, puerperal fever one. From scarlet fever, New York nine, Philadelphia eight, Brooklyn seven, Boston six, Chicago four, District of Columbia three, Cincinnati and New Orleans two each, Baltimore, Providence, New Haven, Lowell, Cambridge, and Lawrence one each. From measles, New York 11, New Haven 10, Philadelphia five, Chicago four, District of Columbia, two, New Orleans and Lawrence one each. From malarial fever, New York 12, New Orleans 11, Brooklyn and Baltimore three each, Charleston two. From whooping-cough, New York, 11, Philadelphia 7, New Orleans five, Brooklyn and New Haven two each, Baltimore and Cambridge one each. From cerebro-spinal meningitis, New York five, Chicago four, Philadelphia and Baltimore two each,

Cincinnati, New Orleans and New Haven one each. From erysipelas, New York two, Chicago, Brooklyn and Charleston one each. From puerperal fever, New York one.

In 108 cities and towns of Massachusetts, with an estimated population of 1,367,983 (estimated population of the State 1,955,104), the total death-rate for the week was 17.33 against 13.48 and 15.00 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending July 4th the death-rate was 18.0. Deaths reported 3,070; infants under one year of age 778; acute diseases of the respiratory organs (London) 192, measles 145, whooping-cough 128, diarrhoea 97, scarlet fever 29, fever 24, diphtheria 24, smallpox (London 26, Liverpool one) 27. The death-rates ranged from 12.8 in Birmingham to 27.6 in Halifax; Bradford 13.4; Birkenhead 16.8; Hull 15.4; Leeds 19.7; Leicester 14.6; Liverpool 21.1; London 17.5; Manchester 24.4; Sheffield 23.5; Sunderland 18.7. In Edinburgh 15.6; Glasgow 21.2; Dublin 29.6.

The meteorological record for the week ending July 11th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending		Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
			Daily Mean.	Daily Mean.	Maximum.	Minimum.	7 A. M.	3 P. M.	11 P. M.	Daily Mean.	7 A. M.	3 P. M.	11 P. M.	7 A. M.	3 P. M.	11 P. M.	7 A. M.	3 P. M.	11 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, July 11, 1885.																					
Sunday, 5	30.102	66.5	76.8	62.2	84	88	78	83.3		—	E	S W	0	8	3	F	F	C	—	—	
Monday, 6	30.168	66.0	72.3	60.7	87	92	91	90.0		—	E	S W	0	11	12	F	F	C	—	—	
Tuesday, 7	30.059	71.3	80.8	62.8	98	65	90	84.3		—	E	S	4	12	11	C	O	C	—	—	
Wednes., 8	29.976	78.4	88.3	69.2	82	44	72	66.0		N W	N W	W	9	8	11	C	O	C	—	—	
Thurs., 9	29.797	79.9	92.4	70.4	47	46	83	58.7		S W	N W	W	17	12	0	O	O	C	—	—	
Friday, 10	29.716	75.0	84.0	67.9	74	51	60	61.3		S W	N W	N W	18	15	8	O	O	C	—	—	
Saturday, 11	29.949	68.0	79.3	63.8	69	62	61	65.7		N W	E	N	8	6	10	C	F	C	6.0	0.51	
Mean, the Week.	29.922	72.2	82.0	65.2				73.0													

1 O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 12, 1885, TO JULY 17, 1885.

VOLLUM, E. P., lieutenant colonel and surgeon. To be relieved from duty in Department of the East on the expiration of his present leave of absence, and to report to commanding general Department of the Platte for assignment to duty as attending surgeon at the headquarters of that department. S. O. 159, A. G. O., July 14, 1885.

MIDDLETON, J. V. D., major and surgeon. Leave of absence extended fifteen days. S. O. 159, A. G. O., July 14, 1885.

BROWN, J. M., major and surgeon, CLARENCE EWEEN, captain and assistant surgeon, A. W. TAYLOR, captain and assistant surgeon, and W. C. BORDEN, first lieutenant and assistant surgeon, ordered to prepare for field service. S. O. 61, Department of the Platte, July 9, 1885.

GRAY, W. W., captain and assistant surgeon. Relieved from duty at Fort Barrancas, Fla., and ordered for duty at Fort Columbus, New York harbor. S. O. 147, Department of the East, July 13, 1885.

POWELL, JENICUS L., captain and assistant surgeon. Ordered from Department of the East to Department of the Missouri.

BIRMINGHAM, HENRY P., first lieutenant and assistant surgeon. Ordered from Department of the Missouri to Department of the East. S. O. 155, A. G. O., July 9, 1885.

EDGE, G. L., and BLACK, C. S., first lieutenants and assistant surgeons. Ordered for duty with troops en route to Department of the Missouri. S. O. 78, Department of Texas, July 10, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE HOSPITAL SERVICE, FOR THE TWO WEEKS ENDED JULY 11, 1885.

FERRERES, C. S. D., surgeon. Leave of absence extended sixteen days on account of sickness. July 1 and 9, 1885.

BENNETT, P. H., assistant surgeon. Granted leave of absence for twenty-two days. July 9, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING JULY 18, 1885.

OWENS, THOMAS, assistant surgeon. Granted sick leave for one month. July 14, 1885.

#### APPOINTMENT.

Dr. Samuel A. Green has been appointed to the Massachusetts Board of Health, Lunacy, and Charity, to succeed Dr. H. P. Walcott, who was not reappointed by the Governor.

#### DEATH.

Died, in Springfield, Mass., July 15, 1885, Henry Robert Vailie, M.D., M.M.S.S., aged seventy-six years.

#### ERRATA.

On page 55, second column of last week's JOURNAL, in the article by Dr. V. V. Bowditch, for Tobold read Tobold; for Schntzler read Schntzler, and for Warne read Wanne.

#### BOOKS AND PAMPHLETS RECEIVED.

Department of the Interior, Census Office. Report of the Mortality and Vital Statistics of the United States as Returned at the Tenth Census, June 1, 1880. By John S. Billings, Surgeon, U.S.A., Part I. Washington: Government Printing Office, 1885.

The Treatment of Stricture of the Urethra. By Frank H. Whittemore, M.D., New Haven, Conn. (Reprint from New York Medical Journal, June 27, 1885.)

Circulars of Information of the Bureau of Education. No. 2, 1885. Teachers' Institutes. Washington: Government Printing Office, 1885.

Cancer. A Study of 397 Cases of Cancer of the Female Breast, with Clinical Observations. By Willard Parker, M.D., New York and London: G. P. Putnam's Sons, 1885.

New York and the Conscription of 1863. A Chapter in the History of the Civil War. By James B. Fry, Retired Assistant Adjutant-General, U.S.A., etc. New York and London: G. P. Putnam's Sons, 1885.

## Original Articles.

TEN CASES OF PREGNANCY AND LABOR, COMPLICATED WITH FIBROIDS.<sup>1</sup>

BY JAMES R. CHADWICK, M.D., OF BOSTON.

## LABOR COMPLICATED WITH UTERINE FIBROIDS AND PLACENTA PRÆVIA.

CASE I.<sup>2</sup> May 12, 1875. Mrs. M., aged forty-two; had menstruated but twice in the past six months, the last time only two weeks before. Her abdomen had been slowly enlarging for six years, owing to a fibroid tumor; the growth had been more marked during the last few months. A large hard mass lay on the right side, rising nearly to the liver; a small very hard tumor formed a distinct protuberance just above the navel; the epigastric region was occupied by a solid body connected with the main tumor, but only reached on deep pressure. Per vaginam the cervix was felt to be soft, the roof of the vagina less yielding than usual; no distinct tumor could be felt. On May 17th, a more thorough examination disclosed flatness over the greater part of the left side of the abdomen, although nothing could be felt except some small nodules.

These, however, were not immediately in contact with the abdominal walls, but were only reached by deep pressure in the direction of the pelvic cavity. Fluid alone could interpose between the abdominal walls and the nodules, and produce flatness, yet at the same time be so readily displaced as not to be perceptible to the touch. Ascitic fluid was soon excluded from consideration by the immobility of the flat area on change of the patient's posture. A fibro-cyst seemed very unlikely from the relations of the tumors; pregnancy flashed into my mind as the only condition that would explain the phenomenon satisfactorily, and this suspicion the stethoscope confirmed by the discovery of the fetal heart-sounds two inches below the umbilicus. It is needless to add that the nodules in the left side were the feet.

The peculiar doughy resistance around the cervix, the impossibility of bringing any part of the child within reach of the fingers in the vagina, together with the history of a hæmorrhage within two weeks, caused me to suspect the presence of a placenta prævia as a further complication.

Mrs. M. passed to the full term of pregnancy without other untoward events than several smart hæmorrhages, requiring only repose in bed for their arrest.

On August 13th the uterus began to contract feebly, but with some regularity. Hæmorrhage set in, and soon assumed alarming proportions; it was checked by plugging the vagina with a Barnes's dilator.

Examination twenty-four hours subsequently revealed the fact that, despite the regular recurrence of the pains in the interim, the os barely admitted one finger. The pains had not increased in severity or assumed at all the force of true labor-pains;

yet the woman was beginning to show signs of exhaustion owing to them, and to the steady oozing of blood.

After consultation with Drs. A. D. Sinclair and E. G. Cutler, of Boston, ether was administered, and the cervix gradually dilated by digital pressure and manipulation. The placenta was prævia, but luckily only its border covered the os; this segment was readily peeled off and brought down into the cervix. The hæmorrhage was but slight, and soon ceased.

The placenta was now found to have its seat immediately over a large fibroid in the posterior uterine wall, that descended to the internal os, and proved a serious obstacle to the insertion of the hand. This was, however, at last effected, the feet seized and dragged down. The greatest traction that I dared apply only brought the knees to the vulva. With the exercise of great care, yet of considerable force, I insinuated a hand along the curve of the sacrum, between the abdomen of the child and the fibroid tumor; with great difficulty grasped one arm after the other, and brought them into the vagina, fracturing the right clavicle during the process. By continuous forcible traction the shoulders were finally delivered, though the head evidently remained above the brim of the pelvis.

Again and again I tugged upon the body while Dr. Sinclair pressed the head down from above the pubes. At length it descended suddenly into the pelvis and was at once delivered. The child, weighing ten pounds, lived.

The placenta not coming away and there being no expulsive efforts of the uterus, the former was removed, in a somewhat torn condition, by the hand. In order to make sure that no portion had been left, I introduced my hand into the vagina, and to my dismay felt it pass into the peritoneal cavity outside of the uterus. Above the fundus of the uterus could be felt the intestines, but they showed no tendency to descend into the pelvis. A careful examination of the rent by Dr. Sinclair and myself made evident that it was a transverse tear of the vagina, three or more inches in length, situated just below the insertion of the vagina into the posterior lip of the womb. Just above this lip, it must be remembered, was the large fibroid which had obstructed delivery.

Had I had my way at this point, I should have then and there extirpated that uterus by abdominal section, and the operation now known as Porro's would have been Chadwick's operation; but I was restrained by the counsels of Drs. Sinclair and Cutler, which I still recognize as wise from the standpoint of the experience of that day.

There seemed to be no hæmorrhage, so the ether was removed, the woman turned upon her back, and a tight bandage applied, by which means it was hoped that the edges of the wound would be kept in apposition, owing to the pressure of the uterus.

It is useless to give the subsequent history in detail. The first day was passed in perfect comfort; on the second, symptoms of peritonitis began to appear. On the third day the abdominal distention was so great as to require puncture of the intestines to allow the escape of flatus. Through the same trocar I essayed the injection of nutrient

<sup>1</sup> Read before the Massachusetts Medical Society, June 9, 1895, and recommended for publication by the Society.

<sup>2</sup> The reports of this and the next case are condensed from the *Trans. Am. Gynec. Soc.*, vol. II, pp. 255-267, 1877.

and stimulant fluids into the intestinal canal. The feasibility and objects of this procedure were fully set forth in a paper which I read before the New York Obstetrical Society on November 2, 1875.<sup>3</sup> On the fourth day septicaemia and delirium set in, terminating fatally on the fifth day.

No autopsy could be obtained.

Several points in this case seem to merit consideration.

I will not dwell upon the very misleading character of the history as elucidated at the first visit, but I wish to emphasize the importance of having perfect accordance between the signs obtained by the different methods of examination,—in this instance, by palpation and percussio. By a neglect to recognize the discrepancy between the testimony derived from these two sources, I failed to make a correct diagnosis at my first examination, though I repaired the omission at the second visit. This point is further illustrated by

#### PREGNANCY COMPLICATED WITH ONE FIBROID TUMOR.

CASE II. 1876. Mrs. F. M., thirty-three years of age; had been married fifteen years without having had children or miscarriages. Menstruation had always been regular until seven months previously; since then it had not been seen.

Five months before, she had consulted one of the most eminent and trustworthy physicians of Boston, whose notes describe the cervix as "hard, red, and granular," almost exciting a fear of commencing cancer. Nothing else abnormal was recognized.

Three months later he records another examination as follows: "Cervix soft, os patulous; several large distinct tumors in the abdomen, forming a mass four or five inches in diameter, and lying between the umbilicus and pubes; one tumor was more prominent than the others. Other indistinct tumors in right iliac region. *Dulness on percussion extends beyond the distinct tumors.*" An unfavorable prognosis was given, which was concurred in a month later by one of our most prominent ovariotomists. She had not been examined since that time until, chancing to be making a professional visit in Holbrook, Massachusetts, I was requested to see her in consultation with Dr. Kingsbury, of that town. It required no great acumen on our part to recognize, at that advanced stage, the existence of pregnancy at about the end of the seventh month, complicated by a fibroid tumor larger than a man's fist, in the anterior uterine wall.

The patient was delivered safely by Dr. Kingsbury two months after; at the end of another two months I was unable to find any trace of the fibroid.

I believe that the suggestion conveyed in the phrase which I have italicized would, if followed up, have given a clue to the true condition, although it was too early to hope for decisive signs at that time.

Another diagnostic point of the utmost significance is the sudden, rapid increase in size of a fibroid tumor which has been stationary for some time, especially if this coincides with absence of menstruation. This was the chief factor in the diagnosis of the following case, the notes of which

have been kindly sent me by Dr. G. J. Townsend, of Natick, with whom I saw the patient in consultation.

#### PEDUNCULATE FIBROID COMPLICATING PREGNANCY AND LABOR: DELIVERY BY FORCEPS: SPEEDY ABSORPTION OF THE TUMOR.

CASE III. Mrs. J. P. S., of Natick, aged thirty-eight years; four years married; primipara; menstruated last in February, 1882. In April she noticed a lump in the left iliac region, which, after some overexertion, became painful and tender to the touch. In the latter part of May, Dr. Townsend was called in, and found an irregular nodular mass in the left iliac region, rising nearly to the crest of the ilium; the body of the uterus could not be felt. Pregnancy was suspected. I saw her on June 5th, and could recognize nothing definite but a fibroid tumor crowding the body of the womb, which was soft and indistinct, to the right side. The development of the tumor had, however, been far too rapid to accord with the clinical history of such growths. From this fact and the absence of menstruation, I had no hesitation in endorsing the previously expressed opinion that she was pregnant, and to give the assurance that no special danger was to be apprehended at the time of labor, owing to the fact that the tumor was manifestly subperitoneal and attached to the fundus of the uterus. The tumor increased greatly in volume as the pregnancy advanced, finally reaching as high as the margin of the ribs on the left side, and pushing the body of the womb to the right side. A pedicle running to the left horn could then be made out by Dr. Townsend. She experienced no inconvenience during pregnancy, except from undue distension of the abdomen. The labor, at full term, was tedious, owing to uterine inertia, finally necessitating a resort to forceps by Dr. Townsend. Convalescence was normal, except for an attack of cystitis. Involution was perfect, and no trace of the tumor could be detected three weeks after delivery. The patient is now (February 17, 1885) in perfect health.

Brief notes of another case which occurred in his practice have been sent me by Dr. Townsend.

#### MULTIPLE FIBROIDS COMPLICATING LABOR.

CASE IV. Mrs. J. S., aged forty years, primipara, was found by Dr. Townsend to have multiple subperitoneal fibroids in the fundus uteri when he was called to attend her in labor. Delivery was effected easily without interference. Involution was normal, and the fibroids had entirely disappeared two weeks after delivery. She is still living, at the age of seventy years.

This freedom from interference by the tumors with the normal course of pregnancy and labor I have learned to regard as the rule when the tumor has its seat in the body of the womb, so that it rises with the fundus out of the pelvis and thus presents no obstacle to the delivery of the child. I have had several such cases, of which the notes are now lost—or rather buried in the records of my dispensary. One private case I can quote.

FIBROIDS COMPLICATING PREGNANCY AND LABOR:  
NORMAL DELIVERY: SUBSEQUENT DISAPPEARANCE  
OF THE TUMOR.

CASE V. Mrs. G. W. M., of Newton, aged thirty-six years, who had had six children and two miscarriages, was sent to me on April 17, 1878, by the late Dr. Allston W. Whitney, of West Newton. Since the birth of the last child, three years before, there had been some enlargement of the right side of the abdomen. She had not menstruated for six months. The vulva was found to be enormously distended by varicose veins. The abdomen contained a tumor, rising from the pelvis to an inch above the navel. Its general outline was symmetrical, but just above the navel projected a hard rounded mass as large as a fist, and a second small hard nodule below the other, and further to the right still a third. The rest of the tumor is soft and manifestly the pregnant uterus, within which the fetal parts can be distinguished. The hard projecting masses are plainly fibroids. The woman was delivered without mishap on August 1st. On October 28th she visited me again, as the abdomen had remained greatly distended ever since the labor, and she feared that the tumors had not been absorbed in childbed, as I had assured her would be the case. On examination I found that the distension was entirely due to relaxation of the abdominal walls and to flatulence. The uterus was in every respect normal. There was no trace of the fibroids.

In the later months of pregnancy the difference in density of a fibroid and the pregnant uterus is generally so marked as to make the diagnosis simple; the same cannot be said of a fibro-cyst. Such I now conjecture to have been the tumor in the following patient whom I did not see when pregnant.

CYSTIC TUMOR, DIAGNOSTICATED AS OVARIAN: SUBSEQUENT PREGNANCY AND DISAPPEARANCE OF TUMOR AFTER LABOR.

CASE VI. Mrs. E. P. M., of Malden, was sent to me by Dr. Alonzo Towle, of that city, on October 27, 1878. She was thirty-one years of age, had been married eleven years, but had never been pregnant. The lower part of the abdomen was filled with a tumor resting upon the brim of the pelvis and rising as high as the navel. The uterus was retroverted, of normal size, and seemed to move independently of the tumor. The wave of fluctuation could be obscurely felt throughout the abdomen. The diagnosis was an ovarian cyst, as had been Dr. Towle's previously.

A year later this woman became pregnant, was delivered on July 12, 1880, by Dr. Towle, by forceps, owing to a large fetal head and a small pelvis; the child weighed twelve pounds, but lived only four hours. The woman made a good recovery, and at the end of the fourth week no tumor could be found, and there had been no recurrence when the patient was last seen by Dr. Towle, in January, 1882.

The disappearance of the tumor after delivery lends me to change my diagnosis, for I believe that an ovarian tumor would not have been dissipated as a result of pregnancy, whereas it is the rule with fibroids. I believe it to have been a soft fibroid or

fibro-cyst; it might have been a cyst of the broad ligament which ruptured during labor and did not recur; an ovarian tumor it could not have been.

TWO FIBROIDS COMPLICATING PREGNANCY: MISCARRIAGE AT THREE AND A HALF MONTHS.

CASE VII. Mrs. K. McH., aged thirty-three years, was married on April 12, 1882, having ceased to menstruate a few days before. She consulted me on July 27, and reported not having menstruated since her marriage. For six months she had noticed a lump in the left side of her abdomen, which had of late increased rapidly in size, and within a few days had become sore. Micturition was frequent; she had nausea. Examination disclosed a fibroid tumor as large as a cocoanut in the left side of the abdomen; in the right iliac region was another as large as a plum. The vaginal entrance revealed a very characteristic blueish discoloration of pregnancy. The cervix was soft, as was the body of the womb felt through the anterior vaginal wall. The diagnosis of pregnancy at three and a half months, complicated with an interstitial fibroid in each horn of the womb, was unequivocal. I prescribed viburnum and cannabis indica.

On August 1st, she reported having passed something that "felt like an egg" and was followed by some hemorrhage.

On August 4th, I removed a foul placenta, after which the hemorrhage soon ceased.

She had a normal convalescence. The smaller tumor entirely disappeared within two months, perhaps owing, in part, to ergot and muriate of ammonia. The larger tumor remained unaltered in size; still, on January 12th, the uterine cavity measured but three inches in length.

On April 17, 1883, she reported having had no menstruation for two months. The tumor was no larger than formerly. There was no evidence of pregnancy, yet it was suspected. Since then I have been unable to trace her.

SEMICIRCULAR FIBROID IN PELVIS COMPLICATING LABOR: TRANSVERSE PRESENTATION: DELIVERY BY VERSION OF STILLBORN CHILD: PROTRUSION OF FIBROID THROUGH THE OS: DEATH FROM SEPTIC POISONING.

CASE VIII. Mrs. E. D. R., aged forty years, who had had one child seven years before, consulted me on March 22, 1881, with the statement that it was five weeks since she had menstruated: there was no evidence of pregnancy except a very marked blue tinge to the vaginal entrance. The uterus was enlarged considerably by an irregular hard mass, manifestly a fibroid. On April 22d, the uterus had increased greatly in size, was triangular in shape, the left horn reaching nearly as high as the umbilicus. Pregnancy was diagnosticated.

As the patient lived in Somerville, I requested Dr. W. W. Dow, of that city, to take charge of her confinement. The subsequent notes are mostly supplied by him.

On December 6th, labor-pains set in, but were feeble until the evening of December 8th, when the os was partially dilated; the child's left side presented, the head lying in the left side of the womb; the fibroid occupied the right half of the pelvic

cavity. At 9 p.m. the patient was etherized by Dr. W. A. Bell, and the os slowly dilated by Drs. Dow and Bell. Dr. Dow then passed his hand into the uterine cavity round the fibroid, which was larger than the fetal head at full term. First the left and then the right foot were successively seized and brought down into the vagina, and after continuous traction, supplemented by external pressure, a stillborn child weighing eight pounds was delivered. Ergotin was injected subcutaneously. The placenta came away spontaneously in fifteen minutes. Very little blood was lost. The uterus contracted well. The fibroid, which had a broad attachment to the right side of the uterus, completely filled the dilated os and projected into the vagina as though in process of extrusion.

During the next three days ergot was administered and the vagina frequently washed with carbolized water.

On December 12th, the lochia became offensive and the pulse rose to 106 and the temperature to 101.4° F.

December 13th, 14th, Pulse 112	Temperature 102° F.
" 15th, " 118	" 103° F.
" 16th, " 120	" 101.6° F.
" 17th, " 120	" 102.4° F. Diarr.
" 18th, " 120	" 104° F. Chill.

An intrauterine douche of carbolized water was carried past the fibroid, which had retreated from the vagina but still plugged the os, to the fundus.

December 19th, pulse 118. Temperature 103.2° F. Intrauterine douches.

I saw her that evening and washed out the uterine cavity thoroughly with a solution of permanganate of potash, and advised an increase of the quinine to twenty-grain doses.

December 20th, Pulse 116	Temperature 102.4° F.
" 21st, " 120	" 102° F.
" 22d, " 112	" 100.4° F. Chill.
" 23d, " 120	" 102.4° F. Chill.
" 24th, " 126	" 101.1° F. Chill.
" 25th, " 120	" 103.6° F. Chill.

I saw her again and suspected septic peritonitis from the abdominal distension.

December 26th, 7 A.M., Pulse 98	Temperature 100.2° F.
" " 10 P.M., " 118	" 105.2° F.
" 27th, " 126	" 100.2° F.

Patient is evidently failing.

December 28th, 7 A.M.,	Temperature 100° F.
" 6 P.M.,	" 101° F.
" 29th, 7 A.M.,	" 100.2° F.
" 6 P.M.,	" 103.2° F.
" 30th, 7 A.M.,	" 100.4° F.
" 6 P.M.,	" 103.2° F.
" 31st, 12 M.,	" 99.5° F.
" 6 P.M.	Death on twenty-third day of childbed.

The intrauterine douche was administered every six hours during the last two weeks of her life.

At the autopsy the uterus was found to be but little involuted, and contained a fibroid tumor eight inches in length by five in transverse diameter, deeply imbedded in the uterine wall just above the inner os on the right side, and projecting into the cervical canal, distending it as low as the external os. The surface of the tumor was superficially gangrenous, as was the whole lining membrane of the uterine cavity. It did not seem as though any attempt at enucleation of the tumor during childbed could have been crowned with success.

The notes of the two following cases have been

kindly sent me, with permission to incorporate them in my paper, by Dr. Emma Call, of this city.

#### SUBPERITONEAL FIBROID COMPLICATING LABOR: SEPTIC INFECTION: RECOVERY, WITH COMPLETE DISAPPEARANCE OF THE TUMOR.

CASE IX. Mrs. A., aged twenty-four years, primipara. Previous to her pregnancy she had been treated for cervical catarrh by Dr. Lucy Sewall, who had recognized slight enlargement of the womb but no tumor.

On November 27th labor set in, when a solid subperitoneal tumor, the size of a fist, was discovered projecting from the anterior wall of the uterus. The presentation was normal, but the pains were feeble and the patient exhausted, so that delivery was terminated by means of the forceps applied when head had reached the pelvic outlet. The expulsion of the placenta was followed by a severe hæmorrhage.

For the subsequent six weeks the patient had a mild form of septic infection, not attended by chills. The temperature ranged from 99° F. to 101°. The lochia were profuse and offensive for a few days, until treated by douches and suppositories of eucalyptus. The uterus was tender, especially about the tumor, and there was some effusion into the cellular tissue on the left side. Involution was tardy, so that the patient did not leave her bed for three months, when the uterus was no longer tender and the tumor was half its former size. A year later no trace of the tumor could be detected. She is now well advanced in her second pregnancy, but, having removed from the city, is no longer under observation.

#### SUBMUCOUS FIBROID AND ALBUMINURIA COMPLICATING LABOR: SEPTIC POISONING: RECOVERY, WITHOUT DISAPPEARANCE OF THE TUMOR.

CASE X. Mrs. B., aged thirty-six years, primipara, three years married. A year previous she had had a sudden severe hæmorrhage. Menstruation had always been profuse. During the last month of pregnancy her limbs were edematous, and the urine contained much albumen and a few hyaline casts. The quantity of urine was normal, and she only suffered from insomnia.

On January 16, 1885, labor began at midnight: the membranes ruptured at 4 a.m. January 17th, Dr. Call found the head presenting. But little progress was made in the next twelve hours, so that, after consultation with Dr. Lucy Sewall, the forceps were applied while the vertex was lying transversely in the pelvis. In spite of efforts to the contrary, the occiput rotated into the hollow of the sacrum and was with difficulty delivered. The child was stillborn. After delivery of the placenta, the uterus not contracting satisfactorily, a hot intrauterine douche was given, when a solid sessile tumor, the size of a goose's egg, was discovered projecting into the cavity from the posterior wall of the uterus. During the first week of childbed the patient was nervous and sleepless, the pulse quick, the temperature ranging from 99.5° F. to 101°. The urine was highly albuminous, the bladder irritable. The lochia were normal, except for slight

fetor on third to fifth days, which was corrected by douches and iodoform suppositories.

On the tenth day there were two severe chills: the fundus was three fingers' width above the pubes. There was slight tenderness to the left of the uterus per vaginam. The lochia were scanty and purulent, but not foul. From January 25th the patient presented the usual symptoms of septic infection, the temperature ranging from 103° F. to 105°, the pulse 108 to 120.

On January 29th, Dr. John P. Reynolds and Dr. Sewall saw the patient in consultation with Dr. Call, and confirmed the diagnosis.

On February 1st, the symptoms began to abate, and had entirely subsided by February 10th.

On March 1st, Dr. Call found the uterus still larger than normal, with unusual prominence of the posterior wall.

On March 3d, the patient began to menstruate. The flow was moderate and without pain, but lasted eleven days.

The results of these ten cases of pregnancy and labor complicated with fibroids may be thus summarized:—

Miscarriage . . . . .	1 case.
Recovery of Mother . . . . .	7 cases.
Death . . . . .	2 "
Living Child . . . . .	7 "
Stillborn Child . . . . .	2 "

With regard to miscarriage, it has been shown by Lefour<sup>5</sup> that this effect of the complication of pregnancy with fibroids is not so common as might be expected. In 227 cases which he cites, miscarriage occurred but thirty-nine times, which is once in 5.82 cases. These figures show no more liability to miscarriage than in cases of pregnancy uncomplicated with fibroids.

The prognosis for the mother, indicated by my cases, is much better than is warranted by the accepted statistics. Thus Lefour<sup>6</sup> states that in 286 cases, including those women who miscarried as well as those who went to full term, 141 mothers died, which is one in 2.02 cases. W. Süsserott<sup>7</sup> states that, in one hundred and forty-seven cases which he compiled, seventy-eight mothers died=53%.

The rates of mortality for the mothers, above cited, I believe to be much higher than we should have were all cases to be reported, it being manifest that those cases presenting no serious results are often thought unworthy of publication.

With regard to the children, Lefour found that of fifty-two infants, thirteen were deadborn. Süsserott states that of one hundred and thirty-eight (including one case of triplets and two of twins) children, forty-seven only survived=34%.

Regarding the position of the child at time of labor, my cases show seven presentations of the head and two transverse presentations. Lefour shows that in one hundred and two cases there were fifty-two presentations of the head (50.98%), thirty-three of the breech (32.35%), and seventeen of the trunk (16.66%). A much larger proportion of anomalous presentations is thus shown by a com-

parison of the figures with those published by Depaul,<sup>8</sup> who had, in a total of 16,233 labors of all kinds:—

15,119 presentations of the head	= 93.1 per cent.
633 " " breech	= 3.9 "
189 " " trunk	= 1.16 "

In each of my two cases of transverse presentations the tumor partially filled the pelvis, so that a transverse position of the child must almost of necessity have occurred. This should be borne in mind by obstetricians in the management of such cases.

With regard to the special complication of labor induced by the presence of the tumor, the above cases illustrate the frequency of inertia of the uterus and the liability to septic poisoning in childbed. This latter danger is hardly mentioned by the authors above quoted; but this omission on their part is attributed to the new views of the pathology of childbed which have come to prevail since the cases occurred of which their compilations are largely composed.

The presentation of a large tumor at the external os, as in case VIII., immediately after delivery, would seem to be almost a unique observation, though several cases are cited in which a tumor thus presented in the later days of childbed. As septic poisoning, with fatal result, occurred in this case, when no attempt at enucleation was made, it may be fairly doubted whether an operation would not have determined a different issue. The post-mortem condition, however, seemed to confirm our previous belief that any operation for removal of the tumor would have been very difficult, very bloody, and, if successful, have left an immense wound for the absorption of septic matter.

The degree of danger to which the woman is exposed in these cases undoubtedly depends greatly upon the precise location of the tumor. Thus in cases II., III., IV., V., VI., and IX., the tumors appeared to be subperitoneal, and all passed through labor and childbed without complication, except for slight septic infection in case IX. In cases I., VIII., and X., the tumors were submucous, and two died, while the third recovered after septic infection in childbed. The location of the tumor in the lower segment of the uterus, so as to interfere with the delivery of the child, introduces the most serious element of danger during delivery. Should this condition exist, and a vigorous attempt under ether to elevate the tumor from out the pelvis early in pregnancy fail, induced abortion or at least premature labor would be the safest course to pursue.

Regarding the effect of pregnancy and labor upon the tumors, my cases demonstrated, in accordance with the accepted teachings, that the tumors increase enormously in size with the progress of the pregnancy. After labor, however, the current belief is that the tumors return to the size from which they started before pregnancy. That this is an error would seem to be made clear by the fact that, in six of the eight patients who survived, no trace of the tumors could be found postpartum, at observations recorded after an interval varying from two weeks to twelve months respectively (cases II., III., IV., V., VI., IX.). In case VII., in which

<sup>5</sup> Les fibrolomes utérines au point de vue al grossesse et de l'accouchement. Paris, 1880, p. 91.

<sup>6</sup> Loc. cit., pp. 218-220.

<sup>7</sup> Beiträge zur Gynäkologie mit Uterus myomen complicierten Gebären. In: Blase. Hirsch, 1879, p. 49.

<sup>8</sup> Lefour. Loc. cit., p. 120.

miscarriage occurred at three and one-half months, one tumor was entirely absorbed, and the other was unaltered in size. In case X. the tumor was sessile and only as large as a goose's egg, but appears not to have been absorbed.

The above experience would seem to warrant the following deductions, which do not make a part of the doctrines hitherto prevalent upon the subject:—

As aids to *diagnosis*, the following points should have great weight:—

(1) An area of flat percussion beyond the limits of the tumor or tumors.

(2) Unduly rapid growth of a fibroid.

(3) Blueish discolorations of the vaginal entrance.

As to *treatment*:—

(4) That intrauterine disinfectant douches should be administered throughout the puerperal period in all cases, even before the supervention of symptoms.

As to *prognosis*:—

(5) That fibroids are, as a rule, absorbed during involution of the uterus or soon after.

### THE INFLUENCE OF OVARICTOMY ON SURGERY.<sup>1</sup>

BY JOHN HOMANS, M.D., OF BOSTON.

THE privilege of addressing an assemblage of men engaged in the same pursuit, and having a sympathetic feeling for each other's endeavors to relieve suffering and lengthen human life, is one which I highly prize.

An audience furnished as this is from the annual meeting of the members of the Massachusetts Medical Society is a sympathetic audience which it is a pleasure as well as an honor to address.

I shall not undertake to enumerate in detail all the operations which have followed the habitual performance of ovariectomy and the familiarity with the peritonæum that this implies. I will, however, later on enumerate many of them and narrate at length some of the most striking.

Many of the gentlemen present to-day will remember that not very long ago the distinction between surgery and medicine, or rather between a surgeon and a physician, was that the former dealt with maladies and diseases on the outside of the body, and the latter with those affecting the internal organs,—the principal exceptions to this rule being in the case of foreign bodies in the bladder or air-passages. At the period referred to there were no special courses except on ophthalmology. Now the manner of teaching the science and practice of medicine and surgery has changed and developed so much, particularly during the last ten years, that one in search may find somewhere a special course on almost any subject connected with medical or surgical knowledge. Among the branches of practical surgery none has made greater strides, or been more fascinating in its performance, than abdominal surgery. Twenty-five or thirty years ago, the interior of the abdominal cavity, except to an occasional ovariectomist, or to a performer of Cesarean section, was a *terra incognita*, and not only unknown, but feared and dreaded. The occa-

sional, I had almost said every-day, occurrence of stabs in the abdomen letting out the intestines and followed by recovery, taught surgeons nothing in regard to the harmlessness of simple incision of the peritonæum, and each case was treated with dread, and the rapid convalescence was recorded with wonder and reported as extraordinary. Still more severe injuries, caused by stakes or pitchforks penetrating the abdomen, only served to cause the instruments of these wounds to be preserved in museums, and the patients to be exhibited as surgical curiosities. No one saw and acted on the evident truth that a simple incised wound of the abdominal parietes was almost innocuous. This dread of the peritonæum was caused partly by the experience of surgeons in herniotomy delayed too long, or by seeing peritonitis and death follow a wound of the peritonæum made in a vaginal surgical operation; and by the experience of physicians in autopsies following septic peritonitis after childbirth, in which the intestines were found of a deep purple color and glued together by lymph and pus. All these experiences made the surgeon of twenty-five years ago fear to wound the peritonæum, and held him back from opening it voluntarily and exploring its cavity. To look back now on the long list of recorded cases of men who were found in the streets with incised wounds of the abdomen, and whose intestines, covered with dirt, were carefully washed and replaced within the belly and kept there by sewing the wounded walls together, and who almost invariably recovered, makes us wonder that some one did not see that, if this class of wounds was followed by recovery, how much more likely were wounds carefully made by a cleanly surgeon to unite and heal up!

The literature of abdominal surgery is to-day so voluminous that one man can scarcely read all that comes out in the periodicals alone. The operation of abdominal section, or opening the peritoneal cavity by an incision, has been called laparotomy, from the Greek word *lapara*, which means the soft parts of the body between the ribs and hips, and *τομή*, an incision.

Such words seem pedantic at first, but laparotomy is more concise than "abdominal incision," and we may as well use it. In the textbooks before 1850, ovariectomy is only alluded to, and laparotomy, for the purpose of learning what the trouble was inside the belly, was not dreamed of. I never saw ovariectomy done in this city before I did it, and when I studied medicine here it was not mentioned in lectures or in recitations on practical surgery, and its performance was discontinued and discouraged by the highest surgical authorities in this neighborhood. Dr. Gilman Kimball, of Lowell, however, had been for many years practising ovariectomy in New England, and pursuing his work with great courage and enthusiasm. But by the profession generally the operation was not regarded favorably. Dr. Burnham, of Lowell, was also operating, and in other parts of the United States Atlee, of Pennsylvania, and Peaslee, of New York, were active ovariectomists. Spencer Wells, of London (now a baronet, Sir Spencer Wells, on account of his triumphs in ovariectomy), had taken up the subject on his return from the Crimean War, where he had

<sup>1</sup> Read before the Massachusetts Medical Society, June 10, 1885, and recommended for publication by this Society.

served as a surgeon, and between 1858 and 1864 had operated one hundred times with thirty-four deaths. Although this was a high mortality, yet Sir Spencer proved conclusively that the operation was not only justifiable but imperative.

To Mr. Charles Clay, of Manchester, England, credit is also due for reëstablishing the operation. But I think Sir Spencer Wells's plan of showing all his specimens at Society meetings in London, and reporting every one of his cases, caused the revival and establishment of the operation.

I will not trace the history of ovariectomy, from its first performance by McDowell, of Kentucky, in December, 1809, to the present time; but will enumerate some of the operations and triumphs of abdominal surgery which have grown out of the familiarity with the peritonæum brought about by ovariectomy.

The first operation which followed the removal of ovarian tumors was the removal of fibroid tumors of the uterus. This operation is only to be done in exceptional instances, and its success will probably never equal that of ovariectomy, but the splendid results of Dr. Keith, of Edinburgh—thirty-five cures out of thirty-eight operations—show us what can be accomplished in the performance of this very formidable operation. When it was found that wounds of the intestine, made during an ovariectomy, often united when carefully sewn together, the natural inference was made that intentional wounds of the bowel could also be healed, and this inference was acted on and resection and suture of the intestine for the cure of fecal fistula was successfully done.

Two cases of artificial anus have been cured by this operation by Dr. Porter at the Massachusetts General Hospital within the last eighteen months. It seems very hard, even now, to believe that the intestine can be pulled out of the abdominal cavity, pared, sewed together, and returned, and the abdominal wound completely closed at once and a cure result. But I have myself seen it three times, and seeing is believing. Who does not remember some dreadful sufferer with an intestinal fistula following a strangulated hernia, dragging on a miserable existence, avoiding and avoided, without control over his offensive fecal emanations, solid, liquid, or gaseous. Now to-day ovariectomy has made possible an operation by which this sufferer can be made completely well again.

Laparotomy is done for operations likely to be successful, often or seldom, for cases almost sure to recover, and in desperate cases as a last resort, a forlorn hope. By means of it the spleen has been removed, cancers of the stomach and intestines have been cut out, gallstones have been removed from the gallbladder, foreign bodies from the stomach and bowels, calculi from the kidneys, and even cancerous and diseased kidneys have been excised. The pain and discomfort from floating kidneys has been relieved by sewing the kidney to the abdominal parietes and fixing it in place. All of these operations have been successful in numbers of instances. Perhaps one of the most remarkable instances of successful abdominal surgery is the recent case of Dr. Bull, of New York, who opened the abdomen in a case of pistol-shot wound, found seven perforations of the bowel, sewed the holes

together, and cured the patient completely. I saw Mr. Thornton last summer, in London, lay open the stomach and remove a mass of hair shaped like a sausage and nine inches long by two thick. After the removal of this mass, the wound in the stomach was very carefully and patiently sewed together, and the woman did not even vomit during her convalescence, which was uninterrupted. It may be interesting to say that the mass of hair was the accumulation of nearly twelve years, during which the woman had swallowed what she combed out each night and morning. Mr. Tait, of Birmingham, has shown that great suffering is caused by pus in the Fallopian tubes, and has cured many cases by removal of the tubes. You would be surprised to see how large these tubes, distended with pus, sometimes become. I have seen them of the size of a cow's horn, twisted and convoluted. Removal of the ovaries for hysteria, for insanity, and for the cure of painful menstruation (Battley's operation) has also been done. The sphere of this last operation should be closely and carefully limited, but in certain cases it is a proper proceeding. Removal of the uterine appendages, to bring about atrophy of uterine growths, is very legitimate and promises well. Laparotomy has been done successfully and unsuccessfully in cases of intestinal obstruction. As the diagnosis of the causes of obstruction becomes more precise, so will its relief by surgery be more certain. Up to the present time the failures, I think, outnumber the successes. Laparotomy is also properly done to ascertain the character of growths within the abdomen when we are ignorant of their nature and uncertain whether we can remove them.

Simple laparotomy, properly done in a healthy subject, has no mortality, or perhaps a very small percentage, and is practically innocuous. *All of these advances in abdominal surgery, all of these triumphs and discoveries in an unknown region of the body, have been caused, brought about, and made possible by ovariectomy.*

Encouraged by the success of operations in the abdominal cavity, the thorax is beginning to be explored, and the practice of surgery will probably be extended in this direction. I might give an account of the rise and progress of ovariectomy, and lengthen the list of abdominal operations which have followed it, and keep your interest and attention for many hours; but I have only tried to give a sketch of the influence of ovariectomy on modern surgery. A list of all the operations born of ovariectomy, which have been done successfully, would be long and tedious, but I will venture to enumerate a few. Emucleation, per vaginam, of the entire uterus for cancer of the body of the organ. (This procedure is still on trial, but in practised hands its reputation will improve.) Removal of the spleen for cystic disease; removal of the gallbladder; cutting into the gallbladder (cholecystotomy); laparotomy (or incision of the liver) for abscess and for hydatids; nephrectomy (or cutting out the kidney) for calculous pyelitis, for cancer, or for tubercle; nephrotomy (cutting into the kidney) for abscess, or for purposes of exploration. Radical operation for the cure of hernia, by sewing together the pillars of the ring and the sides of the sac.

Laparotomy has also been successfully done for pelvic abscess, for splenic abscess, for acute and chronic peritonitis, for hydatids of the peritonæum, for extrauterine foetation. Supra-vaginal hysterectomy in pregnancy with contracted pelvis (Porro's operation) has been often successful as a substitute for Cæsarean section; hysterectomy for the cure of uterine tumors I have already alluded to. That the abdomen could be opened, and an aneurism of an abdominal artery could be successfully treated, would not have entered into the wildest dreams of the most enthusiastic surgeon a score of years ago, and yet this has been accomplished lately by Professor Loreta, of Bologna. He opened the abdomen and found an aneurism of the superior mesenteric artery; he tried to tie the artery above the aneurismal sac, but found this impossible on account of the adhesions of the sac to the neighboring viscera; by puncturing the sac with a small needle and introducing two yards of fine copper wire he succeeded in producing coagulation and curing the aneurism.

My own operations now number two hundred and seventy laparotomies, of which two hundred are ovariectomies for the removal of cystic ovaries; several are cases of removal of ovaries and tubes for the cure of threatened or actual insanity; a very remarkable case of removal of a fibroid tumor of the abdominal parietes and peritonæum, and other laparotomies in which the abdomen was opened for various reasons.

I may be pardoned for narrating at length another very remarkable instance of the curative influence of an abdominal incision. It is a case of tubercular peritonitis. A single girl, twenty-one years old, feeble, pale and emaciated, with a large belly full of fluid, came to St. Margaret's Home a year ago. It was supposed that she had an ovarian cyst. After she was etherized I saw that the fluid was probably ascitic; but I made an antiseptic (spray) exploratory incision to find out the cause of the dropsy. Much ascitic fluid ran out, and many flakes, masses, and layers of lymph. Tubercular deposits were seen scattered over the peritonæum and bowels. In short, the disease was tubercular peritonitis, as was shown from the gross appearances, and from the microscopic<sup>2</sup> examination of masses of the peritonæum which I cut away. In about two weeks the wound opened spontaneously to allow the ascitic fluid, which had accumulated, to run out. The girl went home at the end of three weeks, and returned to the care of Dr. Tower, of South Weymouth. At the end of four months she had gained considerable flesh, and had a good appetite; occasionally she walked out when the weather was pleasant. All this time the opening in the scar of the abdominal incision had been discharging serum. In February of this year, the catamenia, which had been absent more than a year, reappeared, and have returned regularly since. I learned from Dr. Tower that the wound is now healed, and the general health has improved wonderfully, that she is fat and of good color, and is contemplating matrimony. This is, so far as I know, a unique case, and its treatment and cure are direct outgrowths from ovariectomy.

I have given but a brief sketch of what ovariectomy has led up to, of the successes and triumphs

which the establishment of the harmlessness of opening the peritonæum has achieved, and I have shown that all these successful operations within the abdominal cavity owe their inception and execution to the knowledge gained by the ovariologist and furnished by him to the profession.

"We should count time by heart throbs, not by figures on a dial." We should weigh the results and influences of our work, and not simply count and enumerate our operations.

I care but little for a man's statistics unless I know the character of his work. One may cure all his cases, another may have a mortality of twenty per cent. The former may have an exceptionally favorable series of cases. You cannot judge which has really done the most good, simply by the reported statistics.

But these remarks are foreign to the subject of my address. I only mean to say that on this day, the anniversary of our Society, it would be well for us to weigh our deeds and see what we have accomplished in our lives, and I am sure we should find that we have made immense advances in the treatment of morbid states of the organs within the abdominal cavity; and I think you will all agree with me that to the establishment of ovariectomy we owe all our progress in this direction.

## THE STUDY OF ANATOMY:

ITS POSITION IN MEDICAL EDUCATION IN ENGLAND AND IN AMERICA.

BY G. H. MONKS, M.D.

AN American visiting the English medical schools must be struck with the amount of attention everywhere given to the study of anatomy, not only as an abstract science, but also in its more practical relations to clinical work. It may be interesting to examine the system followed there.

The regular lectures on descriptive anatomy are delivered, as elsewhere, by the professors, and present nothing peculiar. The recitations are, however, so far as I know, conducted almost exclusively by the demonstrators. Quain is the textbook preferred.

Little or no dissecting work is done without the help of some good manual of dissections. Ellis's guide is considered the most reliable and exhaustive; but those of Heath and Holden are also good and are considerably used. The demonstrators spend many hours of each day in the dissecting rooms, demonstrating and examining the students on fresh dissections. Material is so scarce that all sorts of means are used to preserve it; and six or seven or even more students work upon the same body. The student has access to numbers of carefully made anatomical preparations, which have been so selected as to embrace nearly all the important parts of the body.

These are arranged with the special purpose of allowing the student to examine them and study from them to the best advantage. In most cases each structure is carefully labeled with printed tags. Some preparations, however, have no labels whatever, and are intended for purposes of exami-

<sup>2</sup> The bacillus of tubercle was not found, however.

nation, and the student can at any time test his knowledge. Skeletons and bones, upon some of which the muscular attachments have been carefully traced, are also exposed to view.

"Quizzes" form an important feature in anatomical instruction. All parts of anatomy are passed over in review several times with the book, with fresh dissections or preparations.

The necessity for using all these means for learning anatomy will appear more evident when we see what is expected of the student at the central examining board, before which he usually appears at the end of his second year. This examination consists of a written and of a *vivâ voce* part. As for the written part no particulars need be given, except to mention that one or more of the questions calls for the description of some dissection. It is worthy of note that the information necessary to answer such questions cannot be gained by "cramming." The student must see in his own mind the exact relation of the parts, so as to be able to decide intelligently what skin-cuts he will make, what structures divide, and what draw aside. The following may be given as examples of this test question: Give the dissection necessary to expose the profunda femoris artery, or the posterior surface of the kidney, or the posterior interosseous nerve, or the great sciatic nerve external to the pelvis, or the parts concerned in inguinal or femoral hernia.

In the practical part of the examination the student must identify bones, assign them to the proper side, state bony connections, and mark in red chalk the muscular attachments. He is called upon to identify parts on alcoholic preparations, or on fresh dissections of special regions, and to answer whatever questions may be asked of him in connection with the same. As examples of alcoholic preparations may be mentioned sections of the brain, the diaphragm from above, the liver from below, the fundus of the bladder, the back of the wrist-joint with tendons, and the ligaments of the knee-joint; and fresh dissections of such regions as the triangles of the neck, the pelvis, the muscles of the forearm, the buttocks (the glutens maximus being reflected), the popliteal space or the sole of the foot.

In most cases structures must be recognized by their relations, the neighboring parts of the body being, when possibly, concealed from view. The questions most frequently put are: What is this? If a muscle, what are its attachments and actions? If an artery, where does it arise and what are its branches? If a nerve, what parts does it supply? If a space, what are its boundaries and contents? And so on.

Such is the character of the anatomical study during the first two years, and of the examination which follows it. Thus far anatomy has been presented to the student as an abstract science, pure and simple. He is required from this point on to carry the more practical part of it along with him and incorporate it with his clinical work. He is taught to look at the human body as a whole, and to picture to himself the anatomy of the region which may underlie any part of the integuments. In this way his anatomy previously learned with labor and painstaking is clinched and made of real practical use. The fact that anatomy is even harder to

retain than it is to learn is recognized by the instructors. They realize that anatomical facts are isolated and have little connection with each other, and that these facts will be soon forgotten unless brought up again and again during clinical work. The student is therefore taught how to identify on the living body the bony processes, the tendons, and masses of muscle; to mark out the course of all the principal arteries, veins, and cutaneous nerves; to indicate the exact lines for incision in all the usual surgical operations, and to enumerate the parts cut through, the parts to be avoided, the number of arteries he may expect to tie, and so on. So well is he taught that he is expected to be able to tell with a fair degree of accuracy what structures a knife would wound if plunged into the body at any point, in any direction, and penetrating to any distance. At the bedside his anatomical knowledge is continually put to the test, until at last, by dint of much exercise and drilling, he does not fail to view any case in the light of its anatomical bearing, if any there be.

Questions like the following are continually put to him: This patient's femur has been broken transversely just above the knee. Why is a double-inclined plane used instead of a weight and pulley? This man has hæmorrhoids. He has also a certain disease of the liver. How might trouble in the liver account for the piles? Here is a boy with an enlarged bursa in the popliteal space. Now, what are the bursa in this region, and do you think this one communicates with the joint? This man here fell from a height upon his head. When he was picked up he was senseless and blood was flowing from one ear. A copious discharge of clear watery fluid followed. Now, why should these discharges indicate fracture of the base of the skull? What course does the pus of a vertebral abscess take to point in the groin? in the buttock? Here is a patient on whom colotomy was performed. Was the peritoneum opened? If not, what anatomical arrangement allows the operation to be done without touching the peritoneum? This boy has a congenital hydrocele. What is the difference between this and the ordinary hydrocele of the adult? Why may a patient with hip-disease complain more of pain in the knee than in the hip?

The examination which follows is conducted on the same general principles as the course of instruction just indicated. On the surgical examination paper one question at least is always devoted to surgical anatomy.

All these examinations are conducted by a central examining board whose members are chosen from the different medical schools. No student can be examined by instructors from his own school; thus favoritism is done away with, and each student is taken on his own merits only. Each school, therefore, simply prepares its students for the examination at the central examining board. The instructors at each school are thus stimulated to take a most active interest in getting as many men as possible through the examination, so as to maintain a good average. Owing to the small average number of students in each school the individual student receives a deal of personal attention from the instructors.

The habit acquired in student-life of associating anatomical facts with clinical work appears to be persisted in by the English practising physicians and surgeons, and they most certainly profit by it. It is almost impossible to compare our American methods of teaching anatomy with those commonly used in England, owing to the great variations in standard in the different American schools. Perhaps the most satisfactory comparison can be made if we take as a standard here the average of the best American schools. And if we make such a comparison it will, I think, appear evident to what extent our methods differ from the English ones in certain appreciable details, especially in regard to examinations, "quizzes," dissecting, and other practical work. We see, for instance, that there is in our system only one *examination*, as a rule, which may be written or oral, seldom both, and never very practical. This examination usually comes at the end of the first year, occasionally of the second. The questions are not generally so selected as to draw out the real practical knowledge of the student. A minimum of fifty per cent. is required to pass. It would be quite possible for most students to get this fifty per cent. by a fair knowledge of the textbook alone. I know of one student in one of our best schools who got a mark of ninety-eight per cent. without ever having seen the inside of the dissecting-room. *Dissecting* itself is not often made a prominent feature. If the student is required to dissect only three parts, few students are willing, and fewer still have the opportunity of dissecting more. In some schools it is only necessary to "take out a dissecting-ticket." It occasionally happens that a student has no opportunity to dissect until the anatomical examination is over, in which case the stimulus to do good work is apt to be wanting. Besides this there is no requirement, and often no encouragement, to dissect with the aid of some good manual. Gray's Anatomy is certainly considerably overrated as a textbook, and as a dissector is much worse. One might overlook the fact that the student has not sufficient opportunities for learning anatomy from dissecting for himself, if *preparations* of good dissections were within easy reach. But the museums which contain such are usually closed to him, except on one or two days of each week when he has the opportunity of looking about for an hour or two. Under such conditions the sight of preparations is apt rather to excite his curiosity and admiration rather than to stimulate and assist him in his work.

Systematic "quizzes," by which the student's knowledge can be continually tested and so conducted as to fit him for his examination, appear to be the exception. By the middle of the first year the student finds that he can learn more rapidly, for the examination at least, by reading his textbook at home than by listening to lectures and demonstrations. Perhaps a certain amount of this "cramming" would be justifiable and even desirable, if the student could be examined at short intervals, before preparations or fresh dissections. Such an arrangement would be certainly of more benefit than reading through the text with nothing to make it clear but plates and diagrams. Besides this, the student has the advantage of being obliged to do

the work of explanation himself. In schools where there is only one examination in anatomy the subject is completely dropped when once the examination is over; and there is hardly a single school in which the student is obliged to put *his anatomical knowledge into working shape* in connection with clinical work. Thus it must be evident how much lower is the standard of our system of anatomical instruction than that of the English schools. Should it be considered desirable to raise this standard the first step ought to be made by raising the standard of examinations. In a certain sense the standard of any given department can only be measured by the standard of the requirements, and not by that of the instruction. Especially does the standard of anatomy appear to be low in what might be called its practical aspects. In connection with the early anatomical examination a practical element might be introduced and the students examined, so far as possible, on fresh dissections and preparations. To assist the student in preparing for such an examination, special "quizzes," which may be called "small preparatory examinations," might be given, the museums might be opened, or at least a series of good anatomical preparations be exposed to view. If the demonstrators have no time for preparing such a set of specimens, they might be made by some of the most skilful pupils, paid, if necessary, for their work.

Many of the finest preparations at the Museum of the Royal College of Surgeons in England have been made by a non-professional man, specially hired for the purpose. Later on in connection with clinical examinations each student might be brought in turn before the living body and asked questions about the bony processes, tendons, arteries and anastomoses veins and branches, lines for incision in the usual surgical operations, the parts cut through, etc., the limits of internal organs, and lines for cutaneous nerves. He might be called upon to state what anatomical parts can be seen or felt and what surgical information gained by examination, digital or otherwise, of the different natural openings of the body, mouth, rectum, vagina, etc. Suitable instruction could easily be given for this examination, for it would only be necessary that clinical instructors should lay due stress upon the anatomical bearing of their cases, and that some practical instruction on external or applied anatomy should be given. If, in addition to this, the student is obliged to mark out all the lines for incision in the regular surgical operations, he will be in much better condition to profit by his operative courses on the cadaver later on.

There appears no valid reason why the English student should be better prepared in anatomy than the American, but such is without the slightest doubt the case. It may be said that only a small amount of the practical anatomical knowledge possessed by American surgeons has been acquired from the regular course at a medical school. How much time would have been saved had it been otherwise.

It is but right, in conclusion, to call to mind the advances which have of late years been made in the anatomical department of Harvard University. Not only is the elementary instruction in anatomy more thorough in the lecture and dissecting room,

but in many other ways the students are offered greater facilities for learning. Certain practical courses on regional anatomy, medical and surgical, together with an examination in topographical anatomy at the end of the second year, are new departures, introduced with the evident desire of bringing the subject of anatomy into the position of prominence it deserves.

## RECENT PROGRESS IN OTOLOGY.

BY J. ORNE GREEN, M.D.

### OTORRHOEAS IN PHTHISIS.

THE character of otorrheas in phthisical patients has for a long time been recognized as peculiar, both in their beginnings and in their course. The beginning of the disease is painless, the first symptoms noticed being a rapid loss of hearing, soon followed by one or more perforations of the drum-membrane, unaccompanied by any marked inflammatory appearances on that membrane; these perforations rapidly enlarge, the membrane seeming to melt away without signs of ulceration, till often the whole membrana tympani is lost; this process is accompanied by but a slight amount of suppuration. Often the highest degrees of deafness are met in these cases, showing an involvement of the nervous structures as well as the tympanum. Healing in such cases is very exceptional, although it occasionally does occur from local treatment alone, and in other cases from local treatment combined with a residence in an appropriate climate.

The absence of pain, the rapid destruction, the involvement of the labyrinth, and the character of the secretion have led to the suspicion that the disease is a specific tuberculous process, and Nathan<sup>1</sup> has recently investigated a considerable number of cases to determine the presence of the tubercle-bacillus in the discharge. He examined forty cases of otorrhoea of all kinds, and in twelve of these found the bacilli in variable quantities. In eight of these twelve cases examination of the lungs and of the sputa proved the existence of tuberculous disease; in one such an examination was impossible; in the remaining three there were no symptoms outside of the ear pointing to tuberculosis, but caries was found in the ears. In the other twenty-eight cases of chronic and acute suppurations no bacilli were found.

Although these observations of Nathan's seem to show that the presence of the tubercle-bacillus is of value in a diagnostic point of view, Gottstein<sup>2</sup> asserts that such is not the fact; that in undoubted tuberculous otorrheas the specific bacillus is sometimes present and sometimes not present; that its absence by no means justifies the exclusion of a tuberculous origin to the otorrhoea; and that a tuberculous otitis media purulenta resembles the tuberculous diseases of the bones and glands in which it has been proved that the bacilli are present in but a small number of the cases. These observations are based upon his own studies and a review of the literature of the subject.

<sup>1</sup> Ueber das Vorkommen von Tuberkelbacillen bei Otorrhoeen. Deutsches Archiv für klinische Medizin, xxxv.

<sup>2</sup> Archives of Otolaryngology, xiii.

## EXTENSION OF A TYMPANIC ADHESIVE INFLAMMATION TO THE LABYRINTH.

An affection of the labyrinth as an accompaniment of the very common sclerosis (adhesive inflammation of Politzer) of the tympanic mucous membrane has been so often recognized clinically that the labyrinthine disease is described as part of of the pathological process in most textbooks, although it has not yet been determined whether it is secondary to, or whether it occurs simultaneously with, the tympanic disease. Comparatively few observations, however, have demonstrated anatomically the labyrinthine lesion, and in this connection a recent observation of Moos and Steinbrügge<sup>3</sup> is of interest.

The patient, it may be said, died from a hæmorrhage from the carotid artery produced by caries of the petrous bone resulting from acute purulent inflammation of one tympanum. The petrous bone on the other side was also examined, and showed chronic catarrhal changes in the tympanum in the form of adhesions between the crura of the stapes and the niche of the oval and round windows, and also a sclerosis of the mastoid cells, probably referable to a typhoid fever in the previous year. The interesting point was that the labyrinth also showed many changes: there was periostitis of the vestibule, with small hæmorrhagic spots and connective-tissue new growths; the membrane of the fenestra rotunda was thickened, and showed a deposit of friable cellular detritus on its inner surface, and a similar mass closed the aquæductus cochleæ; there was thickening of the utricle and the ampullæ, and much brownish-red and yellow pigment in the ampullæ, semicircular canals, and epithelium of the utricle.

## Reports of Societies.

### THE AMERICAN OPHTHALMOLOGICAL SOCIETY.

THE Twenty-first Annual Session of this Society was held at the Pequot House, New London, Connecticut, July 15 and 16, 1885. The President, Dr. WILLIAM F. NORRIS, of Philadelphia, in the chair.

The first paper was entitled

#### OPERATION FOR REMOVAL OF DISLOCATED CRYSTALLINE LENS.

by Dr. C. R. AGNEW, of New York.

The patient had been blind as long as he could recollect. The iris was tremulous, the lens was opaque and very movable. This eye had been painful for some time and recently the other eye had also attracted attention. The vision in this eye was  $\frac{3}{16}$ .

The operation for the removal was as follows: The pupil was dilated with atropia. The patient was then etherized and cocaine was applied. The eye was secured with fixation forceps. An instrument resembling a two-pronged fork, which was termed a bident was introduced into the vitreous chamber behind the dislocated lens, pressing it

<sup>3</sup> Archives of Otolaryngology, xiii.

forward. The bident transfixed the eye and held the lens in position. Section was then made in the ordinary manner and the lens removed; the eye was dressed with absorbent cotton and a black silk bandage. Antiseptic solutions were used and a four per cent. solution of cocaine was applied twice a day. The eye recovered without any unpleasant symptoms. The ophthalmoscope revealed atrophy of the choroid and retina. The speaker did not claim that all dislocated lenses should be removed, but this instrument facilitated the operation when it was required.

EXTRACTION OF A DISLOCATED LENS BY DR. C. R. AGNEW'S BIDENT,

by DR. DAVID WEBSTER, of New York.

The patient received a blow on the right eye. This was immediately followed by loss of sight. Examination showed that the lens was dislocated. No treatment was recommended at that time. Some months later, pain suddenly appeared in the injured eye. The lens was found to be cataractous and incarcerated in the pupil. Cocaine was applied, but did not relieve the pain. Atropia relieved the pain. Later the lens became loose and was found in the vitreous. The tension was normal. It was decided to remove the lens. The bident was passed back of the lens, pressing it forward. The incision in the cornea was then made and the lens removed with a spoon. The eye was dressed with absorbent cotton and recovered without complication. Vision  $\frac{2}{5}$  with  $\frac{4}{8}$ .

With the bident many eyes may be saved, if the lens can be brought in sight. There is no danger from injury of the ciliary body.

DR. H. KNAPP thought that in these cases there was not much difficulty in removing the lens, which could often be accomplished with the loss of very little vitreous, but the danger came in afterward from inflammatory complications; and where the sight was lost, he thought it better to at once enucleate the eye and thus lessen the dangers of inflammation. He considered the bident which was exhibited to be an ingenious instrument. For the last six or eight years he had not introduced an instrument within the globe to facilitate the removal of the lens. This he was able to accomplish by external manipulation.

DR. WILLIAMS, of Cincinnati, considered the instrument an ingenious and useful one, but in the cases reported he agreed with Dr. Knapp that enucleation was the best procedure.

DR. C. R. AGNEW, thought that the bident might also be useful in the removal of foreign bodies from the interior of the eye. He did not acquiesce in the view that enucleation was a simple operation. He regarded it as a serious mutilation.

DR. C. H. WILLIAMS, of Boston, thought that there was another alternative than those mentioned, and that was visceration of the eye, the removal of its contents and closure of the anterior opening with sutures. This he had performed a number of times with success. He thought it better than enucleation. It gives a better stump for the artificial eye.

EXTRACTION OF THE LENS IN ITS CAPSULE.

By DR. B. ST. JOHN ROOSA, of New York.

For the past three years the speaker had been in the habit of removing the lens in its capsule, in a large proportion of cases without iridectomy. The use of cocaine has facilitated the operation. He referred particularly to the method of dislocating the lens. The section is made as usual, but large. After puncture and counter-puncture are made, the knife is turned on its back, so that it rests on the iris. The knife is then moved up and down two or three times until the lens is seen to move. Then the section is completed, and then the lens can usually be removed with no loss of vitreous. The manipulations on the cornea are made with one or two spoons. Sometimes after the operation it is rolled under, but in many cases the pupil is circular. The writer had performed the operation between thirty and forty times, and is satisfied with his success. If the lens is not dislocated, iridectomy may be performed and the ordinary operation practised. A paper on the subject is to be found in the Transactions of the New York State Society, and in the *Medical Record* for February, 1885.

DR. GEORGE C. HARLAN, of Philadelphia, reported two cases of

SUBCONJUNCTIVAL LUXATION OF THE LENS.

In the first case no operation was recommended, as vision was good; in the second case the lens was removed. The doctor thought it well in those exceptional cases in which vision remains the operator should think twice before resorting to removal.

DR. O. F. WADSWORTH, of Boston, reported a case of

DISLOCATION OF THE LENS UNDER TENON'S CAPSULE.

The eye had been injured two weeks before the patient came under observation. There was loss of sight, pain about the eye, and irritation of the other eye; the cornea was hazy, and there was blood in the anterior chamber. The eye was enucleated, and it was found that the lens was beneath Tenon's capsule, and that it was held in this position by inflammatory tissue.

TREATMENT OF PERULENT CONJUNCTIVITIS.

By DR. J. A. ANDREWS, of New York.

The treatment is based upon the belief that the contagious element is the micrococcus variety. He related a case in which he had secured an inoculation of the seventh generation of a pure culture of a gonococcus. This is the first case inoculated with the gonococcus. He showed an instrument which he had devised to wash out the conjunctival cul-de-sac. It consisted of an eye-speculum with hollow arms, through which fluid may be passed. He had found bichloride of mercury solution (1 to 10,000) serviceable, but apt to irritate. A six per cent. solution of boracic acid was also found efficient. A two per cent. solution of carbolic acid is useful, as it inhibits the movements of the white corpuscles. Irrigation should be maintained for ten minutes, in order to remove all secretion. Nitrate of silver solution (two to twelve per cent.) is then used, and an antiseptic dressing is next applied. This consists of vaseline and boracic acid or carbolic acid, but he laid especial stress upon the importance of maintaining irrigation of the conjunctiva by means of the instrument referred to above.

## ABSCESS OF BOTH FRONTAL SINUSES.

By DR. CHARLES S. BULL, of New York.

The patient had been hit on the forehead, fourteen years previously, with a piece of wood. This produced a fracture of both nasal bones and deviation of the septum. In seven weeks the wound had closed. Ten years after the accident a swelling was noted at the upper inner angle of the right orbit, which could be made to disappear by pressure. There was complete ptosis. An incision was made into the swelling just beneath the orbital margin, and a large quantity of pus escaped (two or three ounces). The cavity was washed with a five per cent. solution of carbolic acid. No communication with the superior nasal meatus could be detected, but the bony septum between the two frontal sinuses was absorbed, and both sinuses were converted into large cavities. The entire ethmoid bone was an immense cavity, the bony structure being absorbed. A number of osteophytes were removed. A drainage-tube was introduced. The patient was discharged six weeks after the operation, and recovered completely. The ptosis disappeared, and the eye was restored to the normal plane.

Dr. KNAPP recommended the substitution of a silver tube for the rubber drainage-tube usually employed.

A case of "Melanotic Sarcoma of the Orbit" was reported by Dr. BULLER, of Montreal, Canada.

## BONY TUMOR OF THE ORBIT.

By DR. B. E. FRYER, of Kansas City, Mo.

The patient, a boy six years of age, came under observation in April, 1885. There was swelling of left orbit, which included the whole line of the superciliary ridge. It was quite hard. Some time before the boy had been struck by a piece of wood, but it was thought that no splinter had lodged beneath the skin. It was decided to remove the tumor, and on examination it proved to be a bony cyst, within which was a small piece of wood. This was enclosed in bone on all sides. The edges of the wound were brought together, and healing resulted without complication.

Dr. W. H. CARMALT, of New Haven, Conn., reported the case of a child of ten years of age, from whom he removed a small growth from the upper lid. Six weeks later the growth had returned. An exploratory operation was done and it was found that the growth extended into the orbit and that it was impossible to remove it entirely. It was therefore decided not to complete the operation. The child has since died; the tumor proved to be a rapidly growing sarcoma. He thought that, if in young children the tumor appears to be quickly recurrent and not easily isolated, no operative interference should be attempted.

Dr. KIPP, of Newark, thought that in many cases these tumors of the orbit are not primary, but secondary, and that the primary tumors may be in such a position as not to attract attention.

Dr. HARLAN, of Philadelphia, reported several instances of inflammatory exudations in the orbit simulating tumors and illustrating the importance of exercising great care in diagnosis.

Dr. W. S. BENNETT, of New York, exhibited a series of new test-letters.

Dr. NORRIS, of Philadelphia, presented a new sheet of metric test-letters, devised by Dr. Oliver, of Philadelphia.

Dr. C. R. AGNEW, of New York, made a brief reference to a case of occasional or simulated blindness in which the vision suddenly returned.

Dr. THEOBALD described a similar case, in which there was sudden blindness. The pupil acted normally and the ophthalmoscope revealed no disease. A favorable prognosis was given and the patient recovered sight in a short time.

Dr. BULLER, of Montreal, thought that these cases could not be properly termed entirely imaginary. He thought that there was, for the time being, a functional loss of power in the nerve. He referred to a case in which there was hysterical blindness and deafness associated with loss of sensation in the skin covering the mastoid region. On one occasion, he applied to the anæsthetic surface an iron sufficiently hot to raise a blister. This was done without the patient's knowledge and unexpectedly. But it did not cause her to wince.

Dr. ROOSA had been led to believe from his experience that in these cases there is a basis for the blindness in the ocular condition. There is a derangement of sight from some condition and the patient finally imagines that she is blind.

Dr. HARLAN thought that there were two classes: one in which there is purely deception, perhaps the result of deranged mental condition; and a second, in which there is real temporary suspension of function.

Dr. RISLEY, of Philadelphia, thought that some of these cases might be explained by an enfeebled condition of the circulation, in which the heart was unable to force the blood against the normal intra-ocular tension, and the loss of vision thus results from want of nourishment of the retina.

Other cases of hysterical blindness were described by Dr. WILLIAMS, of Cincinnati, and Dr. ANDREWS, of New York.

## SOME OF THE RESULTS OBTAINED IN THE COMPILATION OF 1,000 CASES OF REFRACTION.

By DR. E. E. HOLT, of Portland, Maine.

The writer had been in the habit of recording all the measurements connected with the prescribing of glasses. As a result he had found in 1,000 cases thus recorded the average distance between the centres of the pupils of the human eye to be about 60 mm. The average of other measurements was given; and the importance of the physician determining and designating them, and then seeing that they were carried out, was dwelt upon.

## RAPIDLY PROGRESSIVE MYOPIA CHECKED BY SECTION OF THE EXTERNAL RECTUS.

By DR. G. C. HARLAN, of Philadelphia.

The case was that of a boy of sixteen, in whom myopia was progressing rapidly; the external rectus was divided seven years ago. The internal rectus was also exercised by the use of prisms. Since then there has been no increase of the myopia.

## THREE CASES OF PROGRESSIVE ASTIGMATISM.

By DR. SAMUEL THEOBALD, of Baltimore.

Astigmatism of traumatic origin, he remarked, is observed not infrequently to undergo changes in

degree, but it has been commonly held that congenital astigmatism does not alter in degree, though the refraction of the eye as a whole may undergo marked change. The cases which he reported, he thought, proved that there were some exceptions to this rule. The first case was that of a young man, who, with a high grade of hypermetropia, had an astigmatism of each eye, which required for correction a  $+1-200$ . The case was observed at intervals during a period of twelve years and during that time the astigmatism increased until finally a  $+1\frac{1}{3}$  C. was needed to correct it.

The second case was one of compound myopic astigmatism in a young man, in which there occurred, along with an increase of the myopia, a growth of the astigmatism during a period of sixteen years from  $\frac{1}{10}$  to  $\frac{3}{8}$ .

In the third case a simple myopic astigmatism in a physician twenty-five years of age, requiring a  $\frac{1}{4}$  in one eye and a  $\frac{3}{16}$  C. in the other for its correction, changed in five years so that a  $\frac{1}{11}$  C. and a  $\frac{1}{13}$  C. respectively were needed.

The speaker regretted that the examinations had not all been conducted under a mydriatic, as they would then be more apt to carry conviction to the minds of those disposed to be sceptical regarding the progression of astigmatism. He did not believe that the result would have been different. Such cases are not frequent, but it is important that the fact should be recognized. As the increase of astigmatism is probably due to change in the corneal curvature, the phenomenon should be met with more frequently in the yielding myopic than in the relatively stable hypermetropic eye.

#### AFTERNOON SESSION. — HYPERMETROPIC REACTION PASSING INTO MYOPIC REFRACTION.

By DR. S. D. RISLEY, of Philadelphia.

The speaker had on previous occasions called attention to five cases of a similar kind, and the object of his paper to-day was simply to report six additional cases seen within the past year.

DR. W. S. BENNETT, of New York, made a few remarks on the importance of the examination of spectacles. He exhibited a series of drawings showing the effect of different kinds of lenses on straight lines. He also exhibited an electric light ophthalmoscope, a description of which has been printed in the *New York Medical Record*.

An arrangement for the demonstration of refraction and accommodation was exhibited by DR. LUCIEN HOWE, of Buffalo, New York.

This consists of two bands of thin metals bent in such a manner as to represent the outlines of a double convex lens and passing through it two jointed rods representing the rays of light ordinarily figured as passing through such a lens and joining at its focus. The flexible bands were attached to each other above and below, so that by approaching or separating the sides they could be made to show less or greater convexity. The rods representing the rays of light were jointed near the centre in such a way that while the two halves could be placed in such a direction as to show the light as entering parallel to the axis of the lens, the other two portions could be bent to a point to show the convergence of rays at the focus. By alteration in

the position of these rods and also in the forms of the bands representing the lens all the different variations of the laws of refraction and the changes in accommodation can be demonstrated to a class.

DR. E. DYER, of Newport, Rhode Island, demonstrated a perimeter which he had described at the last meeting of the Society.

#### TWO CASES OF UNILATERAL TEMPORAL HEMIANOPIA.

By DR. E. S. BULL, of New York.

The first case was that of a man aged sixty-six years, first seen in 1884. In 1849 he received an injury which rendered him unconscious. When he regained consciousness he found that he was blind in the right eye. In 1883, he noticed a central obscuration of vision in the left eye. There was no syphilis, no disease of the heart, and no indication of Bright's disease. He had never used alcohol to excess, but smoked and chewed tobacco in large amounts. There was an irregular central scotoma. The media were transparent and the iris normal. Both optic discs were of a dirty-white color and in both there was a deep excavation with pulsating veins and in the left eye there was a large retinal hemorrhage. The tension was normal.

The second case occurred in a man aged sixty. He had been knocked down by a horse, receiving a depressed fracture of the frontal bone above the left eye. The patient was unconscious or delirious for four weeks following the accident. When he regained consciousness he found that the left eye was blind. Examination showed that in the left eye there was somewhat irregular temporal hemianopia. This may have resulted from fracture of the superior orbital plate, with injury to the fibres of the optic nerve going to the temporal half of the retina.

#### TWO CASES OF PENETRATION OF THE EYEBALL WITH SCISSORS IN THE OPERATION OF STRABISMUS.

Read by DR. H. DERBY, of Boston.

The first case was that of a young man on whom an operation for strabismus had been attempted. The surgeon inadvertently picked up a pair of sharp-pointed scissors. The point of the scissors suddenly penetrated the eyeball and a portion of vitreous equal in size to a cherry-stone escaped. The operation was abandoned and Dr. Derby was called to see the case. The eye was bandaged and the patient put to bed. Several attacks of inflammation supervened, but the patient was discharged on the forty-first day with  $V=7\ 10$ .

In the second case the scissors also entered the sclerotic, but after a somewhat tedious convalescence the wound was found closed on the twenty-first day, with vision as good as before the operation.

DR. KNAPP stated that he had done three thousand squint operations, and in three cases he had punctured the sclerotic. He, however, completed the division of the muscle, and the patients recovered as readily as from an uncomplicated operation.

DR. MITTENDORF stated that he had been present at a strabismus operation where the sclera was opened. He advised the surgeon to complete the operation. This was done, and the wound healed in four or five days. He thought that, in case the

accident happened, the division of the muscle should be completed.

DR. E. WILLIAMS, of Cincinnati, reported a case in which he had punctured the eye. The patient recovered without difficulty.

#### STRABISMUS: ITS CORRECTION WHEN EXCESSIVE AND IN HIGH DEGREE OF AMBLYOPIA.

By DR. E. E. HOLT, of Portland, Me.

The writer had employed advancement of the weakened, attenuated muscle in connection with tenotomy in certain cases of squint, and after tenotomy alone had failed to correct the deviation. He also exhibited an apparatus he had devised for showing the associated and accommodative movements of the eyes, and the effects of tenotomy and advancement of the muscle in correcting squint.

DR. KIPP at one time employed advancement, but he had given it up because it was difficult to graduate the result.

#### THE TREATMENT OF STRABISMUS INTERNUS.

By DR. W. W. SEELY, of Cincinnati.

He said that early operations (up to the tenth or fifteenth year) are questionable, and possibly should be entirely abandoned. He combated the idea that crossed eyes never became straight without an operation. Nothing is better established than the relation between ametropia and strabismus, and all recognize the necessity for glasses to prevent the recurrence of squint after tenotomy. Every one knows that it is possible to correct the squint by setting aside the ametropia by means of glasses. He said: "My early conviction that something should be left to time and glasses has long since grown into an absolute law of action, for I have become thoroughly persuaded that immediate perfection meant later in life insufficiency or even divergence."

"Operative procedures should not be the first consideration, but should be looked on as an adjunct to be resorted to later on if necessary."

He summed up as follows:—

(1) That, with our present light, routine operation is wrong.

(2) That to thoroughly correct the deviation in young children by operative interference is extremely liable to subject them in after life to insufficiency or external squint.

(3) That a later period of life, if anything, favors better results from operative interference.

DR. KNAPP thought advancement a dangerous operation. He had always been able to correct the deviation by two or three tenotomies, and, if necessary, stitching the eye to the commissure.

DR. THEOBALD, of Baltimore, endorsed Dr. Knapp's views in reference to advancement. He was surprised at the conclusions of Dr. Seely. Squint operations in his hands had been very satisfactory. If postponed they are likely to prove unsatisfactory, on account of the amblyopia which is liable to be developed.

DR. O. F. WADSWORTH had studied the subject for a long time, and had convinced himself that amblyopia from squint did not occur. The ability of the patient to use the vision which he has does seem to be lost by a continuance of the squint, but it may be recovered by practice. If the examina-

tion of vision was carefully made, he was certain that it would be found that the vision was not improved after the operation. It, however, is often difficult to get the full amount of vision which a squinting eye possesses.

#### ECTROPION OF BOTH LIDS: BLEPHORPLASTY BY THE ITALIAN METHOD.

By DR. R. H. DERBY, of New York.

The displacement of the lids was the result of cicatricial tissue from a severe and extensive burn of the face. The lids were loosened from their attachments, and the new lids formed from flaps raised from the arm. The arm was bound to the head with water-glass plaster, and the pedicle was not divided until union had taken place.

Photographs were exhibited showing the appearance of the patient before and after the operation.

DR. H. DERBY, of Boston, exhibited a box of trial lenses made by Nachet, in which the following features were embodied:—

- (1) The doubling of the prisms.
- (2) The distinguishing of the cylindrical lenses by coloring the positive settings black and the negative red.
- (3) The adaptation of the trial frames to receive the glasses without removal from the patient's head.
- (4) The removal of the handles from the prisms and cylinders.

#### PLASTIC OPERATIONS WITHOUT PEDICLES.

By DR. B. JOY JEFFRIES, of Boston.

The object of the paper was to make one or two suggestions which the author had not yet put in practice but which he was ready to try when opportunity offered. He suggested the use of the prepuce from the circumcision of Jewish children for operations about the eyes. He also suggested that in plastic operations the desired result might be obtained without the use of a flap by employing carbolized oil dressings to retard healing, for it is well known that some time after a plastic operation the transplanted tissue has almost entirely disappeared.

Adjourned until evening.

#### EVENING SESSION.

DR. HARLAN, of Philadelphia, reported "Two Cases of Congenital Paresis of the External Rectus."

Dr. Harlan also exhibited and described Borek's sphero-cylindrical lenses.

#### THE REMOVAL OF A BIT OF STEEL FROM THE LENS WITH THE ELECTRO-MAGNET.

By DR. J. L. MINOR, of New York.

M. S. was struck, one week before coming under observation, by a piece of steel. There was a small scar in the cornea and vision was much reduced. There was clearly a piece of steel in the lens, which the speaker desired to remove at once. After consultation it was thought advisable to await the development of some symptoms. The patient was therefore given atropine and instructed to return if the eye gave any trouble. Sometime later the eye became irritable, there was considerable ciliary injection, there was haziness, and the tension was increased. Cocaine was employed and iridectomy

performed. The shank of a strabismus hook was touched to an electro-magnet thus making it a magnet. The extremity of the hook was then carried into the lens and the piece of steel at once attached itself to it and was removed. Thirteen days later the eye had recovered from the operation. The lens has not yet been removed.

#### MALFORMATION OF THE UPPER LID.

By DR. R. H. DERBY, of New York.

In this case there was a fissure of the upper lid, from the angle of which a portion of skin projected in a peculiar manner.

#### REMOVAL OF EPITHELIOMA OF THE EYELID BY APPLICATIONS OF BENZOLE AND CALOMEL.

By DR. A. MATTHEWSON, of Brooklyn.

O. D., laborer, fifty years of age, was seen October 3, 1881, with tumor on the right lower lid. This first appeared as a warty growth three years previously. Of late it had been rapidly growing and presented a raw granulated surface. Careful examination by an expert showed it to be undoubted epithelioma. It was treated by frequent dustings of calomel, after brushing the surface with benzoole. The tumor entirely disappeared until a few months ago when a granular spot appeared at one edge of the site of the former growth. This disappeared under a renewal of the same treatment.

#### LIPOMATOUS PTOSIS.

By DR. H. S. SCHELL, of Philadelphia.

Under this head the speaker reported four cases of ptosis from excessive accumulation of fat in the upper lids. The condition occurred in young women between the ages of eighteen and twenty-five. The deformity was symmetrical, the weight of the lid causing it to cover one half of the cornea. The excessive fat was removed through horizontal incision. The smallest amount taken away was thirty-five grains, the largest seventy-one grains. The levator regained power in from one to four weeks. In one case it was necessary to repeat the operation.

#### CLINICAL OBSERVATIONS.

By DR. L. WEBSTER FOX, of Philadelphia.

CASE I. Congenital cataract in both eyes successfully operated on in a patient sixty years of age.

H. H., a negro, aged sixty, presented himself at the Germantown Hospital, February 1, 1884. Congenital cataract of both eyes was found. The use of a four-grain solution of atropia produced no dilation of the pupils. There was simply light perception. Shortly afterward the right lens was removed and the wound rapidly healed. At the end of eight days the patient could see but could not name objects without touching them. The lens of the left eye was subsequently removed. The effect of the acquisition of sight after sixty years blindness was carefully described by the speaker. The lenses, when removed, were found to be of a spheroidal shape. The optic nerve presented an oval outline.

CASE II. Recovery of useful vision after eighteen years' blindness.

R. L., aged thirty-seven years, was injured in the

left eye when three years of age. Two years subsequently sympathetic ophthalmia developed in the right eye, resulting in qualitative perception of light only. An iridectomy was done at the Germantown Hospital, in June, 1884. The media were found to be clear. When admitted to daylight complained of erethropia to such an extent that dark glasses were ordered. This disappeared in the course of three months. A +10 D. spherical glass was ordered for distant use, and a +14 rendered near objects visible. Subsequent examination showed that better vision was obtained by a combination of spherical and cylindrical lenses.

CASE III. consisted in the history and treatment of five cases of retinitis pigmentosa by electricity (constant current). There was marked improvement which, in one case, remained nine months after discontinuance of the treatment. Five cells are usually employed, the positive pole being placed over the closed eyelid and the negative pole at the nape of the neck.

#### ON THE PULSATING VARIATIONS OF INTRA-OCULAR TENSION, AS MEASURED BY THE MANOMETER.

By DR. LUCIEN HOWE, of Buffalo, New York.

In calling attention to the variations of intra-ocular tension some attention was also given to various forms of manometer or instruments for its measurement. The earlier forms consisted simply in a U-shaped tube of glass connected by a flexible tube to a trocar. When the trocar was introduced into the anterior chamber of the eye the intra-ocular pressure would tend to force the fluid through the tube and show the degree of pressure by a rise in the opposite column of the U-shaped tube. This was imperfect for the reason that when the aqueous humor escaped from the eye, it was at once in an abnormal condition. The double manometer described by Grasser and Holzke obviated this difficulty. In this, however, there was an imperfection in the trocar, which was rather complicated and liable to get out of order. An improvement was accordingly suggested in having a stop-cock attached to a needle of the hypodermic syringe, and this the writer found to serve the purpose much better than any other. The animal best adapted to this class of experiments is the cat, on account of the deep anterior chamber.

In the earlier experiments with the manometer, it was noticed that the intra-ocular tension varied with the heart's action. In addition to this the writer called attention to the fact that these variations in the pressure, as indicated by the manometer, correspond to pulsations which can be seen with the ophthalmoscope in the vessels in the interior of the animal's eye. In other words, if the same thing hold in the human subject, we must infer that when pulsation is seen in the interior of the eye there is also a variation of intra-ocular tension. Although not enough to be detected by the touch or by an ordinary instrument, this connection between pulsation and pressure is a demonstration of the cause of venous pulse in the eye as explained by Donders. It was also observed that, after the introduction of the needle, there was at first considerable pulsation, but after a short time this ceased, the eye evidently adjusting itself to the

unusual condition. The experiments referred to were made in the laboratory of Professor Zunzt, of Berlin.

Dr. H. KNAPP, of New York, reported nine successive cases in which the electro-magnet was used for the extraction of chips of iron from the interior of the eye.

These cases were operated upon during the past three and one-half years. In two the chip of iron was located in the iris. In one for two days, causing inflammation, and in the other seventeen years, remaining quietly until recently. Both were successfully removed without deterioration of the eye. In the seven remaining cases the foreign body was in the vitreous, had produced cataract, and could not be seen. In three cases the attempt to extract them with the magnet failed and the eyes had to be enucleated. In four cases the chips of iron were brought fourth at the first, second, or third introduction of the tip of the magnet. In all these four cases the recovery was smooth. All four are still cataractous. In two the form, size, and tension of the globe is not changed, and the perception of light is good over the whole field. In the two others the globe is slightly smaller and softer and the field of vision defective, corresponding to the wound made for the extraction of the foreign body. There was no irritation in any of the four eyes as long as they were under observation.

#### THE ACTUAL CAUTERY IN DESTRUCTIVE CORNEAL PROCESSES.

By Dr. H. KNAPP, of New York.

The speaker cited a number of cases in which its use had been of service, and considered it a valuable measure.

Dr. HOWE had employed this measure in three cases, and the corneal ulcer had been somewhat lessened.

Dr. E. WILLIAMS, of Cincinnati, had for the past fifteen years been in the habit of treating phlyctenular ulcers of the cornea by the application of pure carbolic acid, and had found it to act admirably.

Dr. O. F. WADSWORTH had for several years been in the habit of using carbolic acid for ulcers cornea serpens and for sluggish, painful infiltrations of the cornea. In sluggish infiltration the application is preceded by scraping, and in some cases the simple scraping has been sufficient. When the ulcers cornea serpens had been severe, he did not recall that it had entirely stopped the process. In a recent case in which the acid was applied at the beginning of the affection, three applications checked the disease.

Adjourned to Thursday morning.

(To be concluded.)

### Recent Literature.

*The Inhalation Treatment of the Diseases of the Organs of Respiration, including Consumption.* By ARTHUR HILL HASSALL, M.D., etc. London: Longmans, Green & Co. 1886. Pp. 357.

This is a timely book. Cohen's last edition was published in 1876, and no complete English work on

inhalation has ever before appeared — a strange fact when one recalls to mind the number of people armed with respirators one meets in the streets in England. It is true that until recently no medicinal substances were used in these machines, which were designed chiefly to warm and filter the air before its entrance into the respiratory passages. But, in England and Germany alike, for several years before the discovery of the bacillus tuberculosis, respiration had been charged with various antiseptics, such as carbolic acid, creasote, eucalyptol, and thymol, with the idea of acting directly on the diseased parts. Among others, Burney Yeo, Curschmann, and Cohen reported favorable results from this practice, which seemed to them to allay cough and diminish expectoration, thus contributing materially to the comfort of the patient. In a paper read very recently by Dr. Beverley Robinson, of New York, before the American Climatological Association, similar conclusions are reached. There is thus a fair amount of clinical evidence in favor of this method of treatment, when properly applied and carried out, as a palliative in many cases of phthisis and some other affections of the lungs. Dr. Hassall, however, shows that there is reason for being very sceptical as to the usefulness of antiseptic inhalations as hitherto practised, four fifths of the total amount placed on the sponge of the respirator being recoverable after the completion of an inhalation lasting one to two hours. The quantity thus brought into condition for absorption would seem to be altogether too small to have much effect; and, even if the volatility of the antiseptic be increased by the addition of chloroform, ether, or alcohol, the case stands but little better. In order that an effective amount of the vaporized drug should be capable of absorption the temperature must be raised or the area of the surface from which evaporation can take place must be greatly increased. For a description of the method adopted by Dr. Hassall to meet the requirements we must refer our readers to his book, or to articles by him in the *Lancet*,<sup>1</sup> describing his inhalation chamber, his globe respirator, and some of his experiments. The inhalation chamber at San Remo is now completed and in use, but we have seen no report of cases illustrating its practical working.

When carbolic acid is thus inhaled "the renal secretion should be watched, and as soon as this becomes decidedly discolored, the treatment should be modified or suspended until the darkening becomes lessened" — until the darkening disappears, we should say. "A watch should also be kept on the general symptoms, including particularly the pulse and temperature."<sup>2</sup> In chapter vii., which, in one hundred and thirty pages, deals with the inhalation treatment of diseases of the organs of respiration, subjects other than that of treatment, and treatment other than that of inhalation, are more or less dwelt upon. The index we have not found as complete as it appears to be at first sight.

In conclusion, the work is one which specialists in the diseases of the respiratory passages must have, and which the general practitioner will oftentimes find useful.

F. C. S.

<sup>1</sup> *Lancet*, October 6, 1881, January 19, 1882, p. 186.

## Medical and Surgical Journal.

THURSDAY, JULY 30, 1885.

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### PROTECTION FROM DEFECTIVE-VISION ACCIDENTS ON THE OCEAN.

A LEADER in the *British Medical Journal* of June 6th severely criticizes the report of the Assistant Secretary of the Marine Department to the British Board of Trade on "Examinations for color-blindness in the mercantile marine." It closes by saying, "To illustrate these defects, we may point out that the examiners are mainly retired ship-captains, and that the candidate is told to name, at three feet distance, a colored card or glass of about the size of the hand; whereas at sea it may involve fatal consequences if he fail to recognize, at a mile distance, a colored light which itself is not much larger. Moreover, we may mention that four of the candidates who called the *green* card or glass *red* subsequently passed the examination successfully, a course of events simply impossible to such candidates with a fair and intelligently conducted examination. Till these defects are remedied, we cannot agree with the paragraph which winds up the report, that 'if in future any accident arise from color-blindness on the part of any sailor on board any ship it cannot be laid to the door of the Board of Trade.'"

The returns from the Board of Trade to an order of the House of Commons of August 5, 1879, giving the results of only thirty-nine cases of defective color-sense found in two years, *thirteen of whom subsequently passed*, was naturally the subject of scientific ridicule, as have been the "Instructions to examiners" of January, 1877, and May, 1880. Since then the Marine Department has had the benefit of the published government reports from this and other countries, as they state. They also have had before them the resolutions on this subject of defective vision adopted by the International Medical Congress of London, 1881. From the transactions of the Ophthalmological Society of the United Kingdom and the published articles of those members who have interested themselves for a control, it is certain that the Marine Department of

the Board of Trade has had the subject properly and thoroughly pressed upon it, notwithstanding which it makes this extraordinary report of February, 1885, criticized as above by the *British Medical Journal*. Thanks to the exertions of a few experts in this country no such report has emanated from any of the departments of our general government. It would cost the author his position.

This report insists on the sufficiency of asking a person the names of colored objects, cards, or pieces of glass, and even that by retired sea-captains. Mr. Brailey states that one of these examiners gave a rejected candidate the absurd advice that his defect was probably due to biliousness, and that he should come back again after experiencing the potency of a blue pill and a black draught. Have the authorities of the land of Wilson, Poole, and Tyndall not yet got it into their heads that what a person calls colors is no proof whatever of whether he *sees* them correctly. The utter inefficiency of such tests as are required by the Board of Trade by their examiners is shown by the very few reported as defective,—only about one half per cent., as the *British Medical Journal* estimates,—whilst when a thorough test is applied in proper hands, namely, medical men properly taught, at least four or five per cent. are found color-blind. It should be remembered that only masters and mates are tested, and only as to their color-sense. They may be half-blind from disease or nearsightedness, etc., as the English experts have repeatedly shown by cases in their hospital or private practice.

This report says: "In some cases in which the examiners decide that the applicant has failed, and in which the applicant holds a contrary opinion, as well as in cases which may, in the examiner's mind, raise a doubt as to the propriety of passing them, the facts are reported to the department with full particulars, and the applicant is retested by means of a modification of Hologren's system of colored worsteds referred to in Appendix B." This appendix commences with a description of the colored worsteds to be used, and says: "The test consists in the examiner taking *any particular skein* from a heap of worsteds and requiring an applicant for examination in color to choose out of the heap the other skeins most closely resembling it, and to put them by the side of the sample skein. The best colors to use as sample skeins have been found to be a pale green, a bright red, or a light purple (or violet)." The appendix further states that Dr. Thompson's modification of Hologren's method is generally used, and "the person tested is *shown a skein* and told to throw over the stick all the skeins which, in his opinion, most nearly match it." The italics are ours. And this, we are told in a "Report presented to both houses of Parliament by command of her Majesty," is Hologren's worsted test. The author of the report does not seem to have gathered any idea of what the test really is or how it should

be carried out. Methods and practice are similar to the foolish *non-compliance* with the law by which one railroad employee tests another. The regulations sound like the twists and turns our United States Board of Steamboat Inspectors have taken to *retain* color-blind pilots, etc.

Besides, however, the natural ignorance thus exposed which could and should have been overcome by any such body as the Marine Department of the Board of Trade of England, there crops out the same determined prejudice against employing proper expert examiners as our communities have had to contend with here. The report says: "In the interests of the curious or learned in the matter of color-blindness many suggestions have been made which would have the effect of placing on record peculiarities of vision of a more complicated character than mere inability to distinguish well-known colors; but to extend the examinations for that purpose, though interesting and useful in many ways, would be altogether beyond and apart from the object with which our color-test was established, and would be of no value to us or the applicant. We have therefore abstained from going into any refinements of the sort."

This sounds like an extract from the speeches and newspaper articles when we had "color-blindness in politics" in Connecticut and Massachusetts. In view of the very practical and very simple methods and the low standards recommended by the International Medical Congress and the Ophthalmological Section of the British Medical Society, it is an insult to the medical experts who have urged a control which the Board of Trade admits, and the Civil Lord of the Admiralty, Sir Thomas Brassey, proves, is made necessary by a shipwreck or collision in every four hours round England's coast. The community demands that the color-blind shall be eliminated from posts of danger. Men of knowledge show that this cannot be done except by proper tests in expert hands. There certainly has been no better argument printed proving the need of the International Commission to disseminate a knowledge of the real facts, and agree as to requirements regulating it, than this last Board of Trade report. We are glad to see that those urging our government to initiate such a commission are still active. At the late American Ophthalmological Society meeting at New London it was voted:—

"That the Society would again express most hearty approval of the International Commission twice recommended in a bill by the naval committee of Congress, and endorsed by the International Medical Congress of London, 1881, to consider and agree upon standard colored lights and signals, etc., and the visual power and color-sense of officers and sailors.

"The Society would particularly support the International Congress vote, that every government, especially the maritime governments, should

be requested to place one or more members on the commission, and chiefly naval officers and medical specialists." The Secretary is hereby directed to transmit this note to Congress."

The horrors of the sea are enough, without the unnecessary addition of the chances from mistaking other vessels' lights, or not seeing the shore-signals, not noticing marks, buoys, lighthouses, etc. We wish those striving for control godspeed in their efforts.

#### DR. FERRÁN AND HIS METHODS.

A LAY correspondent of the *Boston Herald* writes regarding the so-called cholera inoculation operations of Dr. Ferrán, and the attempted investigation of them by the Committee of the French Academy. In spite of the government opposition, of which Dr. Ferrán complains, it would seem that he is making a "good thing" pecuniarily out of the operation. The correspondent says that he holds regular vaccinating *séances*, at which the attendance is so numerous that he is forced to accept the services of four assistants. His operations have been confined to Valencia, Alcira, and neighboring towns, but in a few days he is going to Madrid. His fixed charge for inoculating is fifty reals (\$2.50), and all day long there is a dense crowd of people at his door waiting their turn. Before entering the operating-room, each person passes in front of a cashier's desk, where a numbered slip is given in exchange for the fee. Those who prove that they are too poor to pay this fee are vaccinated gratuitously; but the poorer portion of the population does not seem to take much interest in the matter, and most of the doctor's patients thus far belong to the wealthy or middle classes who are fully able to pay him. Of these an average of 600 present themselves in his operating-room every day. He and his assistants operate in a large, square room; the operation consists in making, by means of a Pravaz syringe, a hypodermic injection of a cubic centimetre of the vaccinating liquid, and this injection is made in the posterior portion of the patient's two arms. The effects which follow this inoculation are in no way different from those that would follow a subcutaneous injection of any irritating liquid. There is a little redness of the skin, a certain amount of heat and swelling in the surrounding tissues—in short, all the symptoms of a mild local inflammation; the general symptoms are not at all marked—a little feverishness, a slight giddiness, a trifling gastric disarrangement are about all that can be detected. Diarrhea is so rare a result of the vaccination that it probably does not occur in one case out of a thousand. Sometimes the injection causes an abscess, but this seems to be due to the careless way in which the Spanish doctor and his assistants operate. They do not take any more

precautions than they would if they were inoculating a lot of animals.

As is well known, Dr. Ferrán observes the utmost secrecy as to the composition of the culture-fluid. He is said to have admitted to Dr. Gibier that bile entered into its composition, but further than that would say nothing. The French Commission, consisting of MM. Brouardel, Charrin, and Albarran, was, of course, frustrated in its attempt to investigate the scientific value of the operation by ignorance of what was really inoculated. Dr. Gibier, a colleague, who was allowed to examine the virus microscopically in the presence of Dr. Ferrán, said that it undoubtedly contained comma-bacilli, but whether those of Koch, or no, he was unable to say. The air of mystery thrown about the whole matter and the strong commercial spirit shown by the man who, a few months ago, was an obscure country doctor, and who has so suddenly stepped into notoriety and wealth, cast, of course, a strong suspicion *a priori* upon the real value of the discovery. This suspicion is greatly strengthened by the objections from a scientific view which suggest themselves, one of the most obvious being that one attack of the disease does not, as in the case of smallpox, confer any immunity against a second. The effect of inoculation, then, even supposing it to be accomplished, would be, as has been suggested, like that of vaccination against bronchitis. Dr. Gibier examined the blood of persons who had been inoculated, but was unable to detect the presence of microbes in it during twelve hours succeeding the operation. As to the identity of the epidemic now so extensive and fatal in Spain with Asiatic cholera, there is no question in the minds of the French Commissioners, nor of any one else; nor, unfortunately, is there any doubt as to the wretched sanitary and hospital arrangements which exist to meet it.

In the hospital wards the patients lie on dirty beds, too often surrounded with filth and covered with vermin, while swarms of great black flies are allowed free access through the windows unprotected by netting. There is not a hospital that Dr. Gibier visited in Spain in which all the rules of hygiene and comfort are not grossly violated. It is impossible to obtain any reliable statistics concerning the epidemic, for the simple reason that the number of deaths reported by the local authorities are, in many cases, wilfully perverted, and the census of the population is worthless. The alcalde of one village visited had just been fined by the colonel in command of the *cordon sanitaire*, which surrounds the province of Valencia, for reporting two deaths in a day when there had been several fatal cases in the village. An incident characteristic of Spain attended the departure of the commissioners from the infected district. They were forced to leave the train and stand around without shelter for two hours after dark on a cold, rainy night, while the railroad

employees were at work disinfecting the cars. This entirely useless proceeding consists in burning pans of sulphur in each compartment. Dr. Gibier had left a lot of loosely corked vials containing a choice collection of cholera microbes in the rack of his compartment. "My microbes," said he, "were as alive and lively after the disinfecting process as they were before it occurred."

The report of the French Commissioners has been made public and confirms in the main the above statements. It moreover confirms the view we have taken from the first of this alleged discovery. We are not surprised that the report should discredit Dr. Ferrán's pretensions; but his unsatisfactory treatment of the French Commissioners—apart from the entirely inadequate apparatus used for his researches—is the strongest proof that the Spaniard's methods will not bear the light of scientific investigation.

The appointment of a committee of inquiry by the French Academy of Medicine was the only thing which had given an air of seriousness to Dr. Ferrán's proceedings, and we have suspected from the first that the appointment of such a committee was largely due to his extravagant adulation of Pasteur and the French methods of bacteriological research. That such a committee should be allowed to depart, or rather be sent back, with the feeling that it had come on a fool's errand, is almost enough of itself to prevent any further serious consideration of this humbug, and we hope to hear but little more of the *peronospora Ferráni*.

#### THE DEATH OF GENERAL GRANT.

SOME time ago we spoke of the patient endurance of the great General who has just passed away, and expressed our admiration of the calmness with which he awaited the result of his painful malady. Probably no man ever had a greater pressure brought upon him to abandon the certain and the known and trust to specious promises, but with the strong commonsense that was a marked characteristic of his whole life, he accepted the truth and awaited the end with a patience that has endeared him to the nation.

The amelioration of his symptoms was the signal for an attack upon the diagnosis of his physicians which illustrated only too clearly the attitude the laity are ever ready to take in regard to a medical opinion not in accord with their wishes. Undoubtedly the cry of ignorance and narrow-mindedness which was so loudly raised was not shared by the thinking few, but Grant himself seems to have appreciated the fact that the diagnosis had been carefully made and had not been arrived at without due consideration of other hypotheses, and that all the resources of modern surgery and all the certain knowledge concerning his malady were already at

his service. He seemed to appreciate the fact that the profession, whose duty and pride it was to save his life, were quite as trustworthy as the men of lofty pretensions and pleasant promises. We trust his example will not be lost to the world and that others may learn from him that truth does not become untrue simply because it is unpleasant.

#### MEDICAL NOTES.

—The aesthetics of the sickroom have received an impulse from Dr. Lawson Tait, who is said not to accept homely women as nurses for his patients. If Dr. Tait's specialty were concerned with the male sex, the wisdom of his selection would be even more apparent. Mrs. Stowe makes one of her shrewd (male) characters say that a pretty face in the singers' seats is a means of grace, and the same philosophy seems to be applicable to what is under the nurse's cap.

#### BOSTON.

—A number of importers of rags in Boston have, it is said, signed a petition setting forth their objection to the action of the Boston Health Board in refusing in certain cases to accept the certificate of consuls in foreign ports as to the immunity of those localities from cholera, and in insisting, in cases where not satisfied with the thoroughness of disinfection said to have been made in foreign ports, upon a second disinfection by their own agents here before allowing the cargo to land. The local board, however, persists in its precautions, having found abundant evidence as to the unreliability of some of the consular certificates and the inefficiency of the disinfection (by burning sulphur alone) practised in most of the rag-exporting ports.

—There seems to be something in the position of pension examiner in Massachusetts not attractive to the better class of medical men. The unsavory matters which have occupied the courts of late in regard to a former member of the board are fresh in our readers' minds. The changes in the *personnel* of the board have lately been quite numerous, and no less than three gentlemen have resigned because of unwillingness to serve on a board constituted in accordance with the wishes of Commissioner Black, who retains upon the board a physician with whom others apparently cannot serve. The charges against this gentleman should be investigated and either he or they be withdrawn. We understand that the methods of transacting business are such that any one of the examiners might easily compromise his two associates. It is a pity that the government should allow even a shadow of a suspicion to fall upon its relations to the old soldiers.

—The following Boston gentlemen have received the honorary diploma of La Société d'Hygiène : Drs.

H. P. Walcott, late of the State Board of Health; Charles F. Folsom, formerly health-officer of the State Board of Health; Samuel W. Abbott, of the State Board of Health, and Prof. E. S. Wood, of the Harvard Medical School.

—The force of the public prejudice against medical students, as shown by the readiness with which any horrible deed whose motive is not evident is set down by a portion of the public press as the prank of some graceless medical student, is illustrated by the theory advanced in the case of the murdered woman whose mutilated body was found last week in two potato sacks in Charles River and Boston Harbor, that it was done by some medical student thirsty for gore and a sensation. The facts that the medical schools were all closed, that dissecting material is at a premium (which would effectually prevent the impecunious student from squandering it so recklessly), the absence of any mark of the scalpel and the presence of those of an axe,—all failed to convince some minds until the results of the autopsy were made known.

#### Miscellany.

##### COMMENTS IN THE MATTER OF THE INTERNATIONAL CONGRESS.

The hot weather does not modify the acerbity of the discussions in most of the journals of this country in the disputed matters relating to the Congress. But no progress appears to be made toward a solution of the difficulties. In addition to the withdrawals already chronicled in our columns of the entire committee appointed from Boston, of those from Philadelphia and other cities, the same action has been taken by the Baltimore members, twelve in number, and also by the Washington members. Resignations, moreover, are reported from St. Louis and other Western cities.

*The News* remarks: "The leaders of the new committee are at present actively engaged in trying to devise some form of compromise which will enable them to retain their own positions, and at the same time prevent further defection, but this cannot be done. The leading members of the profession of the principal cities of the Union have declared their determination not to accept office. The presidents of nine of the Sections, the Secretary-General, as well as a large proportion of the vice-presidents and members of the Councils, have likewise declined to cooperate under the new organization. Self-respect, if nothing else, demands that a committee which has been so thoroughly discredited by the profession at large, and whose inability to organize an International Congress has been completely demonstrated, should at once resign. If its members do not, they fully justify the charge which has been freely made—that they place their individual interests above those of the profession, and that they prefer to see the Congress destroyed than themselves without office."

It adds, moreover: "The men who are engaged in original research, and who are best known as

those who are contributing to the honor and dignity of American medicine by their writings and teachings, are not usually active in medical politics or in the supervision of their medical brethren, nor are they given to log-rolling and striving for office. For the past ten years these men have been becoming dissatisfied with the tone of the American Medical Association, and while many of them have not formally severed their connection with it, they have nevertheless ceased to attend its meetings. Many of them give their entire interest and work to purely scientific associations such as the College of Physicians and the Academy of Medicine, to pathological societies, or to societies devoted to specialties, in which the scientific physician is not liable to be annoyed and overborne by wire-pulling and loud-voiced demagogues. The result of this interference with the Congress, and of the evident determination of the leading spirits in this movement to maintain their control over the Association, will be to alienate still further the scientific workers and teachers of the profession, and already we hear rumors of the formation of a new National Society, to meet the wants and wishes of this class. This result will fatally damage the influence of the Association, and it is greatly to be regretted, for the Association has done good, and might do much more if it were conducted in the interests of the whole profession."

The organ of the American Medical Association, after complaining somewhat bitterly of the *puerility* of the committees in Boston, Philadelphia, and Baltimore, concludes (July 18th): "We understand the officers of the committee are already taking the preliminary steps for another meeting early in September; and if the professed friends of the Congress will take half as much pains to aid the committee in completing wise and satisfactory arrangements as some of them do to find fault and throw obstacles in the way, there will be no trouble in securing good arrangements and a successful Congress."

The same journal, in its issue of July 25th, says: "Such is the exact position of a handful of very respectable members of our profession in four cities, who committed the two radical mistakes of supposing they could use the American Medical Association alternately as a *decoy duck* or *football* at their pleasure; and that in themselves and a few friends were concentrated all the science and representative capacity of the medical profession of the United States. In view of their present position they might with great propriety adopt the prayer of Scotland's favorite bard:—

"O wad some power the giftie gie us  
To see oursel's as others see us!  
It wad frae monie a blunder free us,  
An' foolish notion."

"That we do not err in representing them as a handful or limited number, is proved by the letter of our special correspondent in Philadelphia, on a subsequent page of this number of the JOURNAL. The writer of that letter is one of the most eminent and widely known teachers in the profession of Philadelphia, and his letter will be read with much interest.

"Meanwhile, the real friends of the International Medical Congress may rest assured that the Amer-

ican Medical Association, through its present able and judicious Committee of Arrangements, will fulfil all the obligations it incurred, in extending the invitation at Copenhagen, in the most liberal and enlightened manner."

The *Record* is much more hopeless of a successful issue to the Congress. It says: "At present the best hopes for the future of the Congress lie in the fact that we have two years yet before its meeting. This is time enough for a good deal of hot feeling to subside and for concessions and compromises to be made. There has never yet been a Congress, we believe, without considerable heart-burning. Any hopes in the emollient effect of time, however, need not be cherished unless with them there is seen a prospect of some very radical changes in the *personnel* of the Executive Committee and the removal entirely of any medico-political issue from the organization and membership of the Congress. A meeting of the American Medical Association, entirely revoking its New Orleans work and restoring the old committee with its liberal policy, might, perhaps, save the Congress. We see at present no other way."

The *London Medical Times* (July 18th), in a long editorial on this subject, says: "We do not wish, and we hope no one on this side the Atlantic will attempt, to revive the memories of the celebrated dispute on the Codes. We believe that the late Dr. Pamm, the lamented President of the Copenhagen Congress, distinctly insisted, when the invitation to America was accepted, that the code question should not be raised; and we feel sure that a very large majority of English and Continental practitioners will refuse to cross the water if this understanding is not rigidly kept to. They will feel, too, that if they go to Washington they can only go as the guests of an undivided profession. A Congress from which the most distinguished representatives of American medicine were excluded or had withdrawn would not be worth going to as a scientific meeting, while the remembrance of the bitterness and heartburnings which had attended its organization would rob its social distractions of all their charm. It would be like feasting with a man, while his wife, unjustly divorced, stood in the street watching. We can assure our American readers that in the present case the best English sympathies will be with the wife. The men whom English visitors, if they go, will go to see and hear are the very men who have been elbowed out of the Congress. The scientific success of a Congress does not depend on numbers, but on quality. The profession in America is no doubt rich in numbers, as well as in scientific activity, but it is not so rich that it can afford to play all Europe with only pawns on its side of the board."

## Correspondence.

### COPPER AND CHOLERA.

DORCHESTER, Mass., July 22, 1885.  
Mr. Editor,—I desire to call attention to a paragraph which is seen in both professional and secular papers from time to time, and which is probably erroneous.

It is to the effect that copper is a protection against cholera, and that the workmen employed in copper-works are entirely exempt from epidemics of this description. The error consists in attributing to copper the virtue that belongs to sulphurous-acid gas, a substance nearly always present where copper ores are worked, the copper being combined with sulphur, which passes off as sulphurous-acid gas during the process of obtaining the metal. A similar immunity has been found in all works where this gas is produced—as in the manufacture of ultramarine, in lead-smelting works, etc.

In 1871 or 1872 (I forget which) the horse epizootic appeared throughout Colorado, attacking almost every horse and mule in the country. I was running smelting-works at the time, and employing some twenty animals of this description, all of which escaped, except some half-dozen mules that were employed in hauling charcoal, and were most of the time at a considerable distance from the furnaces.

Yours truly,

E. D. PETERS, M.D., M.E.

### OVERCROWDING AT DANVERS LUNATIC HOSPITAL.

DANVERS, Mass., July 20, 1885.

*Mr. Editor.*—Will you kindly allow me a little space to make a statement to physicians, concerning the present condition of the Danvers Lunatic Hospital,

which may influence some who think of sending patients here. For a long time the hospital has been so crowded as seriously to interfere with the comfort and welfare of the patients, and this has now reached such an extreme degree that nearly 200 of them are obliged to sleep upon beds placed on the floors of the corridors. The Legislature having adjourned without making any provision for the increased number of the insane, I do not think any adequate relief from this evil is probable in the near future, and I desire to say that it is impossible for me to give what I consider proper care and treatment to patients who are not quiet and orderly. This is especially true of those who have been accustomed to comfortable surroundings at home, as I am often forced to give them uncomfortable and almost indecent accommodations among exceedingly disagreeable associates. I regret the necessity of this statement, but do not wish physicians or friends to send patients here under a misapprehension as to the actual conditions.

I also wish particularly to urge that feeble chronic cases, which simply need nursing, be retained in their homes, or in local hospitals, as there are no facilities here for treating more of that class and they occupy room needed for patients who cannot be properly treated except in a hospital for the insane, and I shall be obliged to return them, as the trustees of this hospital have recently instructed me to have patients of this class removed to the town where they have settlements, as authorized by law when the hospital is overcrowded.

WM. B. GOLDSMITH, M.D.,

Physician and Superintendent.

### REPORTED MORTALITY FOR THE WEEK ENDING JULY 18, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Diphtheria and Croup.	Measles.
New York . . . . .	1,340,114	1,019	613	48.11	9.11	39.10	5.06	1.39
Philadelphia . . . . .	927,995	530	296	36.28	8.84	28.35	2.26	.75
Brooklyn . . . . .	614,526	493	301	41.00	8.20	38.20	1.60	.80
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	123,800	203	104	31.30	13.72	27.41	5.01	—
Baltimore . . . . .	408,820	212	117	38.67	—	33.84	1.12	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	231,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	47	24	11.91	6.33	4.26	6.39	—
District of Columbia . . . . .	194,510	114	60	29.04	9.68	21.12	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,105	48	18	24.88	18.72	—	—	2.08
New Haven . . . . .	62,882	54	36	46.25	—	33.33	—	12.95
Nashville . . . . .	54,100	28	7	14.28	—	21.42	3.57	—
Charleston . . . . .	52,286	40	18	20.00	3.00	15.00	5.00	—
Lowell . . . . .	71,147	21	10	12.84	9.52	42.84	—	—
Worcester . . . . .	69,142	39	20	10.96	12.80	—	5.12	—
Fall River . . . . .	62,671	30	23	13.33	—	—	—	—
Cambridge . . . . .	60,395	21	12	51.08	1.16	41.50	—	7.69
Lawrence . . . . .	45,516	25	11	20.00	28.00	8.00	4.00	—
Lynn . . . . .	41,895	17	6	17.61	5.88	11.76	5.88	—
Springfield . . . . .	38,000	—	—	—	—	—	—	—
San Francisco . . . . .	31,250	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	21	16	12.81	—	33.32	—	—
New Bedford . . . . .	30,111	10	5	10.00	10.00	—	—	—
Salem . . . . .	29,593	19	6	21.01	5.26	15.78	—	—
Chelsea . . . . .	21,317	13	7	—	15.38	—	—	—
Taunton . . . . .	22,023	11	0	18.18	18.18	—	11.11	—
Gloucester . . . . .	21,100	3	3	—	33.33	—	—	—
Haverhill . . . . .	20,965	5	2	10.00	10.00	10.00	—	—
Newton . . . . .	19,121	1	0	—	—	—	—	—
Brockton . . . . .	18,322	8	4	25.00	12.50	25.00	—	—
Malden . . . . .	15,273	5	1	10.00	10.00	20.00	20.00	—
Newburyport . . . . .	13,917	5	0	—	10.00	—	—	—
Waltham . . . . .	13,568	5	1	80.00	—	60.00	—	—
Fitchburg . . . . .	13,133	5	1	—	—	—	—	—
Northampton . . . . .	13,165	1	0	—	—	—	—	—
94 Massachusetts Towns . . . . .	—	56	15	—	—	—	—	—

Deaths reported 3,112: under five years of age 1,738; principal infectious diseases (smallpox, measles, diphtheria and croup, erysipelas, fevers, and diarrheal diseases) 1,222, consumption 271, lung diseases 135, diarrheal diseases 391, diphtheria and croup 85, measles 31, scarlet fever 31, whooping-cough 20, malarial fevers 17, typhoid fever 16, cerebro-spinal meningitis 13, erysipelas 10, puerperal fever seven, smallpox one. From scarlet fever, Philadelphia 10, New York nine, Brooklyn seven, Boston and Lawrence two each, Waltham one. From whooping-cough, New York nine, Philadelphia four, Brooklyn and District of Columbia two each, Boston, Baltimore, and Cambridge one each. From malarial fever, New York eight, Brooklyn and Baltimore three each, District of Columbia two, Philadelphia one. From typhoid fever, Philadelphia six, District of Columbia three, Brooklyn and Boston two each, New York, Holyoke, and Salem one each. From cerebro-spinal meningitis, Fall River four, New York three, Buffalo and Nashville two each, Holyoke and Taunton one each. From erysipelas, New York three, Philadelphia and Baltimore two each, Brooklyn, Providence, and Cambridge one each. From puer-

peral fever, New York, Brooklyn, and District of Columbia two each, Providence one. From smallpox, New York one.

Cases reported in Boston: diphtheria 33, scarlet fever 27, measles 26, and typhoid fever 17.

In 12 cities and towns of Massachusetts, with an estimated population of 1,374,812 (estimated population of the State 1,555,104), the total death-rate for the week was 23.81 against 17.33 and 13.48 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending July 11th the death-rate was 18.3. Deaths reported 3,126; infants under one year of age 842; acute diseases of the respiratory organs (London) —, diarrhoea 161, measles 141, whooping-cough 104, fever 32, scarlet fever 30, diphtheria 19, smallpox (London 11, Bristol, Hull, and Sunderland one each) 14. The death-rates ranged from 12.2 in Derby to 25.8 Manchester; Birkenhead 15.7; Birmingham 16.7; Blackburn 18.1; Bradford 15.3; Hull 15.7; Leeds 15.3; Leicester 16.1; Liverpool 21.4; London 18.0; Nottingham 15.8; Sheffield 18.8; Sunderland 21.6. In Edinburgh 15.5; Dublin 22.6; Glasgow 20.8.

The meteorological record for the week ending July 18th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole, of the United States Signal Corps:—

Week ending Saturday, July 18, 1885.	Barom-eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7 A. M.	3 P. M.	11 P. M.	Daily Mean.	7 A. M.	3 P. M.	11 P. M.	7 A. M.	3 P. M.	11 P. M.	7 A. M.	3 P. M.	11 P. M.	Per cent, Hrs. & Min.	Amount in Inches.
Sunday, 12	30.078	61.4	75.3	58.1	55	51	51	57.0	N	S E	7	5	7	C	C	C	—	—	
Monday, 13	29.950	68.4	77.8	59.1	61	40	68	56.3	W	S E	1	7	4	H	O	C	—	—	
Tuesday, 14	29.783	64.1	68.4	60.3	88	89	97	91.3	S E	E	N	4	10	4	O	O	C	—	—
Wednesday, 15	29.872	72.6	82.0	61.8	78	38	97	61.0	W	W	W	12	13	9	C	C	C	—	—
Thursday, 16	30.059	71.1	77.8	65.0	73	71	78	74.0	S W	E	S	1	8	0	F	C	C	—	—
Friday, 17	29.900	80.8	90.8	66.8	71	57	55	60.8	W	S	W	5	11	11	H	C	C	—	—
Saturday, 18	29.928	79.3	88.3	67.6	57	45	55	52.3	N W	N	W	5	11	11	C	C	C	6.12	0.23
Mean, the Week.	29.941	74.1	80.1	62.8				64.9											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 18, 1885, TO JULY 24, 1885.

ELBREY, F. W., captain and assistant surgeon. Sick leave of absence further extended four months on surgeon's certificate of disability. S. O. 162, A. G. O., July 17, 1885.

STRONG, NORTON, captain and assistant surgeon. Ordered for temporary field duty with battalion 8th cavalry at Hillsboro, N. M. S. O. 34, headquarters, District of New Mexico, July 27, 1885.

EVERTS, EDWARD, first lieutenant and assistant surgeon. Ordered for duty as post surgeon, Fort McDowell, Nev.

POLHEMUS, A. S., first lieutenant and assistant surgeon. Ordered for duty as post surgeon, Benicia Barracks, Cal.

WYNNE, C. K., captain and assistant surgeon. Ordered for duty at Benicia Arsenal, Cal. S. O. 68, Department of California, July 11, 1885.

EVERTS, EDWARD, first lieutenant and assistant surgeon. Ordered for duty as post surgeon, Benicia Barracks, Cal.

WYNNE, C. K., captain and assistant surgeon. Ordered for duty at Benicia Arsenal, Cal. Paragraph 3, S. O. 70, Department of California, July 15, 1885 (modifies paragraph 2, S. O. 68, Department of California).

#### SOCIETY NOTICES.

NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH, BROOKLYN. The first annual meeting of the Fifth District Branch will be held in Brooklyn, on Tuesday, October 6, 1885. There will be a morning and afternoon session. All Fellows desirous to contribute to the meeting, either by reading papers, notes, or communications, or by exhibiting

specimens, are respectfully invited to notify the Secretary to that effect at their earliest convenience.

J. C. HUTCHINSON, M.D., President.  
E. H. SQUIBB, M.D., Secretary, 36 Doughty Street, Brooklyn.

#### BOOKS AND PAMPHLETS RECEIVED.

Sharon, Massachusetts, the Healthiest Town in New England. By W. B. Wickes.

Case of Missed Labor, with Cesarean Section. By Stanley P. Warren, M.D., Portland, Me. (Reprint from American Journal of Obstetrics, July, 1885.)

Trichina Spiralis and Trichinosis, including an examination of Indiana Hogs. Prepared under the Direction of the Indiana State Board of Health. By Thomas B. Redding, A.M., Ph.D.

Report of Proceedings of the Illinois State Board of Health, Quarterly Meeting, July 2-3, 1885.

Annual Announcements and Catalogue, Memphis Hospital Medical College. Session 1885-86.

Fourth Annual Announcements of the Hospital Medical College of Evansville, Ind. Session of 1885-86.

Twenty-fifth Annual Announcements of the Bellevue Hospital Medical College, 1885-86. New York.

Transactions of the Medical Society of the State of West Virginia, Eighteenth Annual Session, held at Weston, May 21-22, 1885.

A Textbook of Physiology. By M. Foster, M.A., M.D., F.R.S. Third American from the fourth and revised English edition, with extensive notes and additions by Edward T. Reichert, M.D., Demonstrator of Experimental Physiology, University of Pennsylvania. With 271 illustrations. Philadelphia: Lea Brothers & Co. 1885.

## Original Articles.

## INTRODUCTION TO A DISCUSSION ON THE DIAGNOSIS AND TREATMENT OF TUMORS OF THE BLADDER, AT THE BRITISH MEDICAL ASSOCIATION ANNUAL MEETING, 1885.

BY REGINALD HARRISON, F.R.C.S.

*Surgeon to the Liverpool Royal Infirmary and Lecturer on Clinical Surgery in the Victoria University.*

MR. PRESIDENT AND GENTLEMEN:—

At the request of the Secretaries of this section, I have undertaken the responsibility of opening a discussion on the diagnosis and treatment of tumors of the bladder.

Only a few years ago, any one occupying this position would probably have felt bound to offer an apology to his audience for the scantiness of the material upon which he had to dilate; such, however, has been the progress of surgery within our recollection, that I feel myself differently circumstanced, and shall ask your indulgence in my attempt to compress the large amount of material which the experience of many has already supplied.

Time is more than precious on occasions such as these, and I must, therefore, avoid all historical references, deeply interesting and instructive as they are, and deal with my subject from a purely clinical point, feeling assured that this is the direction which will best answer our purpose to-day.

Under the guidance of the distinguished surgeon who presides over our section, and in the presence of many who have made valuable contributions to this subject, I have the satisfaction of anticipating that the speakers who follow me will fill in the numerous gaps I must necessarily leave, and correct defects in my statement of which I am only too conscious.

I shall confine my remarks to tumors of the bladder proper, adopting where requisite the nomenclature set forth in the report of the Committee appointed by this Association, for the drawing up of which we are largely indebted to Mr. Paul.<sup>1</sup>

It is hardly necessary that I should occupy time with any remarks on the diagnosis of these growths other than those which will incidentally occur. Chief reliance will be placed on the circumstances under which blood appears in the urine, the manner in which the mechanism of micturition is interfered with, the presence or absence of evidences of new growth in the excretion, and the direct and indirect indications which may be afforded by the use of the sound or the catheter.

It will be convenient to arrange tumors of the bladder into two classes or stages; (1), those which during their entire existence, or for a portion of it, occasion either slight or no distinct indications of their presence, and (2), those which declare themselves by symptoms either seriously disturbing the function of micturition, or which by their constancy or degree threaten the life of the patient.

From the manner in which I have thus attempted in general terms to make use of a classification, it will be at once understood that individually I should be guided as to treatment, not by the fact alone that a patient has a growth in his bladder, but by the symptoms it produces.

The mere subjective evidence that a person has a tumor of this kind would not, I submit, warrant the

adoption of any operative measures to effect its removal, even if in addition it were possible to demonstrate its existence by other means than digital exploration. Some tumors of the bladder which have been found in the *post-mortem* room appear to have had no history connected with them, and instances are known in patients of the total disappearance, after varying intervals, of symptoms which were unmistakably those of villous growth or papilloma. Of the latter I believe that I am acquainted with more than one case. These are important facts, as they seem to indicate that what nature can accomplish art may hope to imitate. How these growths thus disappear, whether it is by an accidental self-strangulation, or by an inflammatory act, it is impossible to say; but that they do so occasionally, without recurrence, I have not the least doubt.

Unfortunately, however, by far the larger proportion of them sooner or later pass out of the condition where operative interference is not to be recommended, and enter upon what I have taken as the second stage of their existence. Whether the transition is slow or rapid, gradual or sudden, much depends on their kind; but whether innocent or malignant, primary or secondary, the great majority of them, sooner or later, make it apparent that life will eventually be destroyed, either by persistent hæmorrhage, or by the degree micturition is interfered with.

The question of operative interference will now be entertained, but before anything further can be said as to the hope of success which is likely to follow this, it is necessary that a more accurate knowledge of the connections of the growth should be obtained. This brings me to speak of digital exploration of the bladder.

If you will look at the two drawings which I show, you will see examples of two very opposite conditions; one where everything may be hoped for from operation, where complete recovery modern surgery has proved to be possible; and the other where nothing is to be expected except the relief of those symptoms of urgency which have rendered an opening into the bladder necessary. The first drawing represents a villous growth of three and a half years duration, with a narrow pedicle, and is taken from Quain's *Clinical Lectures*, (Plate XXIV), which have recently been published; the second is an epithelioma extensively connected with the posterior wall of the bladder, from a specimen of my own in the Liverpool Museum.

Illustrations like the latter tend to show that though the diagnosis may be correct, the prognosis, so far as operative treatment is concerned, may fall very short of our desire, as the propriety of attempting to remove such growths can never be foretold until the finger has been placed in contact with them.

Digital exploration of the bladder relative to the treatment of tumors seems to me to be called for when it can fulfil at least three objects: (1) the relief of symptoms which are otherwise irremediable; (2) for verifying the diagnosis of tumor; (3) for determining whether the removal of the growth can be proceeded with. The circumstances which require a surgeon to open the bladder for the purpose of finding out what is inside it must be very exceptional, but when by this proceeding the three important objects I have mentioned are to be obtained with little risk, then its importance cannot well be over-rated. There are recorded cases which seem to suggest that if the

<sup>1</sup> British Medical Journal, January 12, 1881.

exploratory examination had been limited to providing a means for draining the bladder, and for examining the growth, it would have been better.

In the case of an epithelioma of the bladder, such as you see in the illustration, which I have also taken from Quain (Plate XXIX), to attempt its extirpation is obviously out of the question; to explore it with the finger, and to feel so far satisfied, and, at the same time, to give the patient an opportunity of emptying his bladder completely by means of a short and open road so long as he lives, is legitimate; nay, further, experience has already sufficiently shown that there is no better way of controlling the considerable bleeding which nearly always attends these cases than by providing the means of permanently maintaining the bladder in a condition of more or less contraction.

And now a few words in reference to the operation for exploring the bladder with the finger. If there are two ways to a place of about the same length but with somewhat different surroundings you may depend upon it you will have two sets of travellers, with the same aims, but with very opposite notions as to the respective merits of the two routes—so with the bladder; though we are agreed as to the necessity of exploring it, we are not so unanimous about the route. In this country, as well as in America, median perineal urethrotomy seems to be preferred; whilst in France, the clauus of the supra-pubic operation have been forcibly urged by Professor Guyon, Pousson, and others. Sir Henry Thompson has advocated the former method, not only as being the safest and most convenient for exploration, but, as he has shown by examples, for extirpating these growths. It seems to me that this form of procedure is to be preferred on several grounds.

In the first place, it provides a direct access to the more usual position of these growths; by a continuance of the incision forwards into the membranous urethra and backwards into the extreme limit of the prostate, it affords more room for the manipulation than at first sight appears; but what is of more importance, it is, I believe, the best position for the drainage to follow, which is a most important item in the management of these cases. If a perineal exploration shows the position or character of the tumor to be such as would be benefited by an access from the front, should it be determined to remove it, there is nothing to prevent the addition of the supra-pubic incision, as Billroth demonstrated. A supra-pubic incision is none the worse for having a more dependent opening, as Frère Côme practised a hundred years ago in connection with his success as an operator for stone. But, as I have already intimated, the great importance of the after-treatment, in relation to thorough drainage, renders to my mind the perineal procedure almost a necessity.

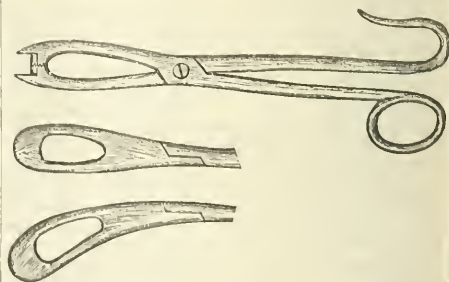
In connection with this point, it must not be forgotten what are the conditions under which these operations are often undertaken. In addition to the tumor which it is proposed to remove, there are usually present, either in the bladder itself, or in the organs associated with it, pathological changes which add considerably to the danger arising from the retention of anything which ought to escape. The viscous is occasionally accumulated, the ureters are patent and frequently largely distended, whilst the kidneys are rarely sound where the obstruction caused by the growths has been of long continuance. Hence we have much to fear from any extension of a suppurative process

after the operation, as I have seen in two instances which have recently come under notice. One of the best safeguards against a contingency such as this is a thorough drainage, and this I think can best be secured through an opening in the perineum.

The feasibility of attempting to remove the tumor having been determined by digital exploration, the precise means of doing so has now to be considered.

It will not be necessary for me to describe at length how this has been affected after an opening has first been made into the bladder; in some instances the finger-nail has sufficed; in others, various kinds of forceps; quite recently, Mr. Pitts has recorded<sup>1</sup> a case where a growth was successfully removed by the *écraseur*. In examining two cases which terminated fatally, it appeared that if it had been possible to have applied a ligature round the pedicles, and then to have removed the growths cleanly, either with forceps or scissors, a different result might have followed. The nearest approach to such a proceeding seems to be one recorded by Mr. Henry Morris,<sup>2</sup> who, failing on the first attempt to remove a growth in consequence of the want of the most appropriate means for extraction, the patient was left for two days, when the tumor was found prolapsed into a wound. Having stretched the edges of the wound apart by retractors, he succeeded in placing a ligature of catgut over the base of the growth and removing it with scissors. The patient made a good recovery.

When, after the bladder has been opened and explored, it seems practicable to remove the tumor, this should be affected as completely as possible; to take away a portion of it is to leave the remainder to inflame, suppurate, and possibly to become gangrenous, thus providing a fruitful cause for pyelitis, through the largely dilated ureters. Not being entirely satisfied with the forceps that hitherto have been used for the purpose of seizing and extracting these growths, I have had some others made for me by Messrs. Krohne & Seemann, which, so far as I have been able to judge of them in practice, are well adapted for this object.



It will be seen that they consist of an ordinary pair of bladder-forceps, with a free margin; by this contrivance it is almost impossible to do any damage to the wall of the bladder itself. The removal of the growth is effected partly by twisting slowly with the hand, and partly by the crushing action of the jaws of the instrument. In the exploration of the pedicle, both before and after the removal of the growth, I have found one of Marion Sim's enucleator hooks exceed-

<sup>1</sup> *Clinical Society*, May, 1885.

<sup>2</sup> *The Lancet*, April 21, 1885.

ingly useful. If, however, the connections of the tumor are extensive, and there is a doubt as to whether all can be got away without doing serious damage to the bladder itself, I feel sure that we had better content ourselves with the opening, which may under all circumstances be safely made, and the drainage that this opening with a suitable apparatus will provide. The lesser proceeding has in many instances proved the means of arresting hemorrhage, and of adding materially to the comfort, as well as to the life, of the patient, even where it has been found impossible either to remove the tumor or with safety to reduce its size.

Of excision of portions of the male bladder I have had no experience; so far as I am aware it has been limited to some experiments on the lower animals, in furtherance of the subject which we have now under discussion.

In conclusion, it cannot be denied that operative surgery has already proved itself to be of considerable service in the treatment of a very distressing class of disorders, and for which little is to be hoped for from medicinal agencies.

If I may be thought to have been too general in some of my remarks, permit me to say that this has been my intention; my object has been to open a discussion, and not to narrow it unnecessarily. The time has not arrived when it would be possible to lay down hard and fast lines of demarcation: much must be left to individual judgment. Where therapeutics are to end and surgery is to commence, experience and the application of those principles which are of general utility, and are not the exclusive property of any one set of organs, will enable us to determine what is best for each case as it presents itself to our notice.

Time will not permit me to illustrate these remarks with cases from my own practice, where I have operated in accordance with the views expressed in this paper; these have already been noticed in a previous communication.<sup>1</sup>

I hope that Dr. Stein, of New York, who has contributed importantly to the literature of this subject,<sup>2</sup> can tell us something to-day as to the general results following operative treatment, drawn from his most recent investigations upon this point.<sup>3</sup>

And what applies to the male is equally applicable to the female, though with the latter, by reason of the anatomical differences in the parts, both exploration and removal can be more readily affected. My friend, Dr. Alexander, of Liverpool, was, I believe, one of the first in this country to demonstrate the successful removal of growths from the bladder under these circumstances.

#### SOME OF THE MENTAL ASPECTS OF NERVOUS DISEASE.<sup>4</sup>

BY HENRY R. STEEDMAN, M.D., OF BOSTON.

THE object of this paper is, in general, to direct attention to the relationship between physical and mental disease (to make a distinction of terms more convenient than sound), but more particularly to

<sup>1</sup> On the Surgical Treatment of Hematuria, Liverpool, Medico-Chirurgical Journal, July, 1864.

<sup>2</sup> A Study of the Tumors of the Bladder. New York, 1881.

<sup>3</sup> Results of Operations on Bladder Tumors, New York Medical Record, No. xxvii, 1885.

<sup>4</sup> Read before the Massachusetts Medical Society, June 9, 1885, and recommended for publication by the Society.

demonstrate the close affinity existing between the nervous and mental forms of disease. For this purpose I have grouped together several of the prominent nervous affections, giving the chief mental manifestations which are found associated with the different forms. I have also pointed out how these mental phenomena differ essentially according as the disease is structural or functional (i. e., due to discovered anatomical lesion or not), and have touched upon some of the pathological and clinical relations of individual nervous disorders to mental change. By this means I hope to suggest a more comprehensive idea of nervous disease than is prevalent. As I have merely attempted to prompt inquiry in the direction indicated by touching upon prominent points of practical and general interest, and as time will not allow more than a superficial treatment of a subject so extended, its consideration is confessedly incomplete.

A distinguishing feature of the numerous nomenclatures of insanity which have been proposed during the last twenty years, has been the tendency to classify mental diseases according to the various bodily disorders or physiological states which have been believed to be the most potent factors in their causation. This has shown increased recognition of the fact, that in the interdependence of the various parts of the organism in disease, development and decay, the cerebral changes underlying insanity play a prominent part.

While it must be admitted that a classification of this kind—by causes—is far from trustworthy as a system of grouping the essential characters of disease, it certainly helps to stimulate inquiry as to the association of mental and bodily disorders, and by thus taking insanity from its isolation as an independent affection, its importance in medicine becomes more generally recognized, and consequently far greater clinical interest is excited. Phthisis pulmonalis, syphilis, rheumatism, cardiac disease, even diabetes are some of the diseases of the body proper which are known to be not infrequently expressed in part by psychical disturbance, amounting in some cases to actual insanity. Indeed, so extended has become the field of observation through the vast accumulation of recorded facts in this direction alone, not to mention those pertaining to nervous diseases in their relation to insanity, that it has truly been said of mental medicine that its axis has become displaced, and that it no longer revolves around psychology.

Disorders of the nervous system are obviously the most nearly allied to insanity of all other portions of the organism. Taking up first the structural diseases of the brain and cord, we find that in the majority of cases some mental impairment is usually present, although it is so slight as to escape the unpractised eye until the destruction or inflammatory process has become extensive. The mental symptoms attending such lesions show a loss rather than a perversion of mental activity.

The absence of insanity from the clinical history of most cases of tumor of the brain, cerebral abscess, etc., is often instanced, but mental change is not so infrequent in this connection as is usually supposed. In an analysis of two hundred and sixty-four collected cases of this kind in the "Dictionnaire Encyclopédique des Sciences Médicales," although but six are complicated with actual insanity, eighty-five show intellectual disturbance of some kind.

*Cerebral apoplexy* shows the connection between

the mind and the brain, in that it frequently has a sequel of mental impairment. This may be nothing more than usual lequacy, emotional instability, slight lapses of memory, irritability, want of readiness in expressing thoughts, but careful observation will disclose a change. In those rarer cases in which the disturbance exceeds moderate bounds and becomes what is known as paralytic insanity or organic dementia (in which category come also mental disturbances following softening, tumors, atrophies and chronic degenerations of the brain), the mental symptoms are chiefly those of marked enfeeblement, viz.: decided loss of memory, frequent crying spells without cause, inability to understand what is said, inattention to calls of nature, together with more or less helplessness. Excitement, violence and destructiveness due to hallucinations and delusions, less frequently appear and make asylum care necessary.

Now, the value of a due observance of the mental symptoms following cerebral apoplexies lies in the possibility of assisting the process of repair by measures directed toward mental rest. Visits of solicitous friends soon after an attack or the premature return of the patient to business are surely to be avoided in the light of the above possibilities. At all events it is certainly wise for the physician to inculcate extra consideration on the part of the family toward a patient in these circumstances, even when he has recovered from the immediate effects of the "stroke." If by the employment of electricity we seek to hasten the use of the hemiplegic limb, should we not endeavor at the same time, by a judicious regulation of the patient's immediate surroundings, to meet the requirements of his altered mental state, and to secure to the patient by so doing a more prompt and permanent return of mental capacity and vigor? In other words, is it wise in such diseases to attend solely to motor symptoms, and to allow the mental condition to take care of itself?

*Cerebral Syphilis.*—The facts concerning the relation of cerebral syphilis to insanity which have the most support are those which find in it the cause of a large number of cases of general paralysis. This disease is thought to be frequently dependent on syphilitic disease, and there is better evidence to support this view than that which traces a connection between it and insanity of any other form. Still, some of the best authorities acknowledge that they cannot distinguish between syphilitic general paralysis and non-syphilitic general paralysis, except by the history of infection; the symptoms, course and pathological changes being the same, and anti-syphilitic treatment often failing to have any effect whatever.

The connection between cerebral syphilis and ordinary non-parietic insanity is still more difficult to trace. Dr. Sankey, one of the foremost English alienists, observes that when mental disease arises in one with syphilitic taint, it obeys the same laws in its evolution as other cases. The mental disease may be either ordinary insanity or general paralysis, and perhaps more frequently the latter. Dr. Hughlings Jackson says, "The syphilitic affections of the nervous system are very indirectly of nervous origin. Such names as syphilitic epilepsy, syphilitic insanity, though convenient, are not scientifically accurate terms. There is nothing in any kind of nervous symptom which enables us to diagnose syphilitic disease of the nervous system. The pathological processes by which syphilis

causes nervous symptoms simply imitate non-syphilitic morbid processes."

These facts are cited to be set against a not uncommon tendency to suppose all insanity syphilitic which occurs in syphilitic subjects, and to suggest a guarded opinion as to such a cause in the light of the preceding observations, not to speak of the extreme rarity of cerebral syphilis, and the comparative infrequency of insanity caused even indirectly by syphilis.

*Locomotor Ataxia or Tabes Spinalis.*—This, the most prominent structural affection of the spinal cord, has mental complications of various kinds. In the first place, mental enfeeblement, slight change in disposition, general sadness, loss of interest in family and business, emotional changes, and perhaps suicidal ideas, are known to be not uncommon in the initial stage of this disease; and we generally find the mental faculties weakened toward the end. But these symptoms do not amount to actual insanity.

The relation of general paralysis of the insane to true locomotor ataxia is an intimate one, and due, it is thought, to an actual propagation to the brain of the changes of the cord. The cases of this kind which I have seen in asylums had been transferred from general hospitals, and manifested extreme loss of mental power with convulsive seizures and imperfect articulation, symptoms which had supervened during the last stages of tabes. They certainly bore a striking resemblance to cases of advanced general paralysis of the insane. Numerous cases of this sort are recorded. It is true that the sclerosis of the posterior columns of the cord does not, as a rule, extend beyond the bulb; but according to Althaus, although there may be no change whatever in the brain in cases of tabes, when that disease ultimately becomes complicated with epilepsy, general paralysis of the insane and other analogous conditions, diffuse changes of the cortex and the pia mater of the brain have been discovered.

Again, cases are recorded by Savage, in which typical locomotor ataxia preceded; in which it developed with; and, finally, cases in which it appeared throughout the course of, general paralysis.

There is still another class of cases of tabes associated with ordinary non-parietic insanity. These usually take the form of melancholia, with delusions of persecution and various hallucinations, depending probably on lesions of the optic, auditory or other sensory nerves.

*Disseminated Spinal Sclerosis.*—It is not generally known that besides the dementia or general weakening of the mental faculties commonly supervening in the latter stages of this disorder and of paralysis agitans, these diseases may also be a cause of other forms of insanity, and it has been believed, in the same manner as locomotor ataxia, viz.: by extension of the morbid process from the cord to the brain. This is, however, somewhat a matter of conjecture; at all events, true insanity is occasionally met with in patients suffering from disseminated sclerosis and paralysis agitans. It may present itself in various forms, but mental depression is the most prominent feature. The brain lesions, considered by some authorities to be the origin of this mental disturbance in disseminated spinal sclerosis, are isolated patches of diseased tissue, springing from the same cause as the chief disorder in the cord.

Enough has now been said to show that mental complication in structural disease of the nervous system is a somewhat frequent occurrence, and that it is

usually takes the form of dementia or a loss of mental power, limited function in other words, resulting from organic change with incomplete repair.

*Functional nervous disorders*, i. e., the convulsive and other neuroses without discovered anatomical lesions, are, as will be shown, far more often accompanied by mental symptoms than are the structural nervous affections. Moreover when the mental phenomena of this kind of nervous disorder pass the limits of sanity, they do not follow the same lines as when they are due to coarse lesions. For in the former, instead of mental inaction we find increased but perverted mental activity, and the emotions, the intellect, the will, one or all, may be involved. Witness the delusions of the epileptic, which may follow or precede the convulsions and the instability and impulses of the hysterical patient.

The only exception to this rule is the hebeteude arising from and increasing with repeated attacks of epilepsy. But this is not the immediate manifestation of the disease, which is shown in the convulsions and the mental states directly accompanying them, while, on the other hand, the mental dulness referred to is a final result of the excessive functional disturbance in the brain. It is in fact quite probably based upon minute structural degeneration, as the only lesions which can fairly be called peculiar to epilepsy are certain histological ones, which are thought by competent observers to be the effect of the repeated passive congestion to which the brain has been exposed.

*Epilepsy*.—Of the greater neuroses, epilepsy may be said to lie at the threshold of mental disease, so intimate is its relation to insanity. The different manifestations of this relationship are too well known and too numerous to require more than their mere enumeration. In the first place, the irregularity of the mental state of the non-insane epileptic is noticeable. In many it is a perfectly natural one, but more often the whole disposition is colored by conduct peculiar to the diseased state, and either an unusual irritability or an extreme and obsequious amiability is noticeable. Its remoter alliance to insanity is shown by the fact that many epileptics have insane parents; its close connection by the excitement with delusions or hallucinations which sometimes precede the fit, giving rise to the intellectual aura or oftener following it in various aspects, of which homicidal furor is the most significant one; again, by mental disturbance replacing the convulsions. Its possible mental states comprise mania with or without a continuance of the unconsciousness which is pathognomonic of the fit, melancholia or dementia.

These are the common and best known features of epilepsy in its relation to insanity; but the fact that seizures in no way differing from those of "genuine epilepsy" may and do frequently occur as a symptom of general paralysis of the insane is apt to be overlooked. It is not an uncommon experience with the asylum physician to receive cases of general paralysis which have long passed for epileptics, owing to a more or less accurate resemblance of the "congestive attacks" of general paralysis to the ordinary epileptic convulsions. Moreover, the fact that these attacks frequently occur in the initial stages of general paralysis is a matter which renders an accurate judgment of great importance, owing to the widely different prognosis in the two diseases and the danger to persons and property involved, in stamping an incipient parietic a harmless epileptic.

If, therefore, a patient be found to have had a fit for the first time in mature life, no matter how closely it may resemble that of ordinary epilepsy, one should never neglect to consider the possibility of having to deal with a case of general paralysis of the insane.

*Hysteria*, also, is generally known to be a not uncommon associate of insanity in neuropathic families, the common bond between the two disorders being enfeeblement of the will. A family I have in mind affords a good example of this association, one member being sane, but manifesting an undue emotional instability, impulsiveness, etc., and another actual hysterical mania, while a third developed melancholia with delusions.

This relationship of insanity to hysteria by heredity, by the way, would seem to favor the views recently advanced as to the probable cerebral origin of many cases classed under the heads of spinal concussion, spinal irritation, railway spine, etc., cases now recognized as hysterical, or, as some prefer to style them, cases of functional nervous disorder. For the most experienced observers claim, with Sir James Paget, that in these cases we shall find some evidence either of mental disorder in the previous history of the patient himself, or that he comes of a stock in which mental or emotional disturbances or peculiarities, not necessarily amounting to insanity, have been recognized as prominent in the family record.

The mental phases of ordinary hysteria, viz.: craving attention and sympathy, alternate outbursts of crying or laughter, the spirit of contradiction, of complaint and tendency to duplicity, as well as impulsiveness, extreme and easily excited anger and enthusiasm, are well known. In these states, which also take on redoubled intensity at the menstrual period, and together with hemianesthesia, etc., convulsions, etc., make up the disease as ordinarily manifested; the proportion between the mental and the motor symptoms is subject to considerable variation.

These psychological disturbances lie on this side of the line which separates reason from madness. But when the mental symptoms strongly predominate, insanity may appear in the patient subject to hysteria in several ways. First, as attacks of acute mania with noisiness, excitement, loquacity, refusal of food and sexual and uterine symptoms. These may occur in place of, during or after an hysterical convulsion, and may resemble the delirium of acute disease. Another form of mental aberration may show itself as an exaggeration of the impulsiveness born of a weak will. When their impulses become irresistible, these patients may commit purposeless theft, more rarely suicide, or they may make specious accusations of the foulest crimes against innocent people. Still another form of insanity may be developed from hysteria by delusional ideas attended by hallucinations of sight and hearing growing slowly out of the natural eccentricities of the hysterical character. Again, there are cases in young people closely resembling what is known as moral insanity. In the latter, with a family history of insanity and perhaps a previous attack in the patient, there is a perversion of the moral power, utterly incorrigible conduct and constant unreliability, together with entire absence of delusions, all springing from the same childishness, frivolity and lack of self-control which are characteristic of the hysteric. Such cases are to be excluded, however, by the absence from their history of convulsive and other features, motor and sensory, of the latter disease.

Although, as has been shown, a moderate proportion of patients suffering from hysteria may develop insanity, such a result cannot be considered frequent, and a contrary opinion is likely to lead to mistakes in treatment. Cases not infrequently come under the notice of the alienist in which the early symptoms having been considered as "hysterical," the precautions necessary to be taken where insanity is indicated have been neglected. This has perhaps led to the actual detriment of the patient, harm to the family and needless anxiety and expense. When, therefore, an altered disposition appears somewhat suddenly in a patient in the form of waywardness, emotional changes, apparent shamming, lack of control, and disregard of proprieties, a careful inquiry directed to the possibility of our having to deal with the prodromata of insanity should be made. For although such symptoms are prominent in hysteria, it is inaccurate and possibly harmful in the absence of any history of motor or sensory complications, to consider and treat the disorder as hysteria. We do not always bear in mind, that states of defective inhibition are common to both hysteria and insanity.

*Hypochondriasis.*—Hypochondriacal symptoms are frequent precursors of attacks of melancholia and but seldom of mania. By their occasional prominence among the countless phenomena of hysteria one is sometimes at a loss to know whether he is dealing with that disease or with hypochondriasis, but here the distinction is chiefly one of terms. The disease hypochondriasis, however, is to a great extent a distinct one, its essence being morbid sensations. It may properly be regarded in its relation to insanity as a rudimentary melancholia. While hysteria may be greatly relieved or cured, actual hypochondriasis is seldom greatly benefited. Hysteria again is a disease of the relatively young, while hypochondriasis belongs with advanced years as a rule. Hypochondriasis also is very near to insanity by inheritance far more so than hysteria. It has been classed by Dubois, Fenchersleben, Savage and others as a species of insanity itself, although the usual and best known view is that a distinction should be made between the two conditions, viz., sane hypochondriasis and hypochondriacal melancholia. The former is chiefly confined to absurd fancies by the patient as to various ailments, beliefs which do not influence his conduct, while the latter is characterized by marked depression with actual delusions regarding himself, such as transformation, decay or obstruction, etc., in some organ or organs, all of which are a perpetual source of misery to himself and annoyance to others, and render him greatly out of harmony with his surroundings.

*Chorea.*—I have stated elsewhere<sup>1</sup> the various conditions influencing the amount of mental disturbance which is present to some extent in all cases of chorea, but I cannot forbear repeating a caution which subsequent experience has emphasized:—

"Although many of the ordinary cases of chorea are attended at some stage by mental phenomena, the motor symptoms so far predominate as to completely mask them. On the other hand, in the most severe cases the mental disturbance, which is often quite pronounced, being intensified by the energetic character of the movements, is apt to mislead the practitioner, who considers the patient simply insane, and sends him to an asylum. Whereas, if the

case had been recognized at the start to be one of chorea he would hesitate to do so. The case just reported is an extreme example of this mistake and more may be found in asylum records."

Within a year following the date of this statement three cases of acute chorea in adults were admitted to the Danvers Lunatic Hospital, under the same circumstances. Should a case of this kind in a patient who could command better facilities at home be committed to an asylum under like circumstances through a mistaken view of his trouble, it might be a serious matter to all concerned.

*Delirium Tremens.*—Some of the relations of delirium tremens to insanity have a practical value to all practitioners, and will bear restating. I refer to the gradual prolongation of the delirium into acute alcoholic insanity, a result not uncommon in neurotic subjects. In such persons a much smaller amount of liquor is known to prove excessive and to produce delirium tremens. Such patients are also more likely to have an attack of mania engrafted on that of the delirium. When a case of delirium tremens does not recover in the usual time, but the patient remains apprehensive, suspicious, and it may be excited, having also pronounced delusions of persecution, etc., it is by no means necessary to send the patient, if a person of means, to an asylum. The attack of mania is usually short and the prognosis almost wholly favorable. Some of these cases of prolonged delirium tremens are also exceedingly like cases of general paralysis of the insane in the first stage. I have a case in mind where the diagnosis was for weeks impossible, although the patient was under close observation in an asylum. Tremor of the facial muscles and the tongue, unequal pupils and impaired articulation were present, together with exaltation, ideas of grandeur, disconnected talk, etc. As a rule, active maniacal symptoms developing from delirium tremens do not eventuate in the pure insanity ordinarily manifested, nor in maniacal cases of this variety is a repetition of the attack probable unless the same cause be present.

Having considered cases of structural and functional nervous disorder in the relations indicated, I pass now to a form of disease which embraces both of the foregoing, viz., *General Paralysis of the Insane*. The claims of this disease to a place among nervous disorder are acknowledged, but their force is not always appreciated. As its mental phenomena embrace all the usual forms of insanity, so also are its motor and sensory symptoms most comprehensive. This is true, not only as regards similarity in the symptoms, but also in the underlying anatomical lesions of individual nervous disorders. One who is at all familiar with this affection needs only to run over the list of nervous diseases to be satisfied of this. In short, a collection of cases of general paralysis may illustrate pathologically and clinically at some stage, almost any of the disorders of the cerebro-spinal system, structural or functional.

That there is a fundamental difference also between insanity proper and general paralysis seems now to be put beyond question by recent investigations by Professors Ball and Regis, extending over a number of years, and based upon the vital statistics of the families of 318 general paralytics. From these it appears that the disease in question is essentially different from ordinary hereditary insanity, in arising simply from an inherited tendency to cerebral congestion or a

<sup>1</sup> Notes on a Case of Chorea, etc. Boston Med. and Surg. Journal, Jan. 6, 1884, p. 79.

predisposition to coarse cerebral disease. Moreover, it is found that general paralysis and ordinary insanity are not two branches of one family, and can never give rise the one to the other.

We can now, therefore, maintain with a great degree of confidence, that children of general paralytics have no predisposition to insanity, although they are particularly liable to organic diseases of the brain, — of childhood for example, — cerebral paralysis, etc. Thus we find that an accurate knowledge of the relationship of general paralysis of the insane to true insanity is of great value to the physician whose advice is asked concerning the marriage of the offspring of such patients.

It will appear, I think, from what has now been said, that a plea for closer consideration of the mental accompaniments of the nervous disorders is justifiable. At the same time I do not overlook the fact that not only are neuroses with serious mental complications few, as compared with the myriad cases of nervous disease without such manifestations, but also that the association may in some instances be one of coincidence, the insanity occurring merely as an intercurrent and independent disease. But giving these facts their full value, it is nevertheless certain that annoying and perhaps disastrous mistakes may frequently be avoided by timely inquiry into the mental condition of many cases of nervous disease. Finally, it is probable that the clinical history of nervous disease in many of its forms will never be complete without a full consideration of its mental aspects.

## CREMATION IN ITS SANITARY ASPECTS.<sup>1</sup>

BY JOHN G. MARBLE, M.D., OF WORCESTER.

### THE TORCH VERSUS THE SPADE.

"*Vernis crepti puro consumimur igni.*"

Wise sanitation is now universally regarded as essential to the public welfare. The health and safety of the people is believed to depend quite as much upon preventive medicine as upon curative. The subject of this paper is, *par excellence*, one of preventive medicine. Advances in pathology and therapeutics have no more than kept pace during the past ten years with progress in sanitation, equally important and efficacious in the promotion of health and the saving of life.

The proper method of disposal of the dead is, I believe, one of the greatest, if indeed not the greatest sanitary problems of the day.

Mr. Eassie, Hon. Secretary of the Cremation Society of England, to whom I am indebted for many facts relating to this subject, said at a recent sanitary council, "I am in a position to guarantee facts, and having a lively acquaintance with the history of other sanitary reforms, I think it my duty to declare my opinion that the problem what to do with the dead, transcends in importance every other sanitary question."

The limited time at my disposal to-day forbids me to present to you more than a skeleton of this grave subject.

I shall, however, endeavor to demonstrate the

dangers to the living, from the prevalent custom of earth burial, and the hygienic advantages of cremation over the time-honored, but always and everywhere unsafe practice.

It is an unprofitable, as well as an impossible, task to trace back to their origin either cremation or earth burial. Inhumation had certainly not the most honest origin if, as we are told, Cain buried his brother to conceal his crime. It is a disputed point when urn-burial was first adopted even by the Greeks. The Iliad account of the funeral rites of Patroclus and Hector is, I believe, the first mention of incineration in Greek literature. Rome in her earliest history, according to Pliny, practised earth burial, yet at that early period cremation was also a custom, as stated by Ovid. During the Trojan war cremation appears to have been adopted that the remains of dead heroes might be restored to their native land. We are told that Hercules burnt the body of Argus, because thus only could he return the remains of the son to his sorrowing father.

Homer causes his dying hero, fainting at the approach of death, to say: —

"Ah, leave me not for Grecian dogs to tear!  
The common rites of sepulture bestow  
To soothe a father's and a mother's woe:  
Let their large gifts procure an urn at least  
And Hector's ashes in his country rest."

Neither is it certainly known whether incineration was originally adopted on sanitary grounds, yet it appears probable from the fact that it was generally resorted to after great battles. It is an undisputed fact, however, that in the fourth century, after Christianity became established, cremation fell into disuse, inhumation becoming thereafter the more general custom throughout Europe. Whether this was due to the fact that Christian people desired thus to distinguish themselves from the so-called heathen or pagan nations, as is claimed, or to the absurd idea that burning the body would interfere with its final resurrection, concerns us little at the present day.

The battle of the torch and spade has been waged in earnest in modern times, since the year 1873 when Professor Brunetti, at the International Exposition in Vienna, exhibited his samples of the results of a scientific cremation. Previous to that date, skirmishes had appeared at intervals with more or less influence ever since good old Sir Thomas Browne, more than two hundred years ago, wrote his excellent paper on Hydriophobia or Urn Burial. But during the past ten years an immense number of papers upon the subject have been published in every country of Europe, and more recently in this country. With few exceptions the practice of earth burial has received the condemnation of science, the world over, and in its stead cremation has been everywhere recommended as a safe, rational, and unobjectionable custom, one which would annihilate powerful sources of disease, and greatly promote the public health.

The final disposition of the dead concerns only survivors, and its importance to posterity cannot be overestimated. When the population was scarce perhaps it mattered less, but with the increasing tendency of people to congregate, the question before us now increases in importance *pari passu* with increase of population.

The question is, what ought to be done with the dead, by reasoning and intelligent men, in the nine-

<sup>1</sup> Read before the Massachusetts Medical Society, June 10, 1885, and recommended for publication by the Society.

teenth century, with their present knowledge of sanitary science. Shall we continue to bury the corpse in the earth, blindly believing that catering to sentiment will protect us from being perhaps fatally poisoned by gases rising through the soil to pollute the air we breathe, or disseminated through it to contaminate the water we drink, or shall we, like reasonable beings, after proper funeral ceremonies over the body of our dearest friend, allow it to be reduced to ashes in an hour, and thus to leave the earth no worse for having died, if possible for having lived, upon it?

From the moment that the heart ceases to beat, and the vital spark leaves an organized living body, as well of man as of the lowest animal, putrefaction begins its slow and loathsome process. It gradually passes through the successive phases of decomposition too horrible to witness or even to describe, except when necessary, until all the constituent elements are set free by a tedious and dangerous process of combustion. This process may last according to the nature of the soil for ten, twenty, or a hundred years. While this change is going on, every particle of matter around the festering body is being saturated and infected with germs of disease and death. In case death was caused by such disease as yellow fever, small-pox, or cholera, these germs are not destroyed by inhumation, as they certainly are by incineration, but are planted as it were, to sprout again with renewed virulence whenever the soil is afterward disturbed.

So long as we live the vital forces of nature are in operation. Immediately after death, however, the retrograde metamorphosis begins, which will surely render the body, perhaps now beautiful in death, a thing of horrible aversion, and unwilling disgust.

The process of decomposition, decay and putrescence goes on with varying degrees of rapidity, according to season, temperature and moisture, till it becomes a menace to the living, however reluctantly we may admit the painful fact; and the disagreeableness of a fact is no evidence that it is not true or that we can afford to ignore it.

In a paper read by Mr. Darwin before the London Geological Society, on the "Formation of Mould," that eminent scientist proved that in many fields every particle of the superficial layer of earth has passed through the intestines of worms. By observations in different fields he proved that in one case a depth of more than three inches of this worm mould had been accumulated in fifteen years, and in another, that earth worms had covered a bed of marl with their mould in eighty years to an average depth of thirteen inches. This is curiously confirmatory, says Sir Spencer Wells, of the recent conclusions of Pasteur, who, in his researches into the etiology of charbon, shows that this earth mould, brought up by worms, positively contains the specific germs which propagate the disease, and that these same organisms are found in the intestines of the worms. These parasitic organisms will resist the putrefactive process many years, and lie in a state of latent life like any flower-seed or grain of corn, ready to germinate and propagate the disease.

The practical inference in favor of cremation is so evident that the most sentimental objector, however blinded by prejudice, cannot fail so see it.

It now appears well established that zymotic diseases are propagated by germs; and if the much

abused Koch yet succeeds in proving the "comma bacillus" to be the *fons et origo* of cholera, there would seem to be hope of bringing that dreaded scourge to a period.

By burying in the ground a body dead of any zymotic disease, we are planting for our descendants, seed, sure, sooner or later, to bring forth a horrible crop of pestilence and death! This can no longer be doubted, or the fact ignored, for it is incontrovertibly established on the concurrent testimony of the highest scientific authority.

Dr. Freire, of Rio de Janeiro, while investigating the cause of yellow fever, found that the soil of cemeteries wherein the victims of that disease were buried, was alive with microbial organisms identical with those found in the vomit and blood of patients who had died of it in the hospital. He took samples of the earth, one foot below the surface, over the remains of a victim of yellow fever, and found them swarming with the characteristic germs. He is therefore justified in characterizing the cemeteries as the nurseries of yellow fever, the perennial foci of that dreaded disease.

Cholera already threatens us. In case it comes, and victims, few or many, die, shall we, in view of what has just been shown, plant their festering bodies in the earth, to come forth again in myriad forms, to breed additional pestilence, if possibly not for us, yet surely for our descendants, if the grave should ever be disturbed? There can be but one answer.

As yet there is but one known, sure, and never failing germicide—fire. No disease germ, it is safe to say, has ever passed through the crematory fires and survived to propagate its species.

History literally teems with accounts of epidemics caused by animal decomposition. The hygienic dangers of inhumation, *per se*, were recognized by the ancients, and repeatedly strenuous efforts were made to abolish the custom. Just as to-day a few oppose cremation, so the heathen were disputing a like question before the advent of Christianity. Why then call it "Christian burial" to permit bodies to putrefy in the darksome grave, and so possibly, nay probably, at some future day to generate "the pestilence that walketh in darkness and the destruction that wasteth at noonday."

The cause of the death of the renowned Hannibal is familiar to readers of history. He laid a siege to a city of Sicily, and wishing to build a wall of defence, tore down the old tombs to obtain material. The disturbing of so many dead bodies caused a terrible pestilence, which destroyed not only vast numbers of the Carthaginians but Hannibal himself also.

The sudden death of the vandals who broke open the coffin of Francis I., in the time of the French Revolution, to rob it of its treasures, is another familiar instance in proof of the lethal effect of the gases generated by corpses, and of their almost indefinite persistence.

The terrible scourge of cholera in London in 1854 was believed to have had its origin in the upturning of the earth in which the plague-stricken victims of the year 1665 had been buried; and the report of the London Board of Health for 1849 states that the cholera was specially prevalent and fatal in the vicinity of graveyards. Again, it is an established fact that the plague broke out afresh in Modena, Italy, in 1828, in consequence of excavations of the earth, where three

hundred years before the victims of that disease had been buried. Do we wonder that the sanitarians of Italy are enthusiastic advocates of cremation?

But it has been claimed that instances of disease caused by water and air vitiated by graves, are mostly of ancient origin, that they occurred before intramural interments were generally prohibited. They do still occur, however, though less frequently, thanks to the efforts of sanitarians, as can readily be shown. Dr. Santa vouches for the fact that a severe epidemic of fever was caused, but a few years ago, by drinking water poisoned by graveyard soakings in the villages of Bellita and Rotendella, Italy. More recently even the Monumental Cemetery at Milan was proved to have been the cause of severe illness in its vicinity, the wells being the channels of infection. The so-called Roman fever has usually been attributed to malaria from the Pontine marshes. No doubt they are dangerous enough and produce their share of miasm, but now come Sir Lyon Playfair and other sanitarians, contending, and reasonably, that a more probable, or at least an additional cause of the peculiar fever of the Eternal City exists in its soils and that of its environs, saturated as it has been for centuries with the decaying remains of its millions of buried dead.

In our own country, the *Atlanta Medical Journal* recently reported the case of two young ladies, who drank water from a spring situated on a hillside near an old graveyard, one of whom died soon after of diarrhoea and pyæmia, and the other of typhoid fever. Cattle also drank the water and were made sick. The fact is vouched for, that whenever cholera or yellow fever has visited New York city, it has prevailed especially in the vicinity of Trinity church-yard; and two years ago this spring, that same neighborhood suffered severely from typhoid fever when it was not prevalent in other parts of the city. Washington Square, New York city, was for a long time used as a Potter's Field. In 1806 it was converted into a public Square, and for years after, as the oldest physicians testify, it was almost impossible to rear children on the ground floors of houses in that vicinity.

When, a few years ago, the old disused cemetery in Mechanic Street, Worcester, was removed, hundreds of loads of the superfluous gravel were spread broadcast upon our streets. I feared that disease might result and was on the watch for it. I had many cases of severe sore throat, diarrhoea and fever in that locality, which I believe was caused by poisonous emanations from that saturated soil. That the city escaped an epidemic of some pestilential disease was no doubt due to the fact that probably no one there interred had died of cholera, yellow fever, or small-pox. My fears were considered unnecessary by my professional brethren at that time, but I could not reply with proof, for I was not then aware, as I now am, that a severe epidemic of fever in 1843 nearly decimated a town in England from precisely such a cause.

The monstrous delusion that the mere contact of the corpse with fresh earth renders it innocuous and suffices for safe disinfection, is dissipated by overwhelming evidence. I distinctly remember my boyish scruples concerning the water of a well situated not fifty yards from graves in the churchyard adjoining my father's garden. He overcame my fears by stating the belief then held, that the earth was a purifier and

a safe depurator, and that no harm could come to that well, thirty feet deep, the pride and unailing source of supply of the neighborhood. Yet I that same autumn suffered a severe and nearly fatal attack of typhoid fever, and another member of the family was similarly affected a year later. The fever occurred when the well was low, and I have no doubt, in the light of present knowledge of such dangers, that, repulsive as is the thought, I drank water filtered through the bones of my revered ancestors buried there, and that the polluted water caused that illness. To those who criticize the advocates of cremation, quoting ancient examples only, of harm from graves, this instance will appear sufficiently recent and intimate.

Permit me here to quote the opinions of a few men who have expressed themselves emphatically upon the evils of inhumation, and whose deliberate judgment carries conviction with it.

Dr. Parkes, one of the highest authorities in the world on hygienic subjects, declares that it is a matter of notoriety that the vicinity of graveyards is unhealthy.

Sir Henry Thompson writes, "No dead body can be left in the ground without poisoning the earth, the air and the water above and about it. Within a few weeks the decomposing corpse is predated with bacteria or microbial organisms, which together with the gases generated in the putrefactive process are struggling with each other in the foul *mélée*, each seeking to escape from its loathsome imprisonment."

Dr. Curtis, of Chicago, writing upon the evils of earth burial says, "that the dead do kill the living is only too true, and that cholera and the whole list of zymotic and infectious diseases are transmitted through the contamination of air and water supplies, is no more difficult of demonstration than it is to prove the ability of sewer gas or sewage water to propagate disease. The proximity of burial grounds to disease-infected localities is not to be explained on the theory of coincidence."

Mr. Cooper, in his work on "The Causes of Epidemics," states that the digging up of the so-called plague burying grounds in Derbyshire, England, caused an immediate outbreak of that disease, and he argues strongly that burial in the earth is always and everywhere dangerous to the living.

The French Academy of Medicine reports that the putrid emanations from Père la Chaise, Montmartre, and Montparnasse, have caused frightful diseases of the throat, fevers, and diarrhoea, to which numbers fall victims every year, and that these fatal diseases have been traced to vitiated air and water, and rage with greatest violence near cemeteries.

So great a thinker as the Earl of Beaconsfield, whose knowledge was confined to no one science, and who was ahead of his times in more respects than one, said in the House of Lords, in 1880, "What is called God's acre is not adapted to the times in which we live nor to the spirit of the age. The graveyard is an institution very prejudicial to public health, and the health of the people ought to be one of the first considerations of a statesman. The time has arrived when a safer method of disposal of the dead should be instituted." Jew or Christian, the sentiment is creditable to the memory of Disraeli.

The distinguished bishop of Manchester, referring to the consecration of a cemetery, said in the same

year, "I feel convinced that very soon we shall have to face the problem how to bury our dead out of sight with safety to the living. I hold that the earth was made for the living, not for the dead. No intelligent faith can suppose that any Christian doctrine can be affected by the manner in which, or the time in which, this mortal body crumbles into dust and sees corruption. The question must be met, for cemeteries are becoming not only a difficulty and a great expense but an actual danger."

The general consensus of opinion of sanitarians the world over, adverse to earth burial, is the surest proof that the practice is dangerous to survivors. It would almost seem that Shakespeare was inspired by a prophetic sanitary wisdom when he referred to

"The very witching time of night,  
When graveyards yawn, and hell itself breathes out  
Contagion on this world."

All the horrible results and disgusting details of poisoning from the buried dead are admitted, but it is claimed by some that they occurred in the days of intra mural internments, and that abolishing that custom terminated the danger. Nothing could be more false. Removing cemeteries to a distance only postpones the evil, and, while safer for us, entails upon those who come after us a legacy of pollution, disease germs and death, with which they will justly reproach us, and which we ought to be wise enough to prevent while we have the power. The very men who claim that earth burial is safe and that graveyards are harmless when removed to a distance, go on to recommend different methods of averting the very dangers which they claim do not exist. One advises planting groves of trees to absorb the deleterious gases, apparently aware that it is only the absorbent power of vegetation which renders the air over cemeteries at all tolerable.

Another would leave them bare that the winds of heaven may sweep over them with purifying influence. Have they forgotten that in most growing cities and towns the present suburbs will soon be built over, and that the sanitary precautions recommended in connection with burial in the earth are seldom, if ever, fully taken? Such inconsistency is inexcusable, since the weight of evidence, especially during the past ten years, shows that inhumation of dead bodies is always and everywhere perilous. To postpone or ignore the danger (excusable, perhaps, in bachelors), is unworthy of fathers of children, for the fact that the future will some day be the present, makes it the object of solicitude to all unselfish humanitarians to-day.

The greatest evil result of inhumation of the dead is undoubtedly the contamination of water.

"The rivers die into offensive pools,  
And, charged with putrid verdure, breathe a gross  
And mortal nuisance into all the air."

It was, I believe, the oft-quoted Hippocrates who first formulated the requisites of health, as "pure water, pure air, and a pure soil;" and in our day the most eminent physicians maintain that polluted drinking water is by far the most frequent cause of enteric fever and other zymotic diseases; and when we consider that three-fourths of the human body and nearly as great a proportion of all our daily food consists of water, the importance of its purity is at once realized. Yet but a few years ago when Woodworth sang,

"How sweet from the green mossy brim to receive it,  
The moss-covered bucket which hung in the well,"

the poetry was applauded, and the danger unseen. Temperance reformers complain of slow progress against the ravages of alcohol. Water has also its victims. I had almost said as many, and a part of their energies might profitably be directed as a crusade against its contamination by cesspools, drains, and cemeteries. Drains as well as drains are dangerous.

A well-recognized and, as I believe, not uncommon cause of typhoid fever is impure milk. The water for dairies appears to be of more importance than the supply of food (and I have no reference to the cupidity of the average milkman). I have personal knowledge of cases of enteric fever believed to have had their origin in milk produced by cows pastured near an old cemetery, the water which they drank being supplied by springs very near it. Thus even milk may not always be a safe beverage. The fabled founders of Rome have been considered wise in their choice of a sanitary source of supply; but even that galactophorous wolf may possibly not always have drunk from the same babbling stream with the storied lamb, but from some Roman pool of doubtful purity.

In view of what has already been shown, I venture to assert that earth burial is only an evil, and that continually. No spot of ground accessible and convenient for present use as a cemetery can be found, which will not, in the future, be liable to be needed and used as the residence of man; and the indefinite persistence of graveyard pollution has been, I hope, abundantly proved.

An old well on the old common in Worcester, which was formerly used as a cemetery, has recently been shown to be contaminated by the products of animal decomposition, no other source than the old graves being evident or probable.

Professor Pumpelly has ascertained by recent experiments that sandy soil interposes absolutely no barrier between wells and the bacterial infection from cemeteries and cesspools lying even at a considerable distance from them. Indeed he claims further, that "dry gravel and coarse sand do not prevent the entrance into houses built upon them, of those micro-organisms which swarm in the ground air, around leaky cesspools, near graveyards, and in the filthy made land of cities." Not even the filters employed in the laboratories have been quite effectual in preventing the passage of those many named microbes which are now recognized as the cause of the transmission of disease.

So well recognized is the fact of the danger of the poisoning of water by graves that laws exist in France prohibiting the opening of wells within one hundred yards of any place of burial; and in some of the German states it is forbidden by law to dig wells nearer than three hundred yards to any grave; and at a hygienic council, held some time ago in Brussels, it was decided that the safe protective distance should not be less than four hundred yards. In our country I am not aware that any such laws exist. In Philadelphia, three cemeteries estimated to contain 80,000 graves are so situated as to be liable to drain into the Schuylkill, above Fairmount dam, whence is drawn the city's water supply. The "Centennial diarrhoea," so called, had a cause other than exhaustion from too much sight seeing. Many eminent sanitarians now believe that cause was graveyard pollution of water, drunk by strangers unaccustomed to it.

It may appear that the title of this paper should

have been more appropriately "the dangers of earth burial," but I may reply that in demonstrating such universal and inevitable dangers, not only at present but for posterity, I have proved the urgent necessity for cremation, for, so far as is yet known, all other proposed or practised methods of disposal of the dead are defective and impracticable, in our country at least. They have little to recommend them anywhere. "Exposure," practised by the Parsees and other tribes of India, the body being left where it can be devoured by wild beasts or torn by birds of prey, seems cruel and barbarous, and is not even desirable in a sanitary view, for I am told by my friend, Dr. Peabody, of Worcester, who has lived in Bombay, that the vultures frequently dropped large masses of flesh where they became offensive to the inhabitants. We are hardly ready to erect "towers of silence" or to suspend our dead upon the limbs of trees to be disposed of in such a manner. The Hindoos expose their dead upon the banks of their sacred river, to be the prey of their river monsters. Burial at sea is only one form of exposure, for marine animals soon devour the corpse.

Embalming, mummifying, or desiccating, as practised by the Egyptians for ages, is disgusting, imperfect and unsatisfactory. Such effort to preserve the body is always only partial, the resulting object being horrible, ghastly and distressing to behold. The sight of such of these ancient relics as I have encountered in the Smithsonian Institution at Washington, in the Museum of the Royal College of Surgeons in London, and elsewhere, is quite enough to disenchant any one who might aspire to have his dead body set up in that odoriferous and obsolete style.

Various other methods of rendering the corpse harmless have been proposed. One believes it possible to destroy all living germs in a dead body by injecting the blood-vessels with chemical reagents known to be deadly to these organisms. He suggests one of the soluble salts of mercury as the most deadly of protoplasmic poisons. Another suggests covering the uncoiled body in the grave with quicklime to hasten the process of decomposition; but it is difficult to see how this would be any less revolting to the feelings of friends than is cremation by the present scientific and decorous method. The ancient form of cremation or fire burial, the "feiner bestattung" of the ancient Germans, and the funeral pyre of which so much is written in the classics, was disgusting and open to many of the objections now urged against earth burial. The corpse placed upon a pile of wood, the "pyra" gave forth the most nauseating smells, to counteract which expensive gums and essences were consumed with it in extravagant quantities, while with rich flames and hired tears they solemnized their obsequies.

Modern cremation is stripped of all these objectionable features. The body is totally consumed in an hour, or two at most, leaving only a few pounds of harmless residuum, and all without the least odor or offence to the most fastidious sense.

The problem is, given a dead body, sure in a few days to become dangerous to the living, how shall we dispose of it reverently and with absolute safety to survivors, both now and hereafter forever. The answer is by fire, all-purifying fire, the element which when uncontrolled is no doubt the ruthless and destroying enemy of man, but when under control is his servant and friend. Indeed "the ethereal fire has

been the most sacred symbol in nearly every varying faith of the world of the visible presence of God." The followers of Zoroaster are not the only worshippers of the sun. There are "Fire Worshipers" in our day, and their number increases as the sanitary value of fire becomes known. Fire will destroy absolutely every form of disease germ, while no degree of freezing will do so. Pork may be exposed through an arctic winter, then thawed and found to propagate the trichinosis disease. Cold does not destroy animalcula, for they abound in ice water. Heat will utterly destroy the cryptogamic spore and annihilate the mycelium, but freezing only affords them a temporary rest. All other disinfectants are feeble and ineffectual when compared with the all-purifying fire. Indeed many devastating conflagrations which in cities have been deplored as calamities have really been blessings in disguise as disinfectants and promoters of health. The great fire of London, as is well known, terminated the plague and purified that pestilential city. The ancient rabbis tell us that in times of pestilence, fires were kept burning in the valley of Tophet to consume the dead and to disinfect the air.

Scientific apparatus has now been devised capable of reducing a human body to ashes safely, quickly, and not unpleasantly. There is offered to the people a custom which will forever annihilate the dangers set forth in this essay, the contamination of earth, air and water, the liability to burial alive, the sacrilegious work of grave robbers, and much of the unnecessary expense of funerals.

Reason everywhere approves the reform, and sentiment alone opposes it. Sentiment is always to be regarded when the safety of the people is not jeopardized thereby. Otherwise it is our duty to strive to substitute for exuberance of sentiment, persuasive reason.

Let us then boldly advocate this reform, for whatever opposition we meet to-day, there can be no doubt of the favorable verdict of posterity upon our action.

That cremation has won its way so slowly until within the past ten years, only proves again how slow and difficult it ever is to stem the tide of popular prejudice and institute measures of any sanitary reform. Recently, however, the recognition of its merits has imparted to its advocacy a new impetus in all civilized countries, and while I would not mistake the crowing of the cock for the rising of the sun, I may predict that this greatest of sanitary reforms is destined to prevail in the near future.

A Fellow of this Society contributed to the Report of our State Board of Health, for the year 1875, an able paper upon "Cremation and Burial." He arrived at the conclusion that incineration of the dead was not then a sanitary necessity. This opinion was based largely upon the negative testimony of a large number of physicians in this State, who had not probably given much attention to the subject. A decade of sanitary investigation having passed, the dangers of interment having become more evident, and the scientific process of cremation having become more perfected, I doubt if he would now arrive at the same conclusion after a similar amount of research.

The only objection to cremation, founded in reason and not sentiment, is, that the practice might destroy evidence of crime. Lack of time forbids me to answer this objection *in extenso*. I may say, however, that Lucretia Borgias are extremely rare in our

day, and that even if cases of criminal poisoning and other crimes against life and health were far more common than they now are, instances of disease and death, due to the evil effects of inhumation, are believed to outnumber, by far, cases of undetected crime which could possibly be due to the adoption of incineration; and, on the principle of the greatest good to the greatest number even, the proposed reform would still be justified.

Though the sanitary is the chief argument in favor of cremation, there are other important reasons for its adoption. The genus "Jerry Cruncher" is not extinct. Remember that the remains of your dearest friend are never secure from the unholty rapacity of the grave robber. It seems almost a pity to disturb the illusive dream that cemeteries are sleeping places of the dead, as the name implies, yet it is a pathetic fact that neither the body of the pauper, buried without a tear, that of the millionaire committed to the vault with more than royal magnificence, not even that of a martyred president, placed in the tomb protected by bolts and bars, is safe from the sacrilegious hand of the resurrectionist. "Body snatching" is shockingly common.

Again, the danger of *burial alive* is not wholly chimerical. A work recently published in Italy reports sixty-five authenticated cases of burial of persons afterwards discovered to have been alive at the time. In this country we often read of persons being resuscitated from what appeared to be the sleep of death. Cremation being the practice, this inexpressibly horrible calamity would be impossible, and if by any accident a body not already dead were to be placed in the crematory furnace, death would be instantaneous and painless.

Again, should cremation become general, the *expense* of the proper and decent disposal of our dead could be greatly reduced. True, the poor as well as the rich could still, if so disposed, waste their means, or those of their friends, on splendid coffins, richly pallid, stately hearse adorned with gaudy plumes, gaily caparisoned horses, and all the superfluous paraphernalia of worldly woe, for

"The earth hath bubbles, as the water has,  
And these are of them;"

but these trappings are not necessary, and when our work on earth is done, we need not cause our friends, overwhelmed perchance by grief, to be also weighed down by debt in order to dispose of our mortal remains respectably. A showy funeral is a hollow mockery, a relic of barbarism. Pride and ostentation in the presence of the great destroyer, are painfully inappropriate. Simplicity, quiet, and decorum should here prevail. Instead we see extravagance, a noisy brass band, feathers and plumes. With cremation a part, at least, of this Vanity Fair could be abolished. A strange and holy mystery is death, and Christian people should be able to devise more modest methods of disposal for its silent victims.

However unpleasant the choice of evils, no sanitarian can hesitate between Estrina and Golgotha. "The place of a burning" or "the place of a skull" is, so far as is yet demonstrated, the inevitable alternative.

"Instead, therefore, of thrusting our loved ones who have departed this life into the gloomy grave, there to fester in both one putrefaction, and thence

to come forth in ghastly forms of dreaded disease, let us reverently, decorously, and expeditiously translate them by means of the all-purifying fire into the elements of all new and beautiful life. So shall our fair land become indeed, as it should be, the land of the living, and not the valley of the shadow of death."

#### APPENDIX. — THE MASSACHUSETTS LAW REGARDING CREMATION.

An Act authorizing the formation of Corporations for the purpose of Cremating the Bodies of the Dead.

*Be it enacted, etc., as follows:—*

SECTION 1. Any five or more persons may associate themselves together in the manner prescribed by chapter one hundred and six of the Public Statutes, with a capital of not less than six thousand, or more than fifty thousand dollars, for the purpose of providing the necessary appliances and facilities for the proper disposal by incineration of the bodies of the dead; any corporation so established shall have the same powers and privileges and be subject to the same duties, liabilities, and restrictions as other corporations established under said chapter, except as herein-after provided. The *par value* of shares in the capital stock of corporations organized under the provisions of this act shall be either ten or fifty dollars.

SECT. 2. Every such corporation may acquire by gift, devise or purchase, and hold in fee simple so much real estate not exceeding in value fifty thousand dollars, as may be necessary for carrying out the objects connected with and appropriate to the purposes of said corporation, and situated in such place as the State Board of Health, Lunacy, and Charity may determine to be suitable for said objects and purposes. No building shall be erected, occupied or used by such corporation until the location and plans thereof, with all details of construction, have been submitted to and approved by said board or some person designated by it to examine them.

SECT. 3. Every such corporation may make by-laws and regulations consistent with law and subject to the approval of said state board, for the reception and cremation of bodies of deceased persons, and for the disposition of the ashes remaining therefrom, and shall carry on all its business in accordance with such regulations as said board shall from time to time establish and furnish in writing to the clerk of the corporation, and for each violation of said regulations it shall forfeit not less than twenty nor more than five hundred dollars.

SECT. 4. No body of a deceased person shall be cremated within forty-eight hours after decease, unless death was occasioned by contagious or infectious disease; and no body shall be received or cremated by said corporation until its officers have received the certificate or burial permit required by law before burial, together with a certificate from the medical examiner of the district within which the death occurred, that he has viewed the body and made personal inquiry into the cause and manner of death, and is of opinion that no further examination nor judicial inquiry concerning the same is necessary. For such view, inquiry and certificate he shall receive the fees prescribed by section nine of chapter twenty-six of the Public Statutes for a view without an autopsy by examiners in counties other than Suffolk County. Medical examiners within their respective districts

shall make such view and inquiry upon application therefor and payment or tender of said fees.

SECT. 5. This act shall take effect upon its passage.

Approved, May 26, 1885.

## Reports of Societies.

### THE AMERICAN OPHTHALMOLOGICAL SOCIETY.<sup>1</sup>

THURSDAY MORNING. — PNEUMOPHTHALMOS: OR AIR IN THE VITREOUS HUMOR.

By DR. W. F. MITTENDORF, of New York.

The entrance of air into the interior of the eye will occur at times during an operation, as, for instance, a cataract extraction. In such cases the air may get into the anterior chamber, whence it can be removed with ease. It is, however, entirely different when air gets into the vitreous chamber. Fortunately, this accident is of such rare occurrence that so far no description of it has been given. The writer had seen two cases of this kind within the last two years. Both occurred in connection with injuries caused by the entrance of foreign bodies into the interior of the eye. Such accidents are usually so serious that any complication of them becomes a matter of great interest. The first case was that of a young blacksmith who was wounded by a piece of iron penetrating the sclera and lodging in the vitreous humor. The foreign body, surrounded by a clot of blood, was found at the bottom of the eye. Behind the lens and a little above it, three air-bubbles were seen by means of the ophthalmoscope. These appeared to be of the size of a small pea, the smallest about as large as a rape-seed. They closely resembled the air-bubble as seen under the microscope, their centres being bright and the outlines well defined and surrounded by a sharp, black border. Their recognition was not difficult. The foreign body could not be removed with the magnet, and it was decided to allow it to remain. The eye was carefully bandaged, and the day following it was found that the air-bubbles had united and were located at the posterior pole of the lens, the patient having remained quietly on his back some time before the examination. While he was in the upright position the air began to rise slowly until it reached the upper part of the vitreous chamber. During this trip the bubble looked oval and decidedly pointed at its lower portion, resembling oil globules as they are seen ascending in water. Forty-eight hours after the accident every trace of the air-bubbles had disappeared.

The second case reported was the result of a drilling accident. A pretty large piece of stone or iron had perforated the sclera at the lower and outer part of the eye. In the semi-transparent vitreous an air-bubble of the size of a hempseed could be seen distinctly.

In order to determine the exact appearance of air in the vitreous, the writer experimented upon rabbits' eyes. Four of them had air introduced into the vitreous humor by means of a hypodermic syringe, and four were subjected to the introduction of oil, also by means of the hypodermic syringe. Nearly all these experiments were successful. The difference between the air and the oil bubble was so marked that they could

be readily diagnosticated by means of the ophthalmoscope. The latter were more highly refractive, heavier in appearance, and the contour decidedly darker than the air-bubbles, which were entirely colorless.

The conclusions reached by the author were as follows:—

(1) The entrance of air into the vitreous body can occur only after a part of the contents of the vitreous chamber has escaped.

(2) It is favored by the entrance of a foreign body which makes a large gaping, irregular wound of the sclera.

(3) In order to allow air to enter the vitreous humor, this must either be quite fluid or its anatomical arrangement must have been disturbed by the entrance of a foreign body, or the air must have been attached to the foreign body and be thus carried with it into the eye.

(4) The air in the vitreous humor appears like an air-bubble as seen under the microscope; it is more or less round, highly refractive in the centre, and has a sharply defined black outline.

(5) Oil globules in the vitreous present a similar appearance, but they look heavier, are not perfectly colorless, and their outlines are darker; they are more glittering in the centre.

(6) Air-bubbles will be completely absorbed within two or three days; their presence is not a source of great danger to the eye. Oil globules last longer, but they are likewise non-irritating.

### A CASE OF TUBERCLE OF THE IRIS.

By MYLES STANDISH, M.D., of Boston.

The patient was a girl fourteen years of age; both parents were living and had never presented any evidences of syphilitic or tuberculous disease. Two brothers and one sister, all younger than the patient, are living and well. There is absolutely nothing of a specific character in the history of the patient or her brothers and sister. During the past winter she was confined to bed with intense pain in the epigastrium, and acute hepatic ascitis was the diagnosis reached by the family physician. No pulmonary lesion was detected.

At the time she came under observation of the speaker, she complained of feeling run down and was anemic and poorly developed. The eye trouble had existed for four weeks. There had not been much pain or photophobia.

Examination of the eye showed the iris attached by its pupillary margin to the capsule of the lens, somewhat atrophied in appearance. On it there was a growth, 2 mm. in diameter, pink in color, with small vessels on its surface. The growth projected from the iris near its ciliary border. Various mydriatics were employed without any effect upon the pupil.

In the course of a month the growth had doubled its size, the conjunctiva and iris remaining perfectly clear. Other growths made their appearance, and after consultation with Dr. Wadsworth, the eye was removed at the Massachusetts General Hospital.

Examination after emulsion showed the vitreous retina, and choroid to be normal. The lens was somewhat opaque. The iris was very adherent to the capsule of the lens along its pupillary border, and also beneath the entire area of the principal growth. The largest mass sprang from the surface of the iris near its ciliary border, and at its base was 2.5 mm. in diameter.

<sup>1</sup> Continued from page 107

and was 2 mm. in height. At the top its diameter was 4 mm. This was apparently due to the pressure of the growth against the cornea. There were three other growths, but none of them involved the ciliary body or even the ciliary border of the iris. Dr. Ernst, of Boston, made the microscopical examination. The ordinary evidences of tubercle were found and the bacillus tuberculosis was detected.

Dr. KNAPP had seen growths presenting exactly the same appearance which had disappeared under the use of specific treatment with mercury even where there was no evidence of syphilis. He had never felt warranted in making the diagnosis of tubercle in such cases, although the presence of the tubercle bacilli in this case would seem to confirm the diagnosis.

#### A CASE OF CONGENITAL COLOBOMA OF THE IRIS, CHOROID, ETC.,

was reported by Dr. C. J. KIPP, of Newark.

The patient was a woman sixty-nine years of age. She was first seen four years ago. There were at that time no inflammatory symptoms, but a small triangular coloboma of the iris was found exactly in the vertical meridian. The tension was above normal. The patient had never seen with this eye, but it had never given pain. Four years later the patient was again seen, and the eye presented the signs of inflammatory glaucoma; the pain had prevented sleep for many weeks. The eye was enucleated and healed promptly. There was also found a large ectasia of the sclerotic, and over this the choroid and retina were wanting. The ectasia extended close to the optic papule. There was also a deep kettle-shaped excavation of the optic nerve.

#### COLOBOMA OF THE CHOROID ON THE TEMPORAL SIDE.

By Dr. S. D. RISLEY, of Philadelphia.

A young physician consulted Dr. Risley for asthenopia. There was a considerable degree of myopia in the left eye. In the right eye vision was much diminished =  $\frac{2}{8}$ . The ophthalmoscope showed a large hiatus in the choroid on the temporal side, the depth of which was 3 d. There had been no pain. The speaker thought that these cases were comparatively rare.

Dr. MITTENDORF had seen several of these excavations in the outward direction. Where the coloboma was so deep it was, he thought, probably a coloboma of the optic nerve sheath with excavation of the nerve. A difference of 1 d. would indicate a greater defect than would correspond to absence of choroid and retina alone.

#### SEROUS EFFUSION IN THE VITREOUS DUE TO MALARIA.

By Dr. W. W. SEELY, of Cincinnati.

The speaker considered the occurrence of this complication not infrequent, and he reported one case of this affection.

#### GRAY DEGENERATION OF THE OPTIC NERVE, WITH ABNORMAL PATELLA REFLEX.

By Dr. WM. F. NORRIS.

After an elaborate review of the literature of the subject the speaker gave the results of his observations in cases in which the patella reflex was increased or diminished. He described three cases of gray degeneration associated with *tubercle dorsalis*, which had come

under his observation. While he did not hold that this symptom indicated beginning *tubercle dorsalis*, yet it was a danger-signal calling for rest of the brain and cord, with attention to improvement of the general condition.

#### A CASE OF DOUBLE OPTIC NEURITIS AND OPHTHALMO- MOTILEGIA FROM LEAD-POISONING COMPLICATED WITH TYPHOID FEVER.

By Dr. O. F. WADSWORTH, of Boston.

A boy of nine years of age had suffered from obscure febrile symptoms for several weeks, and movements of the left eye had been observed to be imperfect. When first seen by Dr. Wadsworth there was pronounced optic neuritis in both eyes. The rest of the fundus normal; vision was much diminished; no lateral movements of left eye could be made, and movement downward was impaired. The outward movement of right eye was defective. The probable diagnosis was tumor in the region of the pons.

The movements of the eyes became still more impaired and vision sank. The boy developed pretty distinct symptoms of typhoid fever; the spleen and liver were both enlarged; lead was found in the urine, and the diagnosis of tumor was then abandoned. The treatment was with iodide of potassium. The general condition gradually improved; the neuritis passed into atrophy, leaving too little vision to count fingers. The movements of the eyes were completely restored, and the lead disappeared from the urine. The cause of the lead-poisoning was found to be the presence of a piece of lead pipe in the cistern from which the drinking-water was obtained.

#### OLIVE OIL AS A MENSTRUUM FOR DISSOLVING COCA- INE FOR APPLICATION TO THE EYE.

By Dr. JOSEPH A. ANDREWS, of New York.

In addition to the occasional benefit from the use of oil dropped into the eye in recent abrasions from burns and in other painful affections of the cornea in which atropia is indicated, cocaine may likewise be serviceable. The plan of dissolving the cocaine in oil seems to insure a longer contact of the remedy, and a smaller quantity is required to effect anesthesia, — two qualities of especial advantage in operations on the eye.

Neither the salt of cocaine nor of atropia is soluble in olive oil, but the alkaloid of both dissolves readily in the menstruum without the addition of an acid, it being only necessary to expose the solution for a few minutes to a gentle heat in a water bath. Castor oil is not a desirable menstruum on account of its irritating qualities, and the oleate of cocaine, for the same reason, is still more objectionable as an application to the eye.

A case in which enucleation of the eye for glaucoma had precipitated glaucoma in the other eye was reported by Dr. DAVID WEBSTER, of New York. The patient was a man of fifty-four, the subject of glaucoma absolutum. He complained of periodical obscurations of vision in the good eye.  $V = \frac{2}{16}$ , and there was no limitation of the visual field. As he was of dissipated habits he was advised to live properly. A week or two later, returned, stating that he had a worse attack. There was an excavation of the nerve in the good eye detected. The glaucomatous eye was now removed. Two days later acute glaucoma appeared. An iridectomy was performed, and he recovered in a week or two with  $V = \frac{20}{20}$ , with no cupping of the disk and

no limitation of the field. This was the only case he knew of in which enucleation had precipitated an attack of acute glaucoma in an eye already predisposed to it. He had, however, reported cases in which iridectomy had produced the same effect.

#### QUININE AMAUROSIS.

By DR. E. WILLIAMS, of Cincinnati.

The speaker reported two cases. In the first case a man took about one ounce in the course of four days. This produced total blindness and deafness, but in six days he could see as well as ever. The hearing had never completely returned, although the quinine was taken eight years ago. The field of vision was concentrically contracted in both eyes. The optic disks were very white, the calibre of the arteries and veins was reduced, and the smaller capillaries could not be seen.

The second case was that of a boy of fourteen, who had received large doses of quinine, the exact amount not being known. He was totally blind for four days. When examined the sight was much diminished, the atrophy of the optic disks was extreme, and there was great contraction of the field of vision.

#### A MEANS OF MEASUREMENT OF THE AMOUNT OF ANÆSTHESIA FROM COCAINE.

By DR. LUCIEN HOWE, of Buffalo.

The speaker exhibited a drawing of a kymograph which he had used for this purpose. The use of the instrument was based on the fact that irritation of a sensory nerve is followed by a rise of blood pressure. The instrument is connected with an artery, and the conjunctiva is irritated. Cocaine may then be applied, and the results on the blood-pressure compared.

DR. HARLAN, of Philadelphia, presented a modified ophthalmoscope which had been devised by Dr. Jackson, of Philadelphia. In it the lenses moved vertically instead of circularly.

DR. DENNET, of New York, exhibited an arrangement for using Stokes's lens for measuring astigmatism and to avoid the inconvenience of constantly removing the frame from the patient's nose. The lens was mounted on a stand, and could thus be placed in front of the patient.

DR. B. JOY JEFFRIES, of Boston, offered the following resolution concerning

#### STANDARD COLOR SIGNALS.

which was unanimously adopted:

*Resolved*, That the Society would again express most hearty approval of the International Commission, twice recommended in a bill reported by the Naval Committee of Congress, and endorsed by the International Medical Congress of London, 1881; to consider and agree upon standard colored lights and signals, etc.; and the visual power and color sense of officers and sailors.

The Society would particularly support the International Commission, and vote that "every government, especially the maritime governments, should be requested to place one or more members on the Commission, and chiefly experienced naval officers and medical specialists."

The Secretary is hereby directed to transmit this vote to Congress.

DR. SAMUEL THEOBALD, of Baltimore, offered the following resolution concerning the

#### NEW ORGANIZATION OF THE INTERNATIONAL CONGRESS.

*Resolved*, That it is the sense of the American Ophthalmological Society, that the action of the American Medical Association, at its late meeting in New Orleans, and of the enlarged committee appointed at that time to make arrangements for the International Medical Congress, in overturning much of the carefully planned work of the original committee appointed at Washington, for the same purpose, was unwise, and not to be defended, unless, possibly, upon technical grounds; and this Society hopes that none of its members will endorse the action of the enlarged committee by accepting official positions at its hands.

DR. E. WILLIAMS, of Cincinnati, voted against the measure. He understood that he was appointed by the new committee president of the Ophthalmological Section, but up to the present time he had not been notified, and hence had not yet tendered his resignation.

DR. KIPP spoke against the resolution.

The resolution was adopted by a large majority.

The officers for the ensuing year are as follows: President, Dr. William F. Norris, of Philadelphia. Vice-president, Dr. Hasket Derby, of Boston. Secretary and Treasurer, Dr. O. F. Wadsworth, of Boston. Corresponding Secretary, Dr. J. G. Prout, of Brooklyn.

New members were elected as follows: Dr. Charles A. Oliver, of Philadelphia; Dr. Edward Jackson, of Philadelphia; Dr. B. Alexander Randall, of Philadelphia; Dr. D. Pope Walker, of New York; Dr. William O. Moore, of New York; Dr. Frank Capron, of Providence; Dr. S. M. Burnett, of Washington; Dr. William T. Bacon, of Hartford.

The next meeting will be held at New London, the third Wednesday in July, 1886.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting June 4, 1885.

#### CONTAGIOUS OPHTHALMIA IN SOME OF THE ORPHAN ASYLUMS AND RESIDENTIAL SCHOOLS OF NEW YORK CITY.

DR. RICHARD H. DERRY read a paper on this subject, which gave the results of his personal examinations of the eyes of the children in twenty-four of these institutions. Any inmate of them, he said, was far more liable to lose his sight from this disease than to lose his life from scarlet fever or other zymotic affection. The disease, however, he believed to be amenable to treatment, and it seemed to him inexcusable on the part of both the profession and the public to longer neglect to put a stop to its ravages, in view of its wide extent and constantly increasing prevalence. This affection was a hemorrhagic conjunctivitis, the secretions in which are highly contagious; the infection being perhaps most frequently communicated by children using the same towels and washing in the same water. In serious cases the cornea and almost all the structures of the eye became involved.

In the first asylum which he visited, out of 326 boys, 96 were affected by the disease, and out of 331 girls, 65, or 24.5 per cent altogether. In the second visited institution, out of 1,586 children, there were 488 cases, or 30.7 per cent; while in the third there were no less than 93 cases out of 188, making the

enormous percentage of 49.4. The total number of children examined was 7,440, and the total number of cases of contagious eye-disease found, 1,428, or 19.19 per cent. When the disease became usually bad in any of these institutions, it was the common practice to send the children to their tenement-house homes; but this was a serious mistake, as either the treatment was apt to be entirely neglected there or else it put too much of a burden upon their over-taxed parents or friends, while each became a focus for the dissemination of the affection through the community at large.

In concluding his report, Dr. Derby made several suggestions, as follows: That all asylums or residential schools should be required by law to adopt the most stringent rules for the prevention of contagious eye-disease, in regard to towels, washing in common, etc.; that they should be required to present to the Board of Health at certain specified intervals a statement of the number of existing cases; that they should be required to separate all those suffering from it from the other inmates; that they should be required to provide adequate treatment, not merely local, but hygienic and general, in every case; and that they should be required to adopt the same precautions to prevent the spread of the disease as are commonly employed in the case of scarlet fever, diphtheria, etc. It was evident, he said, on account of the present enormous extent to which the disease prevailed in these institutions, that it seemed to him that a special hospital — which there are already more than enough cases to fill — was needed for the successful treatment of such a dangerous affection. In view of these circumstances, therefore, he called upon the Academy of Medicine to take some definite action toward the suppression of this crying evil.

#### DISCUSSION.

Dr. H. KNAPP said that he could not conscientiously underrate the importance and force of the statements made by Dr. Derby. Sometimes the disease in question prevailed to such an alarming extent that the managers of institutions were obliged to close them entirely for a time and turn the inmates out. Unfortunately, however, when this was done, the affected children were often the means of spreading the disease more or less widely through the community. Some of the asylums and schools, he knew, took the most active measures to stamp out the disease among their inmates; but it was a fact that, when they had once been invaded by it, a certain number of cases were almost sure to be found in them, all the time. He therefore doubted whether the disease was in reality altogether preventable. He felt sure, however, that those in charge of some of the institutions did what they could to put it under control. The managers of two of them, which he mentioned by name, invariably sent to him (Dr. Knapp) every candidate for admission so that he might examine the condition of the child's eyes before it was permitted to enter. He thought that Dr. Derby's suggestion that a certain supervision should be maintained over the eyes of the children in all these institutions a most excellent one, and if from time to time careful inspections were made by competent physicians, and the report of the results of the same transmitted to the proper authorities, he believed that large epidemics at least of contagious ophthalmia would in the future be avoided.

Dr. ROOSA said that he did not consider the authorities of the institutions altogether to blame for the existing state of affairs, but thought that the Board of Health was responsible to a large extent. The public interest that he excited in this matter of eye-disease in children had, however, he believed, already borne considerable fruit. Still, much, of course, remained to be done. The remedy for the evil was at hand, and to be obtained with perfect ease. The taxpayers of the city should be made to pay for the establishment and support of such a special hospital as Dr. Derby had suggested. The cost to the State of men with poor eyes, or altogether blind, was a very serious matter, and the reduction of the pauper class was certainly important enough to engage the attention of the politicophilanthropist. The Board of Health, he thought, should at once take measures for the establishment of such a hospital.

Dr. AGNEW said that his interest in the subject of contagious ophthalmia began nearly thirty years ago in Ireland, where, in connection with the famine, the disease developed in the poorhouses and other public institutions. At that time he saw an immense number of lids there, and from this stock, he said, the United States had been receiving fresh importations ever since. He had hoped that in the State of New York he would never be called upon to witness such scenes as he had in some of our institutions. He then gave an account of an attempt to develop an orphan asylum in a neighboring county, where the available funds were entirely inadequate for the purpose. In a building which was totally unfit for this use nearly three hundred children were packed, a much larger number than it could properly accommodate. The hygienic conditions were thus very poor, and contagious ophthalmia soon broke out. The children all washed in a trough sixteen feet long, and by this means the disease was communicated to eight tenths of those who came in from outside. What made the disease all the worse was the fact that in the infirmary the children had to sleep two or three in a bed. There was a gentleman now present at the Academy who had taken charge of the children at that time, and who had brought about a complete revolution. He turned all the children out of doors into two large circus tents, and instead of keeping them upon ten or fifteen quarts of milk a day, as had previously been done, he allowed them to have four hundred quarts. This was a fair type of a considerable number of institutions which were all the time taking children for whom they were altogether unable to suitably provide; and he thought, therefore, that a thorough system of inspection should be established in all these schools and asylums. He did not like the idea of entrusting such a matter to the State; but there was no limit to individualism and the power of voluntary efforts.

It seemed evident to him, then, that there was need of some legislation in the matter. He believed in agitation of a subject, and it was his opinion that by judicious efforts on the part of those specially interested the public mind could soon be brought to realize the necessity for the adoption of active measures for repressing the evil. A few years ago the vile condition of the vessels bringing immigrants to our shores was such that ship-fever was of constant occurrence; the passengers being subjected to as much overcrowding and bad treatment generally as the negroes in the slave-ships. This state of affairs continued until pub-

lie opinion became roused to a sufficient extent to cause the adoption and enforcement of three wise and beneficial rules which now invariably regulate the carrying of steerage-passengers. He thought that before an institution for the care of children should be allowed to have a corporate existence, it should deposit with the proper authorities a certificate specifying the number of inmates which it could suitably accommodate, and that it should never be permitted, under any circumstances, to receive more than this number. The State Board of Charities, he believed, ought to take some action in regard to this important matter. The managers of the various institutions were almost, without exception, disposed to do what was right. They are perfectly willing to act for the best interests of the children committed to their charge, but were ignorant of the proper methods to pursue. It was indeed terrifying to think of making six or seven hundred paupers in the residential schools of New York, and it is high time that something was being done to put a stop to the existing state of affairs. It was his opinion that the vast number of children who contracted chronic conjunctivitis in these institutions never recovered from it, and in after life they constituted an immense body of drifting, despairing sufferers, in many instances wandering aimlessly about from one dispensary to another. A few years ago it used to be the boast of Fourth-of-July orators that there were no indigenous paupers in this country; but now all this was changed, and at present there was unquestionably a large amount of indigenous pauperism here.

After remarks by Mr. Elbridge T. Gerry, President of the Society for the Prevention of Cruelty to Children, and Dr. J. J. Milhan, of the State Board of Charities, the President, Dr. Jacobi, said that in his opinion this disease could never be eradicated as long as an institution in which an outbreak of it occurred remained on the same spot and continued to have inmates. Outbreaks of ophthalmia were liable to occur, notwithstanding all the measures which might be adopted to prevent them, just as scarlet fever or measles was liable to break out among the children in these institutions, which were designed and expected to do good, but which in reality accomplished a great deal of harm. Measles, as it generally appeared in private families, was a mild disease; but in public institutions it was often very fatal. We believe it would be very much better if children were left in the tenement-houses than entrusted to the care of institutions. These institutions were always over-crowded, and whenever a disease like measles or whooping-cough broke out among the inmates, the results were apt to be very serious. Whooping-cough, like measles, was not under ordinary circumstances a very grave affection, but among children thus crowded together it often proved fatal; and when this was not the case, was likely to be followed by disastrous consequences. Very frequently phthisis, for instance, was the result of whooping-cough or measles contracted in early life in these institutions. If, therefore, the object contemplated by the present agitation were simply to add another to our already numerous hospitals, he did not think much good would be accomplished by it. In such an institution for the treatment of contagious eye-diseases he could not doubt that many cases which were mild when admitted would assume a severe type, and that the danger would be increased rather than

diminished, by placing children in it. The question had already come up all over Europe, and was now coming up here, whether these institutions for children ought to be multiplied at all; and for his part he felt convinced that it would be a benefit to the community if these public institutions were done away with altogether. If the same money now expended for the erection and maintenance of splendid buildings, and the same care now bestowed upon their management, were given to farming the children out in a suitable manner, he believed that we should be much better off. There would be more children alive, and fewer blind ones than we have at present.

Dr. MITTENDORF said that there were two points which the public did not understand, namely, that the disease in question was extremely contagious, and that when it had once made its appearance in an institution it could not be eradicated. He agreed with Dr. Jacobi as to the evils associated with public institutions. In the country branches of the New York Infant Asylum and of the Nursery and Child's Hospital the plan had been adopted of placing a few children in separate cottages, and the results had been much better than when a large number of them were crowded together. The best plan at present seemed, therefore, to have a number of small buildings and to place as few children as possible in each one. When contagious ophthalmia broke out in an institution, he thought that the patients should be kept in it, but strictly isolated. It was unadvisable to send them to a general eye-hospital, for the reason that the disease was likely to spread to other patients, and in an institution where delicate operations were constantly being performed this could be followed by serious consequences.

Dr. AGNEW then presented resolutions setting forth that it was necessary and expedient that steps should be taken to put a stop to the contagious eye disease prevalent in the asylums and residential schools of the city, and requesting the Council of the Academy of Medicine to act in connection with the author of this paper, the State Board of Charities, the Society for the Prevention of Cruelty to Children, and other charitable organizations in appointing a joint committee to devise a suitable plan for the accomplishment of the desired object.

In seconding the resolutions, Dr. ROOSA said that it was necessary to take things as they are, and not as they might be under a Utopian state of affairs. In his opinion the disease could be successfully stamped out, and he thought this could most easily be accomplished by means of a special hospital, as had been proposed. Such a hospital need not be a permanent institution but only a temporary agency.

— Dr. Edson, as surgeon of the First Division of the National Guard, is organizing an ambulance corps for service on the day of General Grant's funeral, and if the weather should prove hot the probabilities are that there will be plenty of work for it to do. The extremely long march (about eight and a half miles) from City Hall to Claremont, the place of interment, under the blaze of an August sun, would seem to be attended with no little hazard to those participating in the procession.

— Professor Merkel, of Königsberg, has been called to the chair at Göttingen, formerly held by Prof. Heule.

# Medical and Surgical Journal.

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## RHEUMATISMS AND PSEUDO RHEUMATISMS.

THE ancients employed the word "rheumatism" (from *rho*, to flow), to indicate diseases in which, according to the humoral theories prevalent, the phlegm, elaborated by the brain, *flowed out* through some of the natural outlets of the body; "*rheuma*" was synonymous with catarrh or fluxion. The word never was used to designate the familiar disease with which it is now associated.

By Hippocrates, Galen, Paulus Ægineta, and their successors, rheumatism and gout were confounded under the one name "arthritis." Neither the chronic deforming variety, now known as nodular rheumatism, nor even acute articular rheumatism was differentiated from gout; with which both seemed to be identified by the general symptomatology and anatomical lesions. The distinction between *arthritis deformans* and *gout* was first clearly formulated by Landré Beauvais, in the year 1800, and since then clinical observations have everywhere established the differential characters.

Ballonius (Fr. Baillon) was the first to employ the word "*rheumatism*" to denote vague pains in external parts, that is, joints and muscles, and to distinguish them from gout with which they had previously been confounded, and Sydenham drew the line between gout and rheumatism more sharply still by calling the former disease "*podagra*."<sup>1</sup>

Gout being excepted, rheumatism became the equivalent of all painful affections of the external parts; these were early distinguished as acute and chronic.

Etiologically, rheumatic diseases were long distinguished as diseases due to cold — diseases à *frigore*. Hence the term rheumatism came to be applied to all diseases so originating, and soon a whole group of phlegmasias, of which cold appeared to be the exciting cause, was enrolled in the class of rheumatisms; there were rheumatic pleurisies, pneumonias and meningites, as there were rheumatic neuralgias and arthralgias due to exposure to cold.

So incongruous and heterogeneous an assemblage of morbid entities could not long be held together by one frail etiological thread, and the domain of rheumatism

became very much restricted when the pathological anastomosis removed from it the interal phlegmasias constituting of them essential diseases, and the term was again narrowed to include only morbid states of the external parts; and even here, as Bouchard has shown, the separation of certain synovites, myosites, periostites, left to be included under the head of rheumatism, only certain painful affections of the joints, muscles, aponeurosis and nerves which pathological anatomy was incapable of classifying.

But while pathological anatomy is competent in very many instances to tell what is not rheumatism, it is clear that it has no constant criterion by which it may decide what rheumatism is. Here the criterion must still be sought in clinical experience.

Clinically there is a symptomatic aggregate, familiar to all physicians, sufficiently well defined to constitute a morbid species or type; we allude to acute rheumatism of the joints, or, in more precise language, acute primary febrile polyarthritis. This disease has a definite evolution; is of marked febrile character, though the fever runs no typical course; is multiple and erratic in its joint affections; has certain frequent — especially endocardial and pericardial — visceral complications; the inflammatory swellings accompanying it are of the nature of fluxions, that is, have no tendency to organization or suppuration; it is peculiarly amenable to treatment by certain remedies, as salicylate of sodium (*naturum morborum curationes ostendunt*); it is liable to recurrence; it is especially prone to attack youth and early manhood, and to manifest itself after sudden cooling of the body when heated by exertion. Moreover, the malady is of a diathetic character, and has a wide range of morbid affinities. Bouchard, in his remarkable treatise,<sup>2</sup> has shown the bonds of parentage which acute rheumatism has with gout, diabetes, biliary lithiasis, essential asthma, migraine, etc., diseases which he ascribes to retardation of nutrition.

In attributing rheumatism, however, to imperfection and slowing of the nutritive processes, and assigning it a common origin with numerous other dissimilar affections, and even obesity, Bouchard has left the question of pathogeny in great vagueness and uncertainty. We know not what is this specific vice of nutrition, we lack a criterium. To explain the proximate cause, various theories have been proposed; these may be reduced to four: the embolic, parasitic, neurotrophic, and humoral theories.

The first, or embolic theory, has been maintained by Pfeufer, Hueter, and Htop, and presupposes an antecedent endocarditis and the transportation from the diseased valves of minute embolic particles, which obstruct the blood vessels of the affected joint and cause exudation and swelling. This theory is too improbable — not to say inherently absurd — to find many adherents.

The second, or parasitic theory, supported by Klebs, is a modification of the other. Here the emboli are

<sup>1</sup> Senator in Ziegensohn.

<sup>2</sup> "Maladies par retardissement de la nutrition," Paris, 1882.

not debris from the heart, but are constituted of "figured ferments," micrococci or monads, which get access to the blood through the dilated orifices of the skin, and stuff and obstruct the capillaries of the morbid part. This theory is equally untenable from the present standpoint of medical science. If it should be hereafter proved (which is highly improbable) that rheumatism is an infectious (microbiotic) disease, the finding of the specific bacterium would furnish the missing criterion—would accomplish for rheumatism what Koch's bacillus has done for tuberculosis.

The neurotrophic doctrine is based on the production of arthritides under the influence of lesions of the nervous system. According to this theory, cold acts on the nervous centres and determines modifications in the trophic centres which preside over the joints. We owe to Charcot the first description of the joint diseases which occur in connection with locomotor ataxia. Many years ago a neurotic theory of rheumatism was propounded by the late Professor Mitchell, of Jefferson College, Philadelphia, as Bartholow has recently shown, who ably advocates this theory.

The chemical, or humoral theory refers the joint troubles and constitutional disturbances to an alteration of the fluids of the economy. It is known that the blood of rheumatic fever patients is highly charged with acid, and numerous pathologists, Prout, Fuller, Richardson, Todd, etc., have given cogent reasons for the belief that the peccant matter is lactic acid. There is no doubt that experiments on animals and clinical facts have given support to this view, which, however, still lacks sufficient substantiation. It is probable that the true explanation will yet be found in a combination of the neurotrophic and chemical theories.

The subject of pseudo-rheumatism is one of great interest, but must be reserved for future consideration.

#### AN AMBULANCE CORPS.

THE encampment of the second brigade of Massachusetts militia was made noticeable by the presence of an ambulance corps. The bill which authorized its formation was passed late in the last session of the State legislature, and the appearance of the corps on the field shows great promptness of action on the part of the Surgeon General. Hastily enlisted and brought together for the first time on the camp ground, it would be hardly fair to criticise its action; but even without making such allowances as might justly be claimed, its appearance on the last day of the encampment was highly creditable. It was evidently composed of first-rate material, and its *personnel*—as a matter of fact, it was made up largely of medical students—shows that an interest is taken in the matter by a class of young men who are sure to do good work.

Every day furnished an opportunity for the corps to illustrate its usefulness. The extreme heat of the encampment week was very trying to the men of the brigade. We strongly suspect that errors of diet aided the effects of the sun in some of the men who

succumbed—and though at the camp-ground itself there were no serious cases of sun-stroke, there were several instances of men who were obliged to leave the ranks, and at least one slight accident. All such cases were promptly taken in charge by the ambulance corps and conveyed either to the hospital or to their tents. The march in the city at the close of the encampment was attended by a larger number of cases of prostration from heat than the corps could deal with, but their efficiency on the occasion more than justified their existence.

The men of the corps were armed with stretchers, of which the poles were jointed in the middle. Each man bore one pole, the two pieces and the iron rod which serves to separate the poles being enclosed in a long and tightly fitting canvas sack, and in addition, a haversack which contained one-half of the canvas covering of the stretchers, and various surgical dressings, so that two men carried the complete equipment. The poles in their canvas coverings were borne much after the fashion of a musket, and the appearance of the white canvas against the dark blue of the regulation uniform was very neat and attractive. The Geneva cross on the arm served to distinguish the men when without their equipments. No canteens were furnished this year, which would be a serious omission in an active campaign, but their absence was not an unmixed evil in the present instance.

In addition to the elementary drill of the soldier and the use of their stretchers, the men were exercised in the temporary dressing of fractures with such accidental material as the camp-ground afforded. It seemed to some of the spectators that the time occupied in adjusting the stretchers was longer than ought to be required. Even a few seconds' delay in caring for a wounded man seems long to the bystanders, and if such a criticism was really deserved, further experience in the men and sufficient use of the stretchers to wear off their newness, will obviate the fault. Possibly a stretcher might be devised which would require less time in putting together, though doubtless the subject was well considered before the present form was adopted.

The JOURNAL gave some months ago the reasons why the creation of such a corps was desirable. We believe its usefulness will justify its existence, and that other States will speedily follow the example of Massachusetts. We are especially pleased to know that an ambulance corps is to attend the long march of General Grant's funeral escort.

#### THE DISCLOSURES CONCERNING PROSTITUTION IN LONDON.

WE confess to having entertained a feeling of strong prejudice against the method adopted by the *Pall Mall Gazette* for influencing the action of the British Parliament upon the Criminal Law Amendment, but conversation with those lately from London, a fuller knowledge of the subject, and a perusal of the complete text

of the report of the *Pall Mall's* secret commission have greatly modified that feeling.

A philanthropist who makes money out of his philanthropy cannot escape, and cannot expect to escape, legitimate suspicions, and the more ghastly the subject the more tainted the profits. At the same time it really seems as if nothing short of the widespread publication of the truth in regard to the traffic in female children in London for purposes of prostitution—and there is every reason to credit the disclosures of the *Pall Mall Gazette*—would have excited public interest and opinion to such a degree as to enforce prompt action by Parliament to afford decent legal protection to young English girls. Moreover, we doubt very much whether this report of the *Pall Mall's* commission is calculated to pandar to immorality. The story it tells is too pitiful.

The prostitution of little children is not a *necessary* phase of life in a large city. The legal age of consent for girls in England has hitherto been thirteen years. In France, with all her reputed immorality, the law prohibits the admission of young men and of young women to houses of prostitution if under twenty-one years of age.

We have before us a Parliamentary blue book containing a report of a select committee of the House of Lords on the law relating to the protection of young girls, with the proceedings of the committee and minutes of evidence, published in August, 1881, which goes far to sustain the late disclosures. In answer to questions, Mr. Howard Vincent, the Director of Criminal Investigations, stated at that time to this committee that the prostitution of very young children, as of thirteen years of age, was not by any means a novelty; that such prostitution was peculiar to London as compared with towns on the Continent, and that this peculiarity was undoubtedly due to the defect of the English law. He also gave it as his opinion that the prostitution in England was considerably in excess in proportion to the population to the prostitution of other countries.

All this testimony and the facts gathered by this and other committees have been sleeping quietly in print between these official blue covers for a number of years, and yet for one reason or another action upon the law for protecting these miserable children has been delayed. But in three weeks from the beginning of the *Pall Mall* scandal an amendment to the "Criminal Law Bill" providing flogging as a penalty for outraging children was only rejected in the House of Commons by a vote of 120 to 91, and an amendment raising the age of protection of girls from thirteen to sixteen was carried by a vote of 179 to 71.

It would seem as if the law-making body had at length resolved to give young girls something of the protection which the law should throw around them, and that the evil of the scandal will at least be mixed with a large heaven of good.

#### THE BOSTON PENSION BUREAU.

THE Boston Pension Bureau has acquired a good deal of unfortunate notoriety of late years, a notoriety

augmented not a little by the publication last week in the daily press of an open letter under date of July 28th, from Dr. E. N. Whittier, one of the examiners who lately resigned, to Hon. John C. Black, Commissioner of Pensions at Washington. This letter explains the resignations of Drs. Whittier and Gavin from the board of examiners, and gives the history of various discreditable charges, not for the first time heard of, concerning the third member of the Board. Since the resignation of the above-named gentlemen, a third appointee, Dr. Prince, has, after accepting the office, refused to serve, when more fully informed as to the situation. Since then, two physicians, apparently less sensitive, have been found, who are willing to occupy the vacant places and assume the discharge of the duties of pension examiners.

It is, of course, open to each one to decide how much consideration his own personal honor deserves, but this is certain, that, under existing circumstances, it is quite impossible that the Boston Pension Bureau should enjoy the confidence of either the medical or non-medical public. A man with such charges hanging over him as those brought against Dr. Bartlett is unfit to be an active member of such a Board, whether the unfitness be his misfortune or his fault, and the course adopted by Drs. Whittier, Gavin and Prince will, we think, commend itself to the sympathies and approbation of their professional brethren.

#### MEDICAL NOTES.

— Dr. Aely, formerly Professor of Anatomy in the University of Berne, and later occupant of the same position at Prague, has recently died.

— The life of the venerable M. Chevreuil, for fifty-five years professor of applied chemistry in the Museum of Natural History in Paris, now in his one hundredth year and still working diligently in his beloved science, presents many interesting and striking facts. Few incidents, however, are more picturesque than his modest reference in the French Academy of Sciences a year or two ago to a communication which he had made to the same society more than seventy years previously. "Moreover, gentlemen," said he, alluding to a statement which he had just made, "the observation is not a new one to me. I had the honor to mention it here, at the meeting of the Academy of Sciences on the tenth of May, 1812."

— The following information in regard to cholera in Spain from March 4, the date of its reappearance, to July 4, is an abstract of the consular reports received by the National Board of Health:—

Province.	Cases.	Deaths.	% Mortality.
Alicante	1,588	646	40.6
Castellon	2,617	1,277	48.8
Cuenca	78	40	51.3
Madrid	1,700	753	59.2
Murcia	6,007	2,319	38.6
Taragona	31	19	61.2
Teruel	12	5	41.6
Toledo	435	207	47.5
Valencia	11,328	6,851	45.5
Zaragoza	628	280	44.7
Totals.	28,044	12,347	

—Dr. Peters, in the *Medical Record* (May 9th) records a somewhat remarkable instance of the preservative powers of arsenic. The body was that of a person who had died thirty months previously. Upon removal of the coffin-lid no putrefactive odor was perceptible. The skin of the whole body was discolored, but firm and moist. The face was somewhat shrunken, but easily recognizable. The viscera, as well as the muscles of the extremities, were moist, and retained their histological characters and elements. There was not a single perforation from decomposition throughout the alimentary canal. The duodenum, sigmoid flexure, and rectum showed unmistakable signs of inflammation, being much reddened and thickened; but all the other viscera were normal. The gentleman lived for five days after he was poisoned, and the total amount of arsenic found in the body being estimated at five grains.

—Joseph Körösi, of Budapest, in a paper read before the Association of Hygiene, in Berlin, last year, presents some figures regarding the effect of the pecuniary status upon longevity. Excluding deaths in infancy, he finds, taking his observations from a period of eight years, that the rich class had a longevity of 52 years, the middle class of 46 years 1.1 month, the poor class of 41 years 7 months. In the matter of susceptibility to infectious diseases he finds that cholera, small-pox, measles, and typhoid are more prevalent among the poor, and diphtheria, croup, pertussis, and scarlet fever among the well-to-do. Zymotic diseases, as a whole, were 60 per cent more frequent among those living in basements than in higher domiciles. But the increase in fatality in underground tenements applied only to certain diseases, as especially measles and whooping-cough, while diphtheria and scarlet fever were 10 per cent less frequent than in families living above ground.

—A correspondent of the *Lancet* bespeaks the generous interest of the profession on behalf of Dr. Warburg, the discoverer of the tincture which bears his name and which has been found so useful in combating the fevers of tropical countries. Warburg is now upwards of eighty-one years of age and is in straightened circumstances. The correspondent states that some time since he prevailed upon Dr. Warburg to make public the formula of the tincture, which was published in the British journals. But this act put an end to the revenue which had been previously derived from it by the discoverer. Some years ago the government of India granted him £200 pounds for the discovery, but if he is now in want from having relinquished his secret to the world the world should not allow him to suffer therefor.

—Teacher: "So you can't do a simple sum in arithmetic. Now let me explain it to you. Suppose 8 of you have together 48 apples, 22 peaches, and 16 melons, what will each one of you get?"

"Choleric Morgus," replied little Johnny Fizzletop, who is addicted to that malady. — *Texas Siftings*.

## NEW YORK.

—The effect of the recent prolonged period of hot weather is seen in the increased mortality in the city. Up to the time of its advent the death-rate was unusually low for this season of the year; but during the week ending July 18th, there were 1,019 deaths. 613 were among children under five years of age, and 365 of these were due to diarrhical diseases. Four deaths are directly attributed to the excessive heat, and fifty-four were caused by cerebral and neurotic affections, in which the fatal result was accelerated by the increased temperature. During the week ending July 25th there were 1,094 deaths in the city, an increase of 184 over the corresponding week of last year. Of this number, 479 were of children under one year; 644 of those under two years; and 764 of those under five years. Diarrhical diseases caused 381 deaths, and of these, 342 were of children under five years. 64 deaths were caused by the heat.

—Dr. Cyrus Edison, Chief of the Second Sanitary Division, on July 30th made a grand raid on the small fruit vendors of the tenement-house district in the Tenth Ward, and confiscated no less than five tons of bad fruit, most of which consisted of pineapples and watermelons. Several other raids have recently been made upon the dealers, in the hope of breaking up this dangerous traffic, but they have had but little effect, as the vendors adopted the practice of keeping spies on the watch, and were generally able to elude the vigilance of the inspectors. On the present occasion, however, a systematic and strategic plan was adopted, which was eminently successful, and the effect of the raid is thus described in one of the daily papers: "The consternation raised in that devoted locality was beyond description. The streets were thronged. Men and women were sitting upon the steps of the houses, in the windows, upon boxes and barrels, and on the sidewalks, and thousands of children swarmed all over the sidewalks and pavements. Dirty little girls, carrying dirty babies almost as large as themselves, were flirting with dirty boys before the saloon doors, young roughs were loafing at the corners, children were playing tag and hide-and-seek about the streets, old women were gossiping on the doorsteps and along the curbstones, and on all the corners the vendors' carts were drawn up and the sale of unwholesome fruit was in progress. When the blue coats of the police-officers were seen on the streets every one realized that a raid was in order, and as every one had some relative in the fruit business, the populace fled to warn its friends, and then there was a chorus of polyglot profanity—Hebrew, Italian, German, French, Alsacian, Chinese, and all the various dialects thereof, arose in one jumbled but pathetic protest. The vendors, pushing their carts before them, ran panic-stricken through the crowded thoroughfares, all centering unwittingly toward Hester and Essex Streets, and the eight divisions of police, marching in from eight directions were followed by eight howling mobs heap ing imprecations upon them."

— The marble statue by Mr. Boehm, erected by the admirers of Mr. Charles Darwin in his honor, has been completed and placed in the main hall of the building containing the natural history collections of the British Museum at South Kensington. Professor Huxley delivered the address at its inauguration. It stands at the first landing of the great staircase, says the *London Times*, "as though to welcome all coming generations of students as they enter the door of the building in which so many of the materials of their work are gathered together." So far as was possible, Mr. Boehm has rendered the very features and character of his subject; and all Mr. Darwin's friends agree that a likeness more characteristic, whether in face or attitude, could hardly have been produced, even by a sculptor who had been intimately acquainted with him in his lifetime. The head is full of dignity: the great brow, the flowing beard, the expression, full at once of intense thought and human feeling, have been caught and fixed in the marble."

### Miscellany.

#### THE STRAIN OF MADNESS IN VICTOR HUGO.

THE alliance of madness with genius, so often noted, seems to have had a fresh exemplification in the case of Victor Hugo, as is pointed out in the *Medical Times*:—

"His uncle died insane: his brother, Charles Hugo, who at an early age gave promise of great literary talent, became insane before twenty, and spent the latter part of his years in a hopeless state of dementia; and one of the poet's daughters, still living, is the inmate of a 'maison de santé.' That in a family thus tainted with insanity a man of immense genius should arise is only another instance of that close hereditary connection between mental disease and highly intellectual powers, which Moreau de Tours so forcibly pointed out in his celebrated book *La Psychologie Morbide*; but any impartial reader will find in many of Hugo's best writings a large number of passages which could only have been conceived by a diseased imagination, and which bear the indelible stamp of madness. In this respect the French poet widely differs from his great prototype, Shakespeare, who in the wildest flights of his poetical phantasy still remains faithful to sound common sense. The mind of Shakespeare was evidently a healthy one; that of Hugo was not; and if some future Plutarch attempts to strike a parallel between these two great literary giants, he will do well to keep this fundamental difference in view. It may seem ambitious to compare Hugo to Shakespeare, but in this city and at the present day most people seem inclined to place the modern poet above the older bard, an exaggeration which time will doubtless dispel. Yet, as regards the conduct of his private affairs, no man could excel Victor Hugo in that shrewdness which persons 'not quite right about the head' so often exhibit. No banker could more carefully have managed his fortune, no politician could more tenderly have nursed his popularity; and the man who left a fortune of more than two hundred thousand pounds sterling was the idol of a jealous democracy, while the politician

who played at fast and loose with all parties was buried in the midst of universal applause. Such an instance of great 'wit to madness near allied' the annals of the civilized world have never hitherto placed on record for the edification of posterity."

#### WATER-PURIFICATION OF SEWAGE.

THE contamination by sewage and other foul matter of the sources of water supply of many of our large cities, despite all efforts of municipal authorities to prevent it, is justly a source of apprehension to the hygienist as well as of a rising of the gorge to all who witness the pollution. Some crumbs of comfort, however, may be gained from the statements in the August number of the *Popular Science Monthly*, regarding the oxidizing power of water. The important part played by water in the oxidation of sewage has been tested by experiment, and may be accounted for by the quantity of free oxygen that water usually contains. The quantity that may be dissolved is increased with reduction of the temperature. At the summer temperature of 70° F., water contains 1.8 cubic inch, and at the winter temperature of 45°, 2.2 cubic inches, of oxygen per gallon, which is equivalent to four or five cubic inches per foot. From calculations based upon these data, it will be seen that at a temperature of 70° there are 2.58 tons, and at the temperature of 45°, 3.16 tons, of oxygen in every 10,000,000 cubic feet of water. This shows a difference of more than half a ton per cubic foot between these two temperatures. It has been calculated that if a volume of water containing thirty-five per cent of sewage-matter be allowed to flow for one mile, exposed to the air, the whole of the sewage would become oxidized. It has also been estimated, by experiment, that a closed vessel containing water, with five per cent of sewage, gives only thirty-two per cent of aeration on the fourth day, as compared with eighty-four per cent on the day when it is introduced into the vessel. The results of these experiments tend to show that, although the self-purifying power of the water of the river is sometimes overtaxed, it still retains the power of oxidizing sewage-matter; but the question as to whether it has the power of freeing itself from living bacteria still remain to be solved.

#### MICROBES IN SEWAGE IRRIGATION.

THE *Popular Science News*, August, 1885, refers to a curious experiment, shown a year or two ago, in which a long glass tube was filled with earth, and sewage poured in at the upper end. If the tube was long enough, perhaps six or eight feet, the liquid issued from the bottom clear and pure; its dissolved and suspended organic matters having been oxidized by the soil. If, however, before pouring in the sewage, a little dilute chloroform was allowed to filter through the earth, sewage subsequently applied passed through the tube without change; the oxidizing action of the soil being completely suspended. After some hours or days, the soil regained its oxidizing quality. This experiment was believed to show that the oxidation of organic matters in sewage was something more than a chemical reaction, and that it depended, at least to a certain extent, on the presence of small living organisms, whose activity could be temporarily suspended by an anæsthetic, and with it the oxidation of the sewage. This theory has now been confirmed by

additional observations; and the little creature which converts into fixed and harmless salts the putrefying impurities of such sewage as it can reach, is believed to be a micrococcus somewhat resembling the yeast-plant. Many and varied tests have been made to determine the conditions under which the disinfecting microbe lives and acts, and a good deal has been learned about its habits. It is found that it flourishes best, and is most efficient, at a temperature of about ninety-eight degrees Fahrenheit, nearly the temperature of the blood. At higher or lower temperatures its action becomes more feeble, and ceases altogether near the freezing-point, or above one hundred and thirty degrees. Experiments to show its distribution in a clay soil prove that it is most abundant in the upper six inches, but is found to a depth of a foot and a half. Below that depth it cannot live, and soil taken more than eighteen inches below the surface has hitherto always failed to induce any change in nitrogenous solutions to which it was applied. These experiments cast a great deal of light upon many questions of sewage disposal by subsoil or surface irrigation; and further tests, made with some reference to this, would be easily made and extremely valuable. It is found, for instance, that nitrogenous solutions, in order to be acted upon by the oxidizing ferment, must be alkaline; acid liquids remaining unaffected. This observation shows at once, that, where sewage is to be purified by irrigation, chemical wastes must be kept out of the drains. Normal house sewage is generally slightly alkaline, and in good condition for conversion; but the admission of the acid or poisonous wastes from a dye-house, metal-working shop, or manufactory of any other kind, might render the sewage of a whole town incapable of purification.

## Correspondence.

### ANATOMY AT THE HARVARD MEDICAL SCHOOL.

MR. EDITOR, — Dr. Monks' thoughtful paper on the teaching of anatomy in England and America, which appeared in your last number, opens a question of great interest and importance. As Dr. Monks points out, it is very difficult to compare the American system with the English, owing to the great variations of standard in American schools. While thanking him for the handsome compliment which he pays to the anatomical department at Harvard, I shall assume that his remarks apply chiefly to this school. There is internal evidence of this in his paper. I am far, however, from resenting such criticism. Medical education is to some extent a trust, and the profession, as the only part of the community competent to do so, has the right to inquire how it is administered. Further, a professor is naturally held accountable for the success of his department, and it is but just that he should have an opportunity of stating to what extent he is responsible for its short-comings by which his reputation must suffer.

Dr. Monks' chief proposition that anatomy is more thoroughly taught and highly esteemed in England than in America, in general (and I will add at Harvard in particular), is, I think, undoubtedly true. The higher esteem is the result of the better teaching, and one reason why English clinical teachers insist more on anatomical points, is that their own training has rendered them more competent to do so. Dr. Monks' criticisms on our system are in the main very true, and his suggestions for improving it theoretically good, though not without practical difficulties. He hardly does us justice, however, in his remarks on the nature of the examination questions. He says that the

questions are never very practical and all not so selected as to draw out the real practical knowledge of the student. As far as this applies to the Harvard examinations in topographical anatomy, it is, I think, unfounded. The papers are published in the catalogu, and every one can judge for himself. I will venture, however, to give the paper of June, 1883, as a specimen.

1. Give the relations of the following parts in the back to the spines of the vertebrae or to the ribs: (1) the upper and lower limits of the esophagus; (2) of the pleura; (3) of the lungs; (4) of the scapula; (5) the bifurcation of the trachea; (6) the end of the arch of the aorta, its passage through the diaphragm; its bifurcation; (7) the end of the spinal cord and the points of origin of the plexuses.
2. The position and relations of the parotid gland, and the structures within it.
3. Describe a section through the middle of the upper arm. (This may be answered by a diagram with proper explanations.)
4. Describe the structures and their relations in each layer of the anterior femoral region between Poupart's ligament and a transverse line at the apex of Scarpa's triangle, as deep as the floor of the triangle inclusive.
5. What are the relations of the patella to the bones in the various positions of the knee-joint.

A much more serious criticism is that on the time of the examination. At Harvard, the chief examination, that on descriptive anatomy, occurs at the end of the first year. Three hours are allowed. That on topographical anatomy, on which there is but one lecture a week, comes at the end of the second year and occupies one hour and a half. This is, in my opinion, the radical defect in the anatomical course at Harvard. When the graded course was adopted in 1871, anatomy was made a first year study. The results have been most lamentable. The details of anatomy can be mastered only by frequent reviews. Much of anatomy is as meaningless to the beginner as the multiplication-table is to a child. At least a second course is needed for the student to relearn the details he has forgotten, and to perceive the importance and interest of much that at first was simply wearisome. Moreover, his clinical studies lead him to study medicine from an anatomical standpoint, and anatomy from a clinical one, but unfortunately, in the new system, his anatomical studies were finished before his clinical ones began. The University of Pennsylvania and the College of Physicians and Surgeons of New York, have been wiser in this respect. Five or six years ago the committee of the Overseers reported that the course was insufficient, and that on topographical anatomy was added. This was an improvement; and the efficiency of the department has of late been further increased by the great devotion of the demonstrator and his assistants. Nevertheless, the radical defect still remains that the chief examination comes at the end of the first year, before the students can possibly have acquired a satisfactory knowledge of anatomy before they have been able to grasp its bearings and usually before they have completed their dissection. I fear it is a fact that the Harvard graduate is not only far behind his English cousins in anatomical knowledge, but behind the graduates of several schools in his own country. I deplore this, but cannot remedy it. Now that Dr. Monks has brought the matter before the profession, I hope that those who have opportunities of judging of the correctness of my apprehensions, will speak without fear or favor.

THOMAS DWIGHT, M.D.

### THE INTERNATIONAL MEDICAL CONGRESS AND THE AMERICAN MEDICAL ASSOCIATION.

MR. EDITOR, — Having been a subscriber to and a reader of the JOURNAL for more than twenty-five consecutive years, I take the liberty to offer some thoughts for publication on the position taken by many men eminent in the profession, touching the International Medical Congress and the action of the American Medical Association as connected with and making arrangements for it. Assuming that a Congress is desirable and will conduce to the advancement of true medical science in the American profession we come legitimately to the question of the proper body or society to extend the invitation to and make the necessary arrangements for the congress, and the discussions thus far have not questioned or denied that the

American Association was the fitting power to assume these duties. The manner of discharging the duty of making the arrangements seems to be the *casus belli* with both friends and foes. That in the association was the proper power to appoint the original committee of eight is unquestioned, and with this conception necessarily comes the power to enlarge or change the committee. The charge is un wisdom and hurtfulness in so doing — thus rendering a successful congress, if not impossible, surely very improbable.

Of the action of the first committee in its appointments or the committee as enlarged I do not propose to speak at length, remarking only that doubtless both in some respects are open to just criticism. If my understanding of the matter is correct the subject at issue is the question of ethics. This being admitted we come legitimately to the consideration of the two ethical factions of the present time, the old, as represented by the American Association, its members and supporters; the new by the New York State Medical Society, its members and adherents. The origin of the antagonism was, I think, in this wise: a number of members of the New York State Society — largely resident in the city — claimed that the ethics of the National Association were illiberal and unworthy of the advanced medical thought of the times, and by their efforts succeeded in putting the State Society in antagonism with the American Association, whose friends at the next annual meeting of the State Society endeavored to restore it to its loyalty but did not succeed. In the discussion of the question many, and notably those of the new code, evinced that heated blood was cursing their veins by applying the epithet of old fogeyism to the National Society and calling for evidence of its having done any advanced scientific work. And here it seems in place to ask what constitutes the ethics of the National Association; I understand it is in brief this: it welcomes and admits all honorable medical men who do not practice, advocate, or believe any special dogma in medicine. Can it be more liberal and be worthy the name of code? Granting it did or does need changing for the better advancement of scientific interests of the profession, could not these gentlemen, very many possessing acknowledged high attainments, have very much more effectually aided the advancement of the best interests of the American profession by using their acknowledged power in endeavors to correct the faults alleged rather than in antagonizing the Society, thus detracting from its power for reform. Being a believer in the benefits derived from fraternal association and the necessity for a declaration of and adherence to principles held in common by members of societies; and also a believer in the benefits arising from an educated consistent conservatism, with due respect to opinions as set forth by action, I opine they could. But believing their course honestly taken — and, if you please, conceding it correct — while admiring their genius, and not forgetting that this same genius may, to a certain extent, render them a law unto themselves, we are forced to the conclusion, if we adopt old and established rules of honor, propriety, and self-respect, that to fill positions coming directly from an organized body for whose principles and methods they have so little respect, necessitates the adoption of ethics of honor and self-respect fully as liberal and containing as largely the personal element as is found in the latest revision of the medical code.

Experience has demonstrated the fact that in association men engaged in a common occupation or profession are benefited, even should the rules adopted for their government be not absolutely perfect. Concessions are a necessity in all human association. Very truly yours,

C. STRY DOCTOR.

[The code-question should really have nothing to do with an International Congress. Apart from this it is very well understood that the disturbance at New Orleans was incited by disappointed personal ambitions. The code and geographical distribution have been used to arouse opposition to the arrangements of the first committee. Etc.]

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM JULY 25, 1885, TO JULY 31, 1885.

APPEL, A. H., captain and assistant surgeon. Ordered for duty with United States troops, forming portion of guard of honor over remains of ex-President General Grant, at Mt. McGregor, N. Y. S. O. 36, Division Atlantic, July 23, 1885.

BILL, JOS. H., major and surgeon, United States Army. Died at Youkers, N. Y., July 21, 1885.

DE WITT, CALVIN, captain and assistant surgeon. Promoted to major and surgeon, vice Bill, deceased, to take effect from July 21, 1885.

EBERT, R. G., captain and assistant surgeon. From Department of Columbia to Department of East. S. O. 170, A. G. O., July 27, 1885.

GIRARD, A. C., captain and assistant surgeon. From Department of East to Department of Columbia.

MCDUGALL, CHARLES, lieutenant-colonel, United States Army (retired). Died at Fairfield, Va., July 25, 1885.

IVES, FRANCIS J., Appointed assistant surgeon with rank of first lieutenant, to rank as such from July 25, 1885.

GORIAS, WILLIAM C., captain and assistant surgeon. Granted leave of absence for two months, to take effect about August 10, 1885. S. O. 169, A. G. O., July 25, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDED AUGUST 1, 1885.

AMES, R. P. M., passed assistant surgeon. Granted leave of absence for thirty days, July 27, 1885.

FESSENDEN, C. S. D., surgeon. Leave of absence extended eight days on account of sickness, July 20, 1885. Extended ten days on account of sickness, July 27, 1885.

GODFREY, JOHN, surgeon. Granted leave of absence for thirty days, July 27, 1885.

IRWIN, FAIRFAX, passed assistant surgeon. Granted leave of absence for ten days, July 14, 1885. To inspect unserviceable property at St. Louis, Mo., July 15, 1885. To proceed to Richmond, Va., and Wilmington, N. C., as inspector, July 28, 1885.

#### SOCIETY NOTICES.

ILLINOIS STATE BOARD OF HEALTH REGISTER OF PHYSICIANS AND MIDWIVES. — The Illinois State Board of Health is now engaged in revising its "Register of Physicians and Midwives." Any notification of changes, omissions, or errors will be regarded as a favor; as the Board wishes to make the forthcoming register as correct as possible. Address, "Secretary State Board of Health, Springfield, Ill."

#### APPOINTMENT.

Dr. THOMAS DWIGHT has been appointed by Mayor O'Brien, to be a member of the Board of Directors of Public Institutions, in place of Mr. A. T. Whiting, resigned to accept a place on the newly-organized Board of Police Commissioners.

CLARKE HOSPITAL. The following appointments have been recently made: Surgeon, W. A. Dunn, M.D.; Surgeons to Out-Patients, G. H. Monks, M. D., H. W. Cushing, M.D.

#### ERRATA.

PAGE 115, July 30th, in second column, seventh line, *storm* signals not *shore*. Night storm signal is *red*.

#### BOOKS AND PAMPHLETS RECEIVED.

Catalogue of the Medical College of Virginia. Richmond Session, 1884-85, and announcement of Session, 1885-86.

Second Report of the State Board of Health of the State of Tennessee, Oct., 1880, Dec., 1884. Nashville, 1885.

Some Personal Observations on the Work of Lawson Tait. Together with Report of five cases of Abdominal Section, by the writer. By A. Vander Veer, M.D. (Reprint from American Journal of Obstetrics, No. 7. 1885.) New York: Wm. Wood & Co.

A Memoir of Charles Hilton Fagge, M.D., Late Physician to Guy's Hospital, etc. Printed by American distribution, by P. Blackiston, Son & Co. Philadelphia, 1885.

Report of Proceedings of the Tennessee State Board of Health. Quarterly Meeting, Nashville, July 7, 1885.

Thirtieth Annual Report upon the Births, Marriages, and Deaths in the City of Providence, for the year 1884. By E. I. M. Snow, M.D., City Registrar. Providence, 1885.

## Original Articles.

## THE CAUSES AND PREVENTION OF INSANITY.

BEING THE SUBSTANCE OF AN ADDRESS DELIVERED AT THE  
OPENING OF THE SECTION OF PSYCHOLOGY,

*At the Annual Meeting of the British Medical Association held  
in Cardiff, July, 1885.*

By D. VELLOWLES, M. D.,

*Physician-Superintendent of the Glasgow Royal Asylum; and  
Lecturer on Insanity in the University of Glasgow.*

My first duty is to acknowledge the great honor done me by the Council of the Association in inviting me to preside over this Section, an honor which I very highly appreciate, and which is doubly welcome because our meeting is held in the county whose asylum I organized and opened twenty years ago, and in whose service I spent eleven of the best years of my life.

At our last annual meeting at Belfast, the subject of the presidential address was the relation of our speciality to the other branches of medicine. To-day, I invite your attention to our relation and duty to the public, as regards the causation and prevention of insanity. This is a practical rather than a pathological aspect of our subject, but its extreme importance must atone for the want of purely scientific interest.

During the dark period when insanity was at once the reproach of medicine and the horror of the public, the mere suggestion that the nervous system required wise and watchful care was resented as an insult, because it seemed to impute a liability to mental disorder. Now that insanity is no longer deemed either a crime or a disgrace, there is some hope that the counsels and warnings of the physician may receive greater attention.

The causes and prevention of insanity may well be considered together, for prevention can be intelligent and effective only in proportion as the causes are accurately ascertained and wisely avoided.

The causes of mental disorder group themselves at once into two categories; those arising from conditions in the life-history of the individual, and those entailed upon him by ancestral inheritance. It is too true that both kinds of causes often co-exist, and that the immediate or personal cause is potent only because it has awakened and developed inherited weakness. Still, there are causes so directly personal to the individual, that they must be regarded as sole and sufficient, irrespective of inheritance. The chief causes of this class are brain-injury, brain-exhaustion, brain-anæmia, brain-irritation due to disease in other organs, and organic changes in the brain itself. From such causes any brain may suffer, and they may induce insanity in persons wholly free from hereditary neuroses.

*Brain-injury* is a cause often assigned by friends, without sufficient grounds, as the history of a blow or fall seems to them to remove all suspicion of hereditaryness.

Undoubtedly, mental peculiarities, or an entire change of character sometimes follow a blow which has left no outward sign; and it is equally certain that the commencement of organic disease, or of the chronic changes of general paralysis, may date from such an injury.

The mischief produced may be out of all proportion to the apparent severity of the blow, and therefore such injury should never be lightly regarded. On the other hand, it is a mere shot in the dark to assign as

the cause of insanity a head-injury sustained some years previously, if it have meanwhile given rise to neither local irritation nor general symptoms. Distance magnifies the gravity of the injury, and friends unconsciously mislead the physicians and themselves in their desire to demonstrate the accidental origin of the disorder.

*Brain-exhaustion* may follow from continual overwork or incessant worry, if the brain have been denied due rest and sleep. The student, the politician, and the merchant, may alike be victims of brain-exhaustion, in their undue pursuit of knowledge, influence, or wealth.

This is too high a price to pay for anything on earth. Besides, such overwork often defeats its end, for the work of a wearied brain is never the best work of which it is capable. Our powers will bear spurring for a time; but there is a limit, beyond which the effort is fatally exhausting, while the result is woefully inadequate.

Reason and life are often sacrificed in the rush of our high pressure civilization; and the influence of this civilization, with its terrible extremes of reckless luxury and woeful want, on the national brain and the national character, is a momentous question. Assuredly it is our province and duty to proclaim that such flagrant violation of the laws of brain-health cannot be perpetrated with impunity, but must entail direful results.

Far commoner than exhaustion from overwork, and far more potent as a cause of insanity, is the irritation and exhaustion produced by excesses in the two most frequent forms of alcoholic and sexual dissipation. The ruin of brain wrought by intemperance, whether in its sudden and fiercer forms, or in the chronic delusional conditions to which they tend, is too familiar. Too familiar, also, is the drink-crave, to gratify which, even for a moment, love and honor and truth and duty are all forgotten. This malady, which some would vainly persuade us is but vulgar vice, is often an inherited neurosis, and then belongs to the second category of causes; but often, too, it is the outcome of habitual indulgence, and thus ranks as a personal cause.

Brain exhaustion from sexual excesses, or from self-pollution, is another fruitful cause of insanity, and it is wholly a false delicacy which hesitates to expose this degrading evil. We know too well how one purient boy can pollute a whole school with the vice of self-abuse, though we can never know or measure the ruin he may have wrought. We are too often sadly certain that like practices exist in the sex where we expect only purity and innocence, and that they produce sorrowful results in all the protean forms of nerve instability. We know, too, how the marriage relationship can be degraded into an excuse for unbridled indulgence, and that such folly or ignorance may wreck the strongest brain.

Society needs plain words about these things, and we fail in our duty if we do not speak them. Especially do we need to impress on parents the duty of wisely informing their children, lest ignorance, or, still worse, knowledge wrongly sought for, prove fruitful of evil.

*Brain-starvation*, whether the anæmia result from malnutrition or from undue waste, may give rise to mental disturbance, which is, happily, curable by the removal of its cause.

*Brain-irritation, due to disease in other organs,* may

produce insanity, either through nervous sympathy or through disturbance of the quality and regularity of the blood-supply.

Lastly, among the personal causes, *organic changes in the brain itself*, of whatever nature, and however produced, may develop insanity, whose symptoms, when thus arising, we can, at best, only try to mitigate.

It may seem as if a large group of personal causes had been omitted. Emotional causes, such as terror, anxiety, and disappointment, seem at first to be purely personal, and therefore to belong to this category. Doubtless, this view is sometimes correct; but in the majority of cases, these extreme emotions are essentially manifestations of an inherited nervous temperament, without which the insanity would never have occurred. The joys and sorrows of humanity are too familiar and inevitable to develop insanity, except in brains predisposed to it.

An *inherited predisposition to insanity* is assuredly the most potent of all the causes which produce it. Every attack of insanity, however produced, certainly creates a liability to its return; and this acquired tendency is at least as grave a fact in the history of the individual as a predisposition inherited from his ancestors. How this predisposition, whether inherited or acquired, can be managed and modified, is the question now before us; and we could scarcely have under consideration a more important or a more practical subject.

First, and chiefly, we can certainly declare that this predisposition is not a mysterious and fatal doom, haunting and dogging its victim, and sure one day to overtake and overwhelm him. It is a purely physical condition, and loses half its horror when this is realized. We cannot, it is true, fully understand the pathology of nerve-instability; but we know that insanity is only one of its many manifestations, and that it may equally reveal itself in paralysis, epilepsy, and neuralgia, in asthma, diabetes, and hysteria, and also, beyond doubt, in certain types of drunkenness, of crime, and of genius.

The subject of this predisposition should not pretend to ignore it, as though it was a nameless horror or a secret disgrace. The fancied disgrace is a wretched relic of the time when an insane man was deemed something lower than a brute, and was treated accordingly. The civil and social consequences of insanity are doubtless grave, but it no more implies disgrace than any other physical illness. We are all handicapped, in some way or other, for the race of life, and much of our success depends on recognizing this from the first and running accordingly.

Supposing the heir to such an inheritance frankly recognizes the fact, how shall we counsel him to avert the malady, and how should his life be ordered so as to prevent its development and transmission? It need scarcely be premised that no organ can be in vigorous health unless this be the condition of the organism. It is an axiom in all special treatment, that the general health must be maintained at the highest possible standard.

The first condition of brain-health, as it is the first condition of the health of every organ, is due and suitable exercise. If the brain work be unduly prolonged or unduly severe, injury must follow. Therefore our imagined patient must not pore unremittingly over the merchant's ledger, nor burn the midnight oil in explor-

ing the arcana of science, and we must absolutely debar him from the rivalries of politics and the excitement of the Stock Exchange. Unwonted responsibility, or undue worry, tax him injuriously, and he should work within accustomed limits, and along familiar grooves, which habit has made smooth. His ambition must be controlled by prudence, he should be a servant rather than a master, and he should choose the calm and even tenor of a country life, rather than mix in the rush and excitement of a great city.

Relaxation, the exercise to which inclination rather than duty prompts, is essential to him even if he be so fortunate as to find his daily work a daily pleasure. The relaxation should be something unlike his regular work. If possible, it should be in the open air, and occupy both body and mind. He may, with advantage, become so addicted to it that his friends will smilingly call it his hobby, and he will be wise if he choose as his hobby — though, indeed, hobbies are rather adopted by instinct, than selected by deliberate choice — something independent of the changing seasons, and which will not fail him in feeble health or declining years. The relaxation should include, in most cases, frequent short absences from the familiar surroundings and duties of home. An entire change, bringing new scenes, new faces, and perhaps a new language, has a wonderfully renovating power. It makes home more welcome, and familiar duties less irksome if we leave them for a time.

Exercise, whether for duty or for pleasure, implies and procures rest; and for the subject of nerve-instability, sufficient and complete rest is indispensable. His rest should not be mere languid laziness, but genuine nerve-repose in sleep. If he can dine early, and sleep an hour thereafter, he will do most wisely; and his head should be on the nightly pillow at least an hour before midnight. In the evening hours, he should avoid subjects likely to engross or agitate, that sleep be not hindered; or he should change the current of his thoughts before retiring, by such distraction as a book or a newspaper affords. I know an eminent asylum-physician who habitually took the *Times* to bed, and found a soporific in its columns.

Some men are said to have possessed the invaluable faculty of sleeping at will amid any circumstances and surroundings. The man who could discover this secret, and confer the gift on his fellows, would be one of the greatest of benefactors of his race. To seek sleep by the use of hypnotic drugs is rarely wise. It is often but combating the symptoms while the cause continues, and is frequently both futile and injurious.

But exercise, relaxation, and rest, while essential to brain-health, are not everything. Our emotions and affections are the mightiest factors in our lives, and they afford a vast field for the manifestations of nerve-instability. It is in the regulation of our moral nature, and in controlling our fancies, impulses, and passions, by reason and duty, that the hardest battle must be fought.

From whom are the ranks of the insane mainly recruited? Certainly from the men and women whose minds and hearts are untrained and ill-balanced, who are swayed by caprice or passion, who are fretful at every difficulty and envious of their neighbors' good, who are incapable of sustained effort or daily self-denial, and whose lives are thus ill-regulated, changeable and useless. The access of insanity is often but

the ultimate and utter wreck of a vessel without a helm, which has already been many a time damaged by storms of passion on the quicksands of indulgence.

Daily self-control, and wise moderation in all things, should characterize every one; but they are specially required in one predisposed to insanity, and they must be earnestly cultivated by him till they acquire the blessed ease of habit, and are practised without an effort. An education which has failed to educe or impart these qualities has truly failed, and a life which has failed to teach them has been essentially a life of failure. "Greater is he that ruleth his spirit than he that taketh a city." Too often such qualities and lives are inherited, but too often they are created or aggravated by faulty education and foolish training. To correct the evil, and to foster the good, nothing is so potent as wise training in early years; but it is impossible to speak of education in relation to brain health without indignation and sorrow; the evils are so great, the remedy so difficult.

It seems impossible, in any national system of education, to do otherwise than have certain standards of knowledge for certain ages of pupils; yet it is utterly unphysiological to assume that all brains are alike and can acquire with equal ease; and unless the rigidity of the system be modified by the wise discretion of the teacher, great hardship and injury must be inflicted. It is, however, among the better classes that the evils of faulty upbringing are most noticeable and mischievous. The boys get early into harness of some sort for the work of life, and find their lessons, and their level, in the rough school of experience; but the girls want this corrective, and it is the future wives and mothers who are chiefly injured. All sorts of knowledge are indiscriminately stuffed into the head, irrespectively of selection, assimilation, or enjoyment; the accomplishments which society is supposed to demand, are added, regardless of aptitude or inclination; what is showy and ornamental is encouraged, what is sensible and useful is forgotten; and when the young lady is "finished," her character is too often allowed to form itself amid a round of frivolous occupations and yet more frivolous amusements. Marriage finds her sadly wanting, alike as a companion to her husband, as the head of a household, or as the mother of children; and when, happily for the husband, she misses a dignity for which she is unfit, her wretched training makes her a soured, fretful, resourceless, disappointed being. While we rejoice in the multitude of homes where it is otherwise, we all know that in many cases this sad impeachment is too well founded.

Right feeling and conduct towards others are as needful as due control over our own impulses and desires, if life is to be sane and happy. No man liveth to himself; he could not, if he would; he would be a miserable wretch if he tried. It is needful, therefore, that our patient should have interests beyond himself, and should not live for merely personal ends. Such ends must by-and-by seem meagre to us all, and he of all men needs to lighten his daily life by the feeling that it blesses others as well as himself.

The question of marriage is a grave one in these cases. It is a welcome sign of growing intelligence in such matters, that this question is being put to us with increasing frequency. If the predisposition be but slight, and of remote origin, it seems hard to forbid marriage; but we can urge that the partner selected should be of calm and well balanced mind, and

free from all nerve-proclivities. Unfortunately, excitable, unstable folks have an attraction for each other as remarkable as it is unwise. If the tendency be marked, the prohibition should be absolute. It is far better to endure isolation, and to miss the comfort and solace of married life than to bring sorrow on others, and unknown ill's upon offspring. To choose a partner beyond the age of child-bearing is one way out of the difficulty; but choice in these things is guided by feeling rather than by judgment, and love is so blind and persistent, that our wisest councils are often disregarded.

The chiefest safeguard comes last, for I should be guilty of a fatal omission, and false to my deepest convictions, if I did not regard as the chiefest, faith in the unseen God. The relation of religion to insanity is often misunderstood. When the gloom of a melancholic takes a religious type, what is but a symptom is often regarded as the cause; the case is called religious insanity, and religion is supposed to have produced the disorder. It would be as accurate to regard the imaginary ailment of a hypochondriac as the cause of his condition. Cases certainly do occur in which true religious anxiety has produced insanity; and it would be strange indeed if the subject which is greatest of all, and which stirs the mind most deeply, did not sometimes overwhelm it; but too often this sad result has followed from views of religious truths so false and distorted as to be a libel upon its name. There is no security for conduct, no strength for duty, no support in sorrow to be compared to that which true religion affords. Tempests of trouble will not overwhelm the man who endures as seeing Him who is invisible.

#### DIAGNOSIS AND TREATMENT OF POSTERIOR POSITIONS OF THE OCCIPUT.\*

BY WILLIAM L. RICHARDSON, M.D., OF BOSTON.

Called to a case of labor the physician promptly responds. According to the account, given by an intelligent nurse, the labor has been going on two or three hours. The patient's condition, both mental and physical, is good. A vaginal examination discovers the os uteri to be one-third dilated, the child's head presenting. Having assured all the interested parties of the perfectly satisfactory condition of the situation, the doctor hastens away to complete the work of the day, so as to be on hand when his services shall be required. A few hours later he finds the os uteri fully dilated, the head somewhat descended, although not quite so far as he had anticipated, and, again congratulating the patient and her friends on the favorable progress of the case, he once more hastens away to make the remaining one or two visits, possibly revolving in his mind, however, the conscious surprise that he experienced in not finding the head further advanced. Returning in an hour, his work for the day done, the head is found to be a trifle lower, the pains excellent, but the woman somewhat tired. Realizing that the end is not far off he awaits the termination of the labor, which is now, in his opinion, close at hand. Time passes; the pains are all that could be desired, but the child is not born. Flattering himself that the head is lower, at least it ought to be

\*Read before the Massachusetts Medical Society, June 10, 1885, and recommended for publication by the Society.

and he hopes that it is, he waits. One, two hours go by; the woman, like the doctor, becomes impatient, but there is no progress, except what the doctor tries hard to imagine. The patient's pulse, as well as her mental condition, is beginning to show the effect of the labor. It is evident that something must be done, and, all that is needed is a little help, the aid of forceps is invoked. Assuring the patient and her friends that the operation really amounts to nothing and that in a few moments, without further suffering, the child will be born, the patient is etherized, the forceps are applied, traction is exerted and the forceps begin to slip. Surprised, disappointed, wondering and with some misgivings, the forceps are reapplied only to slip again; the head remains where it was. A more careful examination is now made, but no light is thrown on the problem, and the puzzled attendant asks for the assistance of a friendly professional brother. He arrives, but somehow the forceps again fail to work. The case begins to look serious. At length, after alternate pulling on the handles and readjusting of the blades, the child is delivered still-born; the perineum is sewed up and the doctors retire homeward, each explaining to the other what the trouble was, and, at the next meeting of the local medical society, the doctor reports the case as one of difficult forceps, owing to a slight, though undescribed, pelvic deformity. The nurse, if very intelligent and observing, wonders to herself why the face, when it escaped from the vulva, looked forward instead of backward, and the youngest member of the local society, fresh from the medical school, suggests that the trouble might have been due to an unrecognized posterior position of the occiput, and consequently a wrong application of the forceps; a suggestion received with that silent smile of experience which at once sets the young man to thinking, and possibly also some of the older members of the society.

The above sketch is the clinical history of not a small number of obstetric cases; the above undescribed but assumed pelvic deformity the cause of a fair proportion of still-born children.

Two years ago, asked by the students of the Harvard Medical School to lecture on the mistake which, when called in consultation, I most frequently saw made by physicians, I spoke on the diagnosis and treatment of this class of cases. Asked by the committee in charge to prepare something for this annual meeting of the Massachusetts Medical Society, I could think of no more practical subject, and therefore offer the following brief paper on the Diagnosis and Treatment of Posterior Positions of the Occiput, occurring in a normal pelvis and with a normal fetus at full term.

The careful obstetrician is one who recognizes that for an intelligent attendant on a case of labor a knowledge of the fetal position is just as important as a correct diagnosis of the presentation. As a rule, however, practitioners usually content themselves with making out the presentation, and, having assured themselves that the head is presenting, consider the position a matter of minor importance, knowing that cephalic presentations usually come out all right. Now, as a matter of fact, it is in these head presentations that a comparatively slight deviation from the usual position can occasion more difficulty than in any other, for the reason that the deviation is usually unrecognized and the assistance often rendered, when

the case does not progress as the practitioner had anticipated, is consequently unscientific and not unfrequently precisely the reverse of that which the condition demands.

The neglect to make out the position until some unexpected and unexplained delay renders such knowledge imperative, allows the formation of a caput succedaneum. This of itself often renders any attempt to make out the diagnosis per vaginam a matter of considerable difficulty; while the oedema of the vagina in advance of the presenting part only adds to the obscurity of the problem.

The diagnosis of a position would be rendered much easier if the practitioner would avail himself of the great advantage to be gained by the use of external palpation.

Fourteen years ago (1871) I read at the annual meeting of this Society a paper on the use of External Manipulation in Obstetric Practice, showing with what ease the presentation could be made out by this method of examination. The paper contained nothing original, being simply a statement of the teaching in Vienna at that time. My attention was subsequently called to a paper<sup>1</sup> read in 1869 by Dr. J. T. Whitaker, before the Cincinnati Academy of Medicine, on "The Examination by Palpation of the Pregnant Abdomen," which was also a *résumé* of the practice in Germany. In 1872, Dr. J. R. Chadwick published<sup>2</sup> a more detailed account of the continental methods of making external examinations. In 1873, and again in 1875, Dr. Frank C. Wilson published<sup>3</sup> papers on "Fetal Physical Diagnosis," with, however, special reference to the value of auscultation. In 1879, Dr. Paul F. Mundé published<sup>4</sup> an admirable article on the "Diagnosis and Treatment of Obstetric Cases by External Manipulation." None of these writings, however, contained any special directions as to the method of differentiating the posterior from the anterior positions of the occiput. — Dr. Mundé, whose paper was the most elaborate, dismissing occipito-posterior positions as "merely abnormal rotations or arrest of rotation of the two regular vertex presentations."

In 1878 Prof. A. Pinard, of Paris, published a most admirable monograph on Abdominal Palpation, which has recently (1885) been translated into English by Dr. L. Ernest Noble, of Baltimore, in which he treats in detail of the differential diagnosis of the posterior and anterior positions. This is, so far as I know, the first published account of how such a differential diagnosis can be made out. Some points that will aid the practitioner in arriving at a correct diagnosis are, however, not touched upon in Professor Pinard's article, and it is to these as well as to those to which he has called attention that I shall briefly allude in this paper.

Notwithstanding all these articles on the subject, judging from my own experience in consultation, with physicians, this method of making out the position of the fetus in utero is rarely practised except by the younger members of our profession fresh from the medical school or the continental clinics. Those who do practise it will, however, agree with me that, by the use of abdominal palpation, we are enabled, in the great majority of cases, to accurately make out not only the presentation but the position; a diagnosis

<sup>1</sup> Philadelphia Medical and Surgical Reporter, November 29, 1869.

<sup>2</sup> Boston Medical and Surgical Journal, August 15 and 22, 1872.

<sup>3</sup> American Practitioner, July and October, 1875.

<sup>4</sup> American Journal of Obstetrics, July and October, 1879.

which should always be subsequently confirmed by a vaginal examination. In many cases where the labor has been tedious and the progress slow, the diagnosis per vaginam is difficult, unless it be preceded by an external examination, by which we can often easily make out the probable condition. This once known, a subsequent verification of the position by a vaginal examination is a matter of comparative ease. First, therefore, let us consider the method of making the diagnosis.

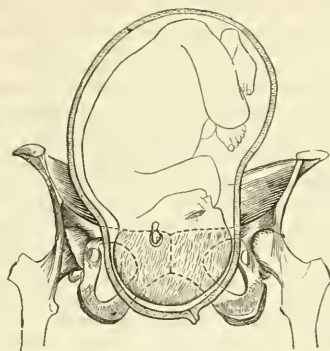
The woman should lie on her back with the legs extended and slightly separated. The examiner should stand on the level of the umbilicus, and on either side as is most convenient. Having assured himself that the bladder is empty, he should place his hands flat on the abdominal wall, telling the patient at the same time to make several deep expirations. In this way he is soon able to thoroughly examine the uterus and the pelvic cavity with their contents. On one side of the longitudinal axis of the uterus the resistance offered by the back of the child will be felt, while on the other side the resistance is much less marked and of a different character, being only that offered by the liquor amnii and the fetal extremities. The location of the dorsum is thus easily made out, and the occiput must be on the same side. Is it anterior or posterior? If it is posterior a more limited resisting surface is felt, and one which is more marked the farther one goes from the median line and the nearer the palpating hand reaches the lateral border of the uterus. If it is anterior the resisting surface passes to a greater or less degree over the median line, and, in many patients, the fetal vertebral column can be distinctly made out, which of course can never be done if the position is posterior. Moreover, as Pinard has noticed, the frontal end of the child's head being higher up in the mother's abdomen than the occiput,



is first reached by the hands of the examiner, and as the fingers approach nearer and nearer to the symphysis pubis the one which is on the side towards which the face points is first arrested, the flexion of the head allowing the hand over the occiput to pass lower into the pelvic cavity.

There are of course cases in which, owing to an unusual thickness of the abdominal wall or a large amount of liquor amnii, it is not possible to so accu-

ately map out the fetal outline in the manner described as to say positively whether the occiput is



anterior or posterior. But even in these cases an external examination will rarely fail to greatly facilitate the determination of the position. Those cases must be very exceptional in which we cannot, with absolute certainty, say on which side of the longitudinal uterine axis the back of the child lies. Given the situation of the back in the uterus, we know that the occiput, as has been already said, must be on the same side of the pelvis.

From a careful examination made early in labor of nearly 1,000 cases (981), occurring in my own practice and at the Boston Lying-In Hospital, I find that the head entered the superior pulvius strait in the right oblique diameter in 963, or 98 per cent. Nagelé, whose work on the subject has become classical, states this occurs in 99 per cent of all cases. I am aware that Dr. R. U. West takes exception to Nagelé's statement,<sup>1</sup> and claims that the head so entered the pelvis in only 60 per cent of a large number of cases in which he had an opportunity of making an early examination. The limits of this paper preclude any attempt to discuss West's elaborate paper on the subject, which, I think, however, open to several serious criticisms. My experience is in accord with the views of Nagelé, whose statement has also been accepted by nearly all the recent writers on the subject. If, therefore, an external examination shows us that the back of the child is in the mother's left, we know that the position must be that usually known as the first or occipito left anterior; for all observers, including even West, agree that the fourth or occipito left posterior is so rare as to be considered only as a very exceptional possibility. If, on the other hand, the child's back is found in the right, we may be dealing with either the second or third position, that is, with an occipito right posterior or anterior. A vaginal examination will, however, in many cases at once determine the position. If per vaginam the examining finger finds that the head is only just engaged at the superior strait, it is in all probability a posterior position; for it is in that diameter that the head usually enters the pelvis. If, on the other hand, the head has begun its descent, it may be either. It will enter in the right oblique; as it descends it may or may not have rotated, and an

<sup>1</sup> Glasgow Medical Journal, October, 1856, and January, 1857.

examination of the sutures and fontanelles will alone determine whether rotation has begun or not. In every case an examination per vaginam of the sutures and fontanelles should of course be made, for the purpose of confirming the diagnosis thus already made out. Practitioners who have never accustomed themselves to practise external examination will be astonished to find how, in the great majority of perplexing cases, the vaginal confirmatory examination will be found to be greatly facilitated by the knowledge previously acquired by manipulation of the abdomen.

So much then for the diagnosis of the posterior positions, and on their early recognition will the successful management of many of them depend. Some, in fact the great majority, take care of themselves; but every now and then the practitioner meets a case such as I attempted to describe in the beginning of this paper—a case in which his neglect to early recognize the position, allowed the patient to go from bad to worse, and resulted in an unscientific interference terminating in a way which is a disgrace to our knowledge of the true mechanism of labor.

One unvarying principle in this mechanism is, that the part of the fetus which is the lowest in its descent through the pelvis, must rotate forward under the arch of the pubes whenever it reaches the resistance offered by the lower pelvic strait. If the occiput presents in the posterior position as the labor progresses, and the head descends, the occiput must, therefore, when it reaches this resistance, rotate forward and become an anterior position. If, as the head descends, no such rotation takes place, it can only be because some other part of the head than the occiput has first reached the point where resistance is encountered, and that part, therefore, instead of the occiput, is then forced forward. This of course can only happen when there is lack of complete flexion, and, as a consequence, some other part of the fetal head than the occiput is lower and first meets resistance. In other words, whenever we find that a head presenting with the occiput posterior fails of an occipital forward rotation, we know that we are dealing with a head more or less extended. As the head in such cases descends, the expulsive force must act by driving the sinciput, which is the lowest part, forward, and the occiput necessarily turns backwards into the hollow of the sacrum into which it is crowded, thus more and more shifting the pressure on the long arm of the lever and increasing the extension, the occipito-frontal diameter of the head taking the place of the sub-occipito-bregmatic. This gradual extension is readily detected by the greater ease with which the examining finger reaches the anterior fontanelle the lower the head descends.

The treatment of cases of occipito-posterior positions should be in the main what one might call prophylactic. The great majority of them require no treatment beyond a careful watching on the part of the attending physician. Governed by the principle that the lowest part of the presenting head must rotate forward, the occiput, though originally posterior, when it reaches the floor of the pelvis is rotated forward and assumes an anterior position. Rotation of the frontal end forward does, however, occur, as has been said, whenever there is a failure of proper flexion. West reports 79 such cases out of 2,585, a little over 3 per cent. It is to be regretted that in his admirable paper on the subject he does not tell us in how many of the whole number of cases the occiput presented poste-

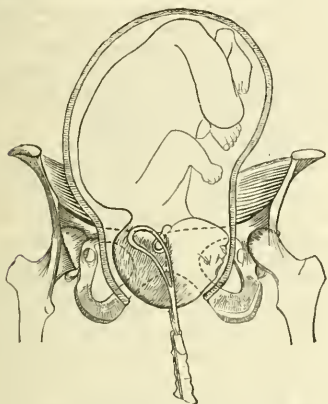
riorly, in order that we might know in what percentage of such cases a failure of forward rotation of the occiput occurred. When such failure of forward occipital rotation occurs, the case at once becomes one involving more or less difficulty according as the head becomes more and more extended; the difficulty being of course only slight when there is only slight extension, and being most marked when extension is so great that the original vertex presentation has become converted into one of the face. The successful treatment of these cases must depend largely on the time when the diagnosis of the failure of proper flexion has been discovered, and the manner in which the attendant attempts to remedy the difficulty.

The diagnosis of a posterior position of the occiput having been made, the progress of the case should be carefully watched, with a view of an immediate detection of any failure of proper flexion. The posterior fontanelle should always be easily reached, while the lower the head descends the greater the difficulty in touching the anterior fontanelle, on account of the crowding of the frontal end of the fetus against the symphysis pubis. If at any time during the progress of the case the posterior fontanelle remains stationary while the anterior is becoming more and more easy of access, the attendant is at once conscious of a gradual extension of the head. It is at this time that an intelligent interference with the case can be of the greatest service. The fingers of the right hand, if the occiput be to the mother's right, should be applied to the frontal end of the head, and, during a pain, a firm resistance, not pressure, should be kept up to prevent any further descent, and the actual flexion of the head should be left to the pressure exercised on the occipital end by the force from above occasioned by the uterine contractions.

It not infrequently happens that the physician does not see the case, or, seeing the case does not recognize the threatening trouble, until the labor has so far advanced and the head has become so extended that the simple application of pressure, as advised in an earlier stage of the case, is no longer practicable. Occasionally such pressure, in conjunction with the vectis applied over the occiput, will, according to some writers, even at this late period of the labor, be found to be successful, although I have never been able myself to use the vectis under such circumstances with any very marked success. In such cases, or where the vectis has been tried and failed, I have several times been able to rectify the malposition of the head by a different application of the forceps from that in which they are generally used. It is to this method of delivery by forceps that I would especially call the attention of the members of the Society.

Where in posterior positions of the occiput the head has become to any degree extended, the use of the forceps, as usually applied, only serves, when traction is made, to increase the extension, thus facilitating the change of an occipital into a face presentation. The object I have endeavored to obtain in the use of the forceps in this class of cases, is not only to the descent of the head, but its flexion. Several times at the Boston Lying-In Hospital and in my own private and consultation practice, I have been able to overcome the existing difficulty, and to effect both the descent and flexion and consequent rotation of the head, by the application of the forceps reversed, that is, with the convexity of the pelvic curve toward the pubes instead

of toward the hollow of the sacrum as is usual. To effect this change of flexion, the blades should be introduced in such a way that the cephalic curve should pass over the ears of the child, the tips resting on the occiput. When traction is exerted, the forceps being so applied, the result must be that the main force of the traction is expended on the occiput, and, as the result, the occiput is drawn down and the head tilting on its attachment to the spinal column yields to the leverage thus applied, and the frontal end being forced



up the flexion of the head is at once established, and the occiput becomes the lowest part; the case can then be left to nature, and the forward rotation of the occiput soon takes place. The flexion is often facilitated by pressing the frontal end of the head upwards with one hand, while the occiput, held firmly within the blades of the forceps reversed, is drawn downwards with the other. If, owing to some emergency, immediate delivery is demanded, the forceps should always be taken off after the head has been flexed and then reapplied in the usual way, and the delivery effected; the operator favoring during the traction the forward rotation of the occiput. The extraction of the head with the forceps reversed is not a safe procedure, the tips of the blades tending to produce lacerations in the floor of the vagina and of the perineum.

In three cases, where all efforts at restoring the normal flexion of the head had failed, and the descent of the head had become arrested, owing to a want of adaptability between the fetal and pelvic diameters, I have seen further delay avoided and a successful and comparatively speedy result obtained to both mother and child by completely extending the head, thus converting a brow presentation at once into the most favorable variety of face presentation, namely, that in which the chin presents under the pubic arch.

The object sought in the preparation of the paper has been to insist upon the necessity of early making out the position, as well as the presentation, in every case of labor; the great advantage to be gained from the practice of an external palpation of the abdomen; in cases of posterior positions of the occiput the importance of an early recognition of any lack of flexion which will be liable to prevent the subsequent forward occipital rotation; the danger, if forceps are applied

to an extended head so situated, of still further increasing the extension, and the ease with which traction, applied on the occiput by means of the forceps reversed, not only restores the lack of flexion, but also facilitates the forward rotation of the occiput and the speedy and successful termination of the labor.

## THE PROPHYLACTIC TREATMENT OF OPHTHALMIA NEONATORUM.<sup>1</sup>

BY WALTER P. MANTON, M.D. (HARV.), OF DETROIT, MICH.

NEARLY two years ago I published a paper on this subject in the *American Journal of Obstetrics*,<sup>2</sup> but, as a large number of articles on the treatment of this disease have appeared, both in this country and abroad since then, it is my intention to-night, in a measure, to bring together these more recent observations and opinions of the treatment first inaugurated by Credé, of Leipsic, for the prevention of ophthalmia-blennorrhoea. It may, however, at the start be advisable to briefly consider this disease; its aetiology, and the treatment employed for its cure.

As regards the fatality of this ophthalmia to the eyes of the new-born, Lawrence says it "causes more blindness than any other inflammatory disorder that happens to the eyes."<sup>3</sup> Vogel<sup>4</sup> states that 80 to 90 per cent of all cases met with in practice affects the eyes of the new-born. Statistics go to show that in Germany and Austria the blindness found in the various asylums due to this disease is from 33<sup>5</sup> to 75<sup>6</sup> per cent; but I am unable to find any figures in regard to this in the United States.

In a country like ours, where the women of all classes are confined in their own houses, and lying-in hospitals are poorly patronized, the making of statistics on this point would be exceedingly difficult. Every practitioner, however, has met with such cases, and there can be no doubt but that, although the percentage is very much below that given by Vogel, the disease is sufficiently common to make it an object of dread.

If the importance of sore eyes in the baby could be impressed upon mothers and nurses, and cases could be treated from the beginning, the results would not be as disastrous; for, as Williams<sup>7</sup> says, "no disease is more fatal to the eyes when neglected or improperly managed"; while, on the other hand, "none offered better results from judicious treatment, for even in its worst form it is always curable."<sup>8</sup>

Not every inflammation of the eyes met with is a purulent ophthalmia, and yet in the early stages it is often impossible to determine whether the conditions present are harmless or vicious. For this reason the accoucheur should warn the attendant to notify him at the first indication of trouble with the infant's eyes.

Ophthalmia neonatorum usually begins several days after birth. It may appear as late as the ninth day, but this late development is so rare that of fifty-one cases affected with the disease, out of 1,092 chil-

<sup>1</sup> Read before the Detroit Medical and Library Association, Jan.uary 19, 1886.

<sup>2</sup> October, 1883.

<sup>3</sup> Diseases of the Eye, Philadelphia, 1881, p. 215.

<sup>4</sup> Lehrb. d. Kinderkrankh. Stuttgart, 1880, p. 71.

<sup>5</sup> Koenigslein, Arch. f. Kinderheilk. Bd. III. 1882.

<sup>6</sup> Graefe. Volkman's Klinische Sammlung. No. 192.

<sup>7</sup> The Diagnosis and Treatment of Diseases of the Eye. Boston, 1871, p. 88.

<sup>8</sup> R. Liebreich. Medical Times and Gazette, 1871, Vol. II, p. 707.

dren, the period of incubation was nine days in only two instances. In the very large majority of cases the blennorrhœa appeared before the fifth day; so that we are safe in assuming that all cases developed after that period are due to infection after birth from dirty hands, lochia, etc.

The disease usually begins in a way which is far from alarming the attendant of the child — and much mischief may be done before it is brought to the physician for treatment. Thus a case is mentioned by Ryall,<sup>1</sup> of Dublin, in which the mother brought both lenses of her baby's eyes, and some of the vitreous humor, in a wineglass, when applying for assistance.

The first symptom to be noticed in ophthalmoblennorrhœa, is a slight reddening of the skin of the upper eyelid, accompanied by a watery discharge from the eye, and photophobia. If the conjunctiva is inspected it will be found reddened and velvety. By the next day, or even in a few hours, the lids, and particularly the upper, will be found enormously swollen and livid, and the secretion, becoming more and more purulent, is poured out in quantity. "The upper lid," says Nettleship,<sup>2</sup> "hangs down over the lower and is often so stiff that it cannot be completely everted."

The lids often become glued together by the dried pus along their edges, and the pent up and increasing secretion behind causes them to bulge forward. If, at this stage, the lids be carefully drawn apart — and the greatest care is necessary lest the cornea, perhaps already damaged, be ruptured — the conjunctiva, bathed in pus, will be found greatly injected, and hæmorrhage will occur even with the most tender handling. The great danger from this disease lies in the strangulation of the blood-vessels, and the local influence of the purulent discharge. These, if left to themselves, are very apt to lead to extensive corneal sloughing, or the formation of deep ulcers and perforation.

The ætiology of this disease is now pretty well established. It is caused by a specific virus which is identical with that of gonorrhœa. This virus, like all other important matters now-a-days investigated, has a micrococcus of its own, or rather one which it shares with the discharge of gonorrhœa. This coccus was discovered by Prof. Alb. Neisser in gonorrhœal pus, and named by him gonococcus. The cocci form colonies of ten or twenty individuals, and are enclosed in a sheath of mucus; but as a peculiarity they are never seen in close contact with one another. Usually they are seen adhering to pus corpuscles, but occasionally are found on epithelial cells. They possess an affinity for methylviolet and dalia, and may also be colored, but not so distinctly by eosin. The method employed for their detection is that of Koch.

In all the gonorrhœal pus examined by Neisser, the characteristic coccus appeared, but in no other, save in ophthalmoblennorrhœal pus was it to be found. The constancy of this coccus in gonorrhœal discharge has been further proved by the researches of Weiss, Ehrlich, Sattler, and others. Sattler, and others have also attempted the "pure" culture of this micrococcus, but as yet have not met with complete success in their experiments.

Shirmer<sup>3</sup> reports a case of a six-day old child, in perfect health, with a healthy mother, whose eyes

became infected by lochial secretions. In forty hours an ophthalmia was produced and in the secretions from the eyes Sattler found the gonococcus.

Zweifel,<sup>4</sup> of Erlangen, experimented with six healthy children, having healthy mothers, the absence of syphilis, gonorrhœa, etc., in whom during pregnancy was positively ascertained. Lochial discharge from these mothers were placed in the children's eyes, the result being an inflammation in one case. This, Zweifel thought to be a genuine ophthalmoblennorrhœa, but it was discovered that the father of the child lay sick with diphtheria in the same room, and the secretions from the child's eyes, which were examined by Sattler, were found to be *diphtheretic only*.

Without going further into the discussion of this point, it is very evident that ophthalmia neonatorum is caused by a specific, active principle, not yet isolated, found in the secretions of gonorrhœa.

The predisposing causes of this blennorrhœa, according to the investigations of Credé,<sup>5</sup> are a premature rupture of the membranes, and a prolonged second stage; that is, anything over one hour.

All treatment of ophthalmia neonatorum heretofore has been directed to the disease after its presence has become evident. This has consisted in such household remedies as breast milk, pieces of human placenta, salves, etc., or the more radical professional treatment with caustics and the like. Since Credé's first article appeared, various methods or modifications of the treatment advocated have been tried. These have generally consisted in washing out the vagina with antiseptics before and during labor; immediately wiping the child's eyes as soon as the head is born, with cotton or bits of rags wet in carbolic, salicylic, or boric acid lotion; irrigation of child's eyes with carbolic lotion or plain water, etc., and have been more or less successful.

Credé's<sup>6</sup> own first attempts were directed to the mother. Each pregnant woman entering his hospital with gonorrhœa or leucorrhœa had the vagina washed out with an antiseptic lotion at frequent intervals; and the lying-in underwent this treatment every half hour. This diminished somewhat the frequency of ophthalmoblennorrhœa, but was not altogether satisfactory.

Attention was then turned to the eyes of the child, which received a drop of a weak solution of borax (1:60). This also proving unsuccessful, Credé left off washing out the vagina, December, 1879, and began cleansing the eyes of the child with a solution of salicylic acid (2:1000), a single drop of a solution of nitrate of silver (1:40) was then allowed to fall between the lids, and the eyes were kept cool for twenty-four hours by bits of cotton wet in the salicylic lotion. Finally a two-per-cent solution (1:50) of nitrate of silver was used after the bath, and no further attention was paid to the child's eyes. This treatment practically reduced the percentage of ophthalmoblennorrhœa to 0 in Credé's clinic.

During the early part of 1881 Credé published a pamphlet<sup>7</sup> in which he not only reviews his own experience in this treatment, — extending over a period of about five years, — but has also collected the writings of all others on this subject up to date of publication. The general verdict being in nearly every instance favorable to the method.

<sup>1</sup> Tr. Ass. of Fellows of College of Physicians in Ireland, Vol. IV., p. 313.

<sup>2</sup> Diseases of the Eye, London, 1881, p. 76.

<sup>3</sup> Archiv. f. Gynækologie, Bd. xxv., p. 19, also Bd. xxviii., p. 295.

<sup>4</sup> Centralblatt f. Gynækologie, 1882, p. 209.

<sup>5</sup> Separatdruck, aus Arch. f. Gynæk., Bd. xvi., Heft 2, 1882.

<sup>6</sup> Arch. f. Gynækologie, Bd. xvii., p. 50; also Bd. xviii., p. 307.

<sup>7</sup> Die Verhütung der Augenentzündung der Neugeborenen, Berlin, 1881.

Since the publication of my own paper on this subject, I have seen a large number of children treated by Credé's method in the clinics of Vienna and elsewhere, and I cannot recall a single case of the disease where the application has been carefully and thoroughly made.

Leopold<sup>1</sup> reports from the Dresden Lying-in Hospital a series of 1000 cases thus treated, with three cases, or 0.3 per cent of ophthalmia neonatorum. In 522 additional cases, where the application was made each time by an assistant, the nurses having nothing to do with it, the percentage of blennorrhœa was reduced to 0.

Beumer and Peiper<sup>2</sup> report from the Klinik and Poli-Klinik of Greifswald, where the percentage of ophthalmia neonatorum has, during a period of twenty-four years, varied between 1.7 per cent and 30.8 per cent that "with the adoption of Credé's prophylactic treatment with nitrate of silver, the change was at once evident. There were, indeed, a few cases of the disease, but these were of such a light degree that they can hardly be called blennorrhœa, especially as they for the most part yielded at once to the treatment with sulphate of zinc, or Boracic acid, being cured in a few days."

The most recent report from our own country comes from Dr. Garrigues<sup>3</sup> of New York, who found that of 351 children treated by this method in the Maternity Hospital, not one was affected with ophthalmia-blennorrhœa. The perfect results now obtained by Credé's method, make it obligatory in every lying-in institution to adopt this treatment. And, as the disease is also met with more or less frequently in private practice, no physician should consider his obstetrical armamentarium complete without a small bottle of a two-per-cent nitrate of silver solution. And in every case where there is a history of specific disease, or leucorrhœa or other discharge from the genitals during pregnancy, it should be the care of the accoucheur to see that the child's eyes are properly treated prophylactically. The *modus operandi* is so simple that it requires no experience or training in its carrying out. After the bath the child's eyes should be wiped with a bit of cotton or linen rag wet in clean water, every particle of smegma, etc., being thoroughly removed. The lids should then be carefully separated by the thumb and fore finger of the left hand, while with the right a single drop of the silver solution is allowed to fall from a glass rod into the middle of the cornea. With a clean bit of rag wet in water, the eyes are again wiped and dried. Further treatment there is none. It is well to see that the tip of the glass rod is smooth and rounded so that if coming in contact with the cornea, it can produce no injury.

#### COMBINED VERSION (BY INTERNAL AND EXTERNAL MANIPULATION) IN PLACENTA PRÆVIA, WITH REPORT OF A CASE.

BY J. S. HALL, M. D., (HARRY), STERLING, COLORADO.

The case following is reported as showing the value of the method of version by combined internal and external manipulation in placenta prævia in cases of emergency, where a consultation is impossible and all that is done must be done by the physician with the aid only of such assistants as may be found in any house.

Mrs. J. P. G., married, twenty-four years old, fourth pregnancy. Last menstruation June 12th to 15th. On January 5th, hemorrhage occurred, estimated at a pint and recurring on 12th, advice was sought. Although there was complete placenta prævia, temporizing measures were adopted until June 26th, two or three slight floodings occurring meanwhile. After a hemorrhage of half a pint on that day, induction of labor was decided upon, the os being soft and admitting the finger easily. The nearest available medical assistance being one hundred miles distant, the operation was done with the assistance of the husband and two women of the house. Complete anesthesia by ether being regarded as of doubtful expediency under these circumstances, the woman was allowed to inhale chloroform to the extent of becoming only partially unconscious. At 9.20 A. M., the forefinger was introduced into the os, and in about thirty minutes the placenta was detached upon the right, a foot seized, and, by assistance of the left hand externally, was brought down, two fingers only having been passed into the uterus. Traction on the foot checked all hemorrhage, and, in ninety-five minutes from the beginning of the operation, a male child weighing five pounds was delivered. The fetal heart had been heard in right flank, 120 per minute, and a boy predicted.

Placenta immediately expelled by Credé's method, and total loss of blood in the labor estimated at a pint.

The after-treatment was the same as in ordinary labors, and mother and child did uninterruptedly well.

#### REPORT ON THE PROGRESS OF LARYNGOLOGY AND RHINOLOGY.

BY FRANKLIN H. HOOPER, M.D., BOSTON.

PHOTOGRAPHY OF THE LARYNX.

Among the progressive steps that have recently been taken in matters pertaining to this report, we must mention the perfection to which the art of photographing the human larynx has been brought, owing to the perseverance and skill of Dr. Thomas R. French, of Brooklyn, N. Y.

Dr. French read a paper on this subject at Copenhagen (International Medical Congress, August, 1884), and again, by invitation, last April before the College of Physicians, Philadelphia. We are indebted to the courtesy of the Committee on Publication of that society for the cuts accompanying this report.

In his paper the author states that he believes that photography of the larynx will prove of value. 1. By enabling us to obtain exact reproductions of the laryngeal image, thereby furnishing truthful illustrations for published reports of cases. 2. In the study of the physiology and the pathology of the larynx. 3. By enabling us to show photographs with the lantern for class-room instruction. The manner in which the larynx is photographed may be seen from this sketch (Fig. 1).

In the window is an instrument by means of which the sun's rays are concentrated. It consists of a hollow truncated cone of metal, ten inches long, in the large end of which is a double convex lens. In the small end is a plano-convex lens which intercepts the converging rays of the large lens and makes them parallel. The beam of light is caught upon the head-reflector, and reflected into the fauces of the subject.

In the examiner's right hand is seen the camera. Within the camera is a drop-shutter. This is governed

<sup>1</sup> Arch. Gynecologie. RL, xcvi, p. 91, 1881.

<sup>2</sup> Arch. F. Gynecologie. RL, xcvi, p. 179, 1881.

<sup>3</sup> American Journal Medical Science, October, 1881.

by a spring which is under the control of the fore-finger. A holder, containing a plate, is inserted through a door on the back of the camera. The plate is so arranged that, by sliding it up and down, five photographs can be taken upon it.

Now, when the examiner sees with his left eye, through the opening in the reflector, the image of the various structures of the larynx, in the throat mirror,

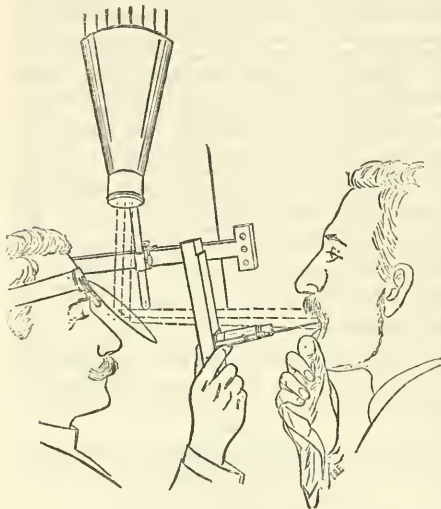


Fig. 1.

in the position in which he wishes to photograph them, he presses upon the spring with his index finger, the shutter falls, and the exposure is made. In this way five photographs can be taken in from three to five minutes.

There is an effect shown in the photographs which cannot be so well shown in drawing; that is *depth*.

This photograph (Fig. 2) was taken of the larynx of a lady while singing a tone in the soprano voice.



Fig. 2.

The vocal bands are seen to be short. They are not as short as they appear to be, for the epiglottis over-



Fig. 3.

hangs the larynx somewhat, and cuts off a view of a part of them, but they are really quite short. Short

vocal bands in the female indicate, as a rule, that the subject has a soprano voice.

This (Fig. 3) was taken of the larynx of a professional contralto singer, while singing the note E, treble clef, fourth space. The vocal bands are long, and long vocal bands in the female indicate, as a rule, that the subject has a contralto voice. The chink of the glottis is seen to be open widest in its posterior part. Dr. French believes that the position of the vocal bands, in different larynges, in the production of the same tone, in the same class of voice, almost always differs.

This photograph (Fig. 4) was taken of the larynx of a gentleman while singing a tone in the tenor voice.

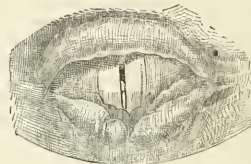


Fig. 4.

Unfortunately, at the time that the photograph was taken, he was suffering from an attack of acute laryngitis, which accounts for the presence of mucus in the chink of the glottis, as well as upon one arytenoid cartilage. The vocal bands are seen to be short, and when we find short vocal bands in the male, we can feel quite certain that the subject has a tenor voice.



Fig. 5.

This (Fig. 5) is a photograph of the larynx of a bass singer while singing the note B, bass clef. The vocal bands are seen to be long. They are usually long in subjects having bass voices. In this picture we see that the vocal bands are in contact at their posterior insertions, leaving an opening in front, which is widest just in front of the point in contact, and a very small opening behind. The position of the vocal bands as seen in this larynx does not agree with any description which Dr. French has seen, of the mechanism in the production of low tones in the bass voice. In larynges



Fig. 6.

of other subjects having bass voices, while singing in the same tone, the chink may have an elliptical shape, and be open in its entire length.

The preceding drawing (Fig. 6), is of the larynx of a young lady, sixteen years of age, who possessed the extraordinary compass of four octaves, and could sing as high as C' above the high C'. Dr. Cohen, in his ex-

cellent little book, "The Throat and the Voice," tells us that La Bastardella could sing this note, and that, for its production the vocal bands must vibrate 2100 times in a second. Dr. French was fortunate enough to secure a photograph while she was singing her highest note. You will observe that the vocal bands are very narrow, quite long, and in very close apposition. Of course, they were being subjected to the highest degree of tension. He was also successful in getting a photograph of her larynx while she was singing her lowest note, C, bass clef, second space (Fig. 7). Here you see that the vocal bands are very short, very broad, and not in close apposition. They become

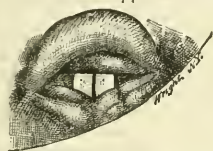


Fig. 7.

longer and narrower, and are brought into closer apposition as the voice ascends the scale.

(Excellent as these drawings are, they convey but an imperfect idea of the beauty of the original photographs.—*Rep.*)

#### LARYNGEAL PARALYSIS AND INEQUALITY OF THE PUPILS, AS TENDING TO AID AND ALSO TO MISLEAD IN THE DIAGNOSIS OF THORACIC ANEURYSM.

Dr. James Finlayson, in the *Lancet*, January 3, 1885, reports two cases of patients who were in his wards at the same time which afforded illustrations of the value of these signs, and also of the danger of trusting too much to their significance. There was nothing remarkable about the first case apart from the fact that the aneurysm was of the arch of the aorta, and yet the right vocal band was the one paralyzed. The dyspnea was often extreme, and he had had several attacks, almost fatal in character, due to spasm of the glottis, terminating with a crowing inspiration. The right pupil was smaller than the left. Dr. Finlayson discusses at some length the state of the pupils after death and the effect of atropine.

In the second case, where the signs of laryngeal paralysis and inequality of the pupils were misleading, there were obvious signs and symptoms of cardiac disease. But there was also evidence of dilated aorta. Moreover, there was at times a very distinct sense of impulse immediately under the left clavicle. There was also substernal pain, and this extended down the left arm, but there was no swelling. The pulses were throughout quite equal, and the tracheæ had a well-marked aortic regurgitant character. The left vocal band was paralyzed.

At the post-mortem examination the aneurysm so confidently looked for in the left side did not exist; there was, indeed, a dilated aorta, and even the beginning of a small pouching towards the right side just above the valves. The aortic valves were quite incompetent, much diseased, and very hard and calcareous; the heart was enormously enlarged. The cause of the left-sided laryngeal paralysis seemed to be due to the state of the left lung, which was found adherent and of a brownish color; it had the appearance of being compressed and shrunken. The recurrent laryngeal nerve was found to pass through a mass of enlarged glands, just at the arch of the aorta. The

explanation of the laryngeal paralysis seemed to depend on the dragging downwards of the left recurrent nerve, due to the greatly enlarged heart, and favored by the shrunken left lung. The implication of the recurrent nerve in the glands cannot be wholly set aside, although their softness would no doubt lessen the chance of their causing irritation, or, at least, of producing paralysis. We must, therefore, the writer concludes, bear in mind that the occurrence of laryngeal paralysis on one side, in the course of a case with symptoms pointing to the chest and strongly suggestive of aneurism, does not necessarily imply the existence of aneurysmal disease or of thoracic tumor.

#### RESPIRATORY CROAKING OF BABIES.

Dr. Samuel Gee has seen about a dozen cases of what he calls respiratory croaking in babies, and thus describes the affection in Saint Bartholomew's Hospital Reports, Vol. xx, 1884. Breathing is accompanied by a croaking noise, which seemed to Dr. Gee to have the characters of stertor more than of stridor; or, in other words, the sound seemed to be produced in the fauces and not in the larynx. The croaking usually accompanies inspiration only, but in one of the cases it accompanied expiration only. The noise is constant, both when the child is awake and when she is asleep; yet it may cease for a short time now and then. The tone of the cry is natural, and this is another reason for believing the noise not to be laryngeal. No dyspnea, no recession of chest wall during inspiration. Fances look natural. The noise continues when the nose is pinched. The croaking has nothing whatever to do with the crowing of laryngismus stridulus; the two disorders resemble each other in no respect, except that there is a noise produced in each. The ages of Dr. Gee's patients ranged from three to nine months. It is a remarkable fact that all of them were girls. The general health of some of the children was good, but most of them were weak and sickly. Two children suffered from congenital diseases of the heart, and one was an idiot. In some of the children this croaking began at or soon after birth, and in no case did it last much beyond the end of the first year. There is no special treatment; indeed, the disorder causes more annoyance to others than to the child herself.

Joseph Frank, in his "Praxis Medica" (De Morbis Laryngis, Cap. ii., Sect. 11), refers to observations of Storch which somewhat resemble these. But most of Storch's patients were older than Dr. Gee's, and he seems to have confused all kinds of stertor and stridor together. There is a much better description of the disorder in Rilliet and Barthez' book, "Des Maladies des Enfants," under the name of "Trachéite de la Première Enfance," but Dr. Gee's description, he says in conclusion, is wholly upon facts within his own experience.

#### DEFECTIVE WIND IN HORSES.

William Hunting, F.R.C.V.S., in a popular article on this subject in *Daily's Magazine*, December, 1881, points out that the abnormal sound made by a horse in his breathing when galloped, which is called "roaring," is due in ninety per cent of cases to a paralysis of one of the posterior cricoarytenoid muscles. This condition, as in man, admits, in the vast majority of cases, of no cure and is certain to become progressively worse. It is remarkable that in the horse, according to Mr. Hunting, that it is always the left

muscle which fails to act, and after death this muscle is found to be greatly atrophied. In some cases both muscles are more or less affected, and then but very little excitement is necessary to bring about suffocation. Horses with bilateral paralysis of the abductors are rendered serviceable by the performance of tracheotomy, and in the cabs in London they are often seen doing useful work while wearing their tubes. (The etiology and pathology of paralysis of the abductor muscles of the larynx—whether bilateral or unilateral—is one of the important questions of the day to laryngologists, and it is not unlikely that we may get some useful hints from analogous conditions in our dumb friends. We question, however, whether this condition in the horse be not due to complete paralysis of the recurrent nerve and not to any one particular muscle.—*Rep.*)

#### CASEOUS GLANDS IN THE TRACHEA CAUSING SUD- DEN DEATH.

Two cases of this rare affection have been reported within the past year. One by Dr. Percy Kidd,<sup>1</sup> of London, and the other by Dr. Janeway, at the New York County Medical Association meeting, March 16, 1885. A third case which came under the care of Professor Petersen-Kiel<sup>2</sup> is interesting as showing the result of treatment. Dr. Kidd's specimen was taken from the body of a boy, aged seven. He was noticed to have a croupy cough and somewhat stridulous breathing during life. One night, after running about in the daytime and having complained of no urgent symptoms, he suddenly awoke, screaming, coughing, and struggling for breath. He died in about ten minutes. At the autopsy the mediastinal glands were all enlarged and caseous; the enlargement was most marked of those glands lying in front of the trachea; the lower end of the trachea was blocked by an oval, partially softened caseous gland, which had been extruded through an ulcerated opening in the anterior wall of the trachea, just above the orifice of the left bronchus. The perforation led into an encapsulated space in front of the trachea, which contained caseous débris and traces of gland tissue. The lungs contained a few milium tubercles in their upper lobes, but were otherwise healthy. The heart was firmly contracted and practically empty, and was quite healthy. All the other viscera were healthy. It was remarkable that although the child evidently died of asphyxia, there was no distension of the right side of the heart found after death.

Dr. Janeway's specimen also came from a child who had died very suddenly from asphyxia. At the autopsy a cheesy gland was found at the bifurcation of the trachea, which had produced ulceration, while occluding the stenosed passage was a white mass which had undoubtedly become detached from this, but which was at first mistaken for coagulated milk. In addition, there was a fibroid induration of the upper lobe of the right lung, and a thickening around the bronchi. Two physicians had expressed the opinion that this child had died of paralysis of the heart; but paralysis of the heart, like the term malaria, was often used merely as a convenient expression to conceal ignorance. What was believed to be paralysis could only be determined by an autopsy. Dr. Janeway said, in

conclusion, that when stridor was heard in connection with tracheal breathing, it should always attract attention to the glands of the part.

Professor Petersen-Kiel's patient was a child aged six years, with a history of hereditary tuberculosis, but externally showed no indication of scrofulosis, and had recovered from a severe attack of German measles complicated with bronchitis. She was subject to frequent attacks of asthma, which progressively became more severe. At last she was brought to the hospital, and the dyspnea was so severe that death was imminent, and tracheotomy was hurriedly decided upon and performed. As a result of the operation, the breathing became but little easier, and it was evident, therefore, that the obstruction was below the incision. In order to determine the exact condition, Professor Petersen-Kiel then introduced an elastic bougie into the trachea, which met with no obstruction until it reached the bifurcation. Upon withdrawing the bougie, crumbling masses of caseous matter were found adherent to it, whereby it was rendered clear that the impediment was due to a caseous gland. By means of a Nélaton catheter, the end of which was cut off, a collection of cheesy matter, more or less calcified, was removed.

The breathing now became freer. No canula was introduced into the trachea, but the edges of the wound kept open by silk stitches. The child soon fell asleep. During the night following the operation, more caseous matter was evacuated in efforts of coughing. The patient recovered without accident, and the wound, made by operation, healed in twenty-three days. No abnormal condition existed in the lungs, and the portions of the glands evacuated contained no tubercle bacilli.

#### ACUTE MENINGITIS IN RELATION TO DISEASE OF THE NASAL MUCOUS MEMBRANE.

Interest in this subject, to which attention was long ago called by Mr. W. Spencer Watson and others, has recently been revived in England. Mr. Watson states that the important point in the clinical aspect of these cases is that the intra-cranial symptoms came on very insidiously, and that the nasal disease is often quite overlooked, so that the appearance of meningitis seems inexplicable, or is attributed to some other cause. Mr. Frank Ogston,<sup>3</sup> reports a case in which the post-mortem examination showed that the exciting cause was an inflammation of the nasal mucous membrane which had spread through the orbital plate of the ethmoid bone and the dura mater to the arachnoid membrane which it had attacked, and the inflammation had spread along the subarachnoid space. Dr. Ogston's report of the appearance, which directly concerns us here, says that a careful examination of the dura mater showed that it was healthy, except a small patch which covered the orbit, which was thickened, roughened on the side next the bone, and covered with a layer of lymph on the side next the brain, by which it was glued to the arachnoid. The orbital plate of the right side presented a canary-yellow appearance, and a congested and roughened state of the bone. On cutting this through, the nasal cavity was found to be filled with thick creamy pus, which welled out into the brain cavity.

This interesting case of Dr. Ogston's called forth, in the succeeding number of the same journal, a communication from Dr. McNaught, of Newchurch, who

<sup>1</sup> London Medical Times and Gazette, February 21, 1885.

<sup>2</sup> Dent. Med. Wochenschr., March 5th. Phila. Med. News, April 19th, 1885.

<sup>3</sup> British Medical Journal, May 16, 1885.

reports two nearly similar cases, both attended by fatal results, but no post-mortem examinations could be obtained. In both of these cases a very profuse discharge of fetid pus took place suddenly from both nostrils. Although there was nothing specially pointing to the frontal sinuses in these cases, Dr. McNaught thinks that there can be little doubt that the meningitis had been set up by continuity from inflammation of the mucous membrane lining these cavities. He suggests that if early inquiries be directed to the condition of the frontal sinuses, and careful attention paid to the symptoms, we may be enabled to distinguish these cases, and by early trephining, or otherwise giving exit to the pus, a favorable result may be obtained.

#### TREPHINING THE FRONTAL SINUSES.<sup>1</sup>

In a recent number of the *Medical Chronicle*, Mr. OGSTON, of Aberdeen, states that he has practised the operation in several cases of obstinate catarrhal disease in which other treatment was unavailable. The symptoms indicating this measure were constant pain at the root of the nose and above the orbits, increased on deep pressure, with periodical discharges of thick, yellow pus. The operation consists in making a vertical incision two centimetres long in a median line, between the eyebrows, after which the periosteum is carefully lifted from the bone and the sinuses are opened with a small trephine. The diseased mucous membrane is removed with a sharp spoon, and a strong solution of chloride of zinc is applied to the interior of the cavity. Drainage is established through the nose.

This radical procedure (by no means new, since it was practiced by von Laugenbeck) has received a decided impetus at Mr. Ogston's hands; but, in spite of the fact that he reports a cure in every case, and with no recurrence of the trouble, conservative surgeons will be apt to hesitate before resorting to a measure that seems to be of such an heroic nature.

#### TREATMENT OF DEFORMITIES OF THE NOSE FOLLOWING INJURY.<sup>2</sup>

W. J. WALSHAM, F.R.C.S., Surgeon in charge of the orthopaedic department at St. Bartholomew's Hospital, treats old injuries of the nose which have resulted in fractures or displacement of the nasal bones or cartilages, by means of a mask accurately moulded to the face to keep the parts in place until they have had time to consolidate. His method is as follows: A plaster-of-Paris cast is first taken of the face, and in this the leather for the mask is moulded, apertures being left for the mouth, eyes, and nose itself. The mask, when thoroughly dry is lined with soft chamois leather, and fits accurately to the irregularities of the face, so that no movement can take place. It is secured by suitably arranged straps around the head. Having thus attained a fixed point to work from in the mask, it is easy to bring pressure to bear upon the nose in any direction required by suitable screws, springs, etc., attached to the mask. An illustration of the mask accompanies Dr. Walsham's remarks, which he claims he has used with good results.

#### THE CURE OF CROOKED NOSES BY A NEW METHOD.

At a meeting of the Philadelphia County Medical Society, Sept. 17th, 1884, Dr. JOHN B. ROBERTS presented a patient who was undergoing treatment for a lateral deformity of the nose which resulted from a fall ten years previously, the man recovering with the

end of the nose bent to the right, and with considerable obstruction of the left nostril. Dr. Roberts thus describes his original method of treatment: "With a scalpel introduced through the left nostril, I perforated the cartilaginous septum at its upper and back part, and made a long incision through it in a direction downwards and forwards. This permitted me to push the whole of the external portion of the nose to the left, thereby straightening the cartilaginous septum, and overcoming to a great extent the lateral deformity. To retain the parts in this position, I introduced a steel pin, about one and one-fourth inches long, into the right nostril, and passed it completely through the anterior and upper segment of the divided septum, near the columella. Having the unmovable portion of the septum thus transfixed, I was enabled, by carrying the head of the pin to the left, to move the anterior part of the nose to the left, and retain it there by imbedding the point of the pin deeply in the unmovable cartilaginous septum and mucous membrane at the back of the left naris. In other words, I incised the deformed cartilage, and pinned it in position very much as you would pin a flower in the button-hole of a coat." The novelty of Dr. Robert's method consists merely in pinning the parts in position until cicatrization takes place—a method, he claims, which leaves no noticeable scar, is not troublesome to the patient, and is applicable to those slight deformities whose chief annoyance is an aesthetic and cosmetic one. The pins are left in position about two weeks.

#### PERFORATING ULCERS OF THE SEPTUM NASI.<sup>3</sup>

JONATHAN HUTCHINSON, F.R.S., in a clinical lecture on the above subject, details twelve cases out of a large number that he has observed to illustrate and prove his statement that chronic perforating ulcers of the septum nasi occur not infrequently under conditions which preclude the suspicion of syphilis. He refers to a very slowly progressive ulcer, which is usually situated just within the nostril, or about half an inch from the edge of the columella. It always begins first on one side, and does not affect the other until a considerable interval has passed, and there is usually a period of several months, or perhaps years, of superficial opposite ulcers before the final perforation takes place. Sometimes they are of the nature of lupus, and the younger the patient the more likely it is that they have this relationship. They are most common after middle age, and in not a few patients at this period of life it is impossible to assert anything with confidence as regards their cause. Even when there is a clear history of syphilitic antecedents, if the ulceration be very slow and without tendency to diffuse inflammation or to exfoliation of bone, it will usually be found that internal treatment by specifics does very little good, whilst local treatment will cure. The best local treatment is the repeated careful application of the acid nitrate of mercury, and the use of yellow oxide ointment.

— It is said that there are at present at the various German universities no fewer than 157 professors between the ages of 70 and 90. Of these 122 deliver their lectures as usual. The oldest is the veteran Von Ranke, the historian who is now in his 90th year, but is not considered fully equal in vigor, memory and other faculties to Professor Ekenich, who is thirty-nine days his junior.

<sup>1</sup> N. Y. Medical Journal, March 7, 1885.

<sup>2</sup> Lancet, Sept. 20, 1884.

<sup>3</sup> London Medical Times and Gazette, July 5 and 12, 1884.

## Reports of Societies.

### NEW YORK COUNTY MEDICAL CONVENTION.

STATED meeting, June 15, 1885.

DR. FRANK H. HAMILTON presented a paper, which was read by Dr. John Shrady, the corresponding secretary, with the title:

#### A FEW PRACTICAL REMARKS ON RUPTURE OF THE PERINEUM.

Obstetricians, he said, had frequently given instructions how to avoid this accident, and had sometimes intimated that its occurrence always implied negligence on the part of the accoucheur. It was unjust, however, he thought, to say that it could always, or even generally, be prevented by the skill of the latter, since its occurrence was often due to conditions and circumstances over which the accoucheur had no control. Thus, the perineum might be unusually deep in the antero-posterior diameter, or unusually thin and delicate, or less elastic in its texture than natural; the sacrum and coccyx might not have the proper curve to direct the head toward the pubes; the head itself might be large and unyielding; the uterine contractions might be too violent and rapid to allow the perineum time to become gradually stretched and accommodated to the head.

He was convinced that the idea of "supporting the perineum" as it was called, could not be sustained by any mere mechanical theory or by experience, except when the purpose of making pressure upon the perineum was to carry the head forward toward the pubes in those rare cases in which, from the lack of curve in the sacrum and coccyx, or from any other cause, the vertex did not take this direction. It did not follow from anything that he had said that the accoucheur might not sometimes be responsible for rupture of the perineum, but his responsibility was likely to consist in what he might actually have done, rather than in what he might have omitted to do; the accident not infrequently being due to his improper haste. Some modern gynecologists did not think the danger of rupture increased by the use of the forceps, if only they were used skillfully; but it certainly would increase the danger if the instruments were used unskillfully, and also when, even in the hands of the most skillful, the forceps were retained in position until the head had entirely escaped from the vulva. Nor did it appear to him that the arguments in their defence was conclusive, even when they are only employed to bring the head into the lower strait, by which manoeuvre it was claimed that the process of natural labor might often be greatly expedited. This was the very thing which it was generally most desirable to avoid, so that, as Meigs used to say, the perineum might "not be taken by surprise." In short, there was less danger to the perineum when the head did not come upon it forcibly and unexpectedly, and before the head itself had undergone the process of moulding and elongation.

Dr. Hamilton spoke at length of the great change in regard to the much more frequent use of both anesthetics and the forceps in obstetrical practice since he had started in professional life, and summed up by saying that, while there could be no question that the forceps and anesthetics had been of incalculable

able service to parturient women, he had a strong conviction that since they have come into common and almost universal use, they have done a great deal of harm. He therefore believed that the time would come, and at no distant period, when it would become apparent to all that we have in these matters progressed too rapidly, and finally, that our progress has been altogether in the wrong direction. He next referred briefly to the various degrees of rupture, and then went on to say that the concurrence of a deficient perineum and of prolapsus uteri did not always stand in the relation of cause and effect. The uterus might be made to descend from many causes whether the perineum is sound or not, and the absence of the perineum, when the vagina and uterus were in their normal conditions, could only influence the descent of the uterus by first inducing atony of the muscular fibres of the vagina, with congestion and prolapsus of the vaginal walls, by which not only the feeble and indirect support which the perineum gave to the uterus was removed, but the vaginal walls became actually a dead weight to drag the uterus downward.

He expressed himself as entirely opposed to the immediate or primary operation for ruptured perineum. Among the reasons which he gave for this position are the following: The parts had suffered such a degree of stretching and contusion as to render the occurrence of inflammatory reaction, if not of sloughing, almost inevitable; the lochial discharges would make it impossible to keep the parts clean; the operation itself inflicted a severe injury when the condition of the patient was already critical from other causes, and finally, because under most judicious management the rent frequently became partially and sufficiently closed spontaneously. From any point of view, he said, it came to this, that it was proposed to make an operation by no means trivial in its character, not to speak of the subsequent special management of the bowels required, and which operation at the best was very liable to fail; and which might subsequently in case no operation was performed, be found to have been unnecessary, or which, if it became necessary, could be done more thoroughly and successfully at a later period. It was proposed, therefore, to make the operation under every surgical disadvantage, and when the patient, prostrated and trembling from the results of a severe labor, was in the worst possible condition, both mentally and physically, to endure the shock of an operation, or even its announcement. Nothing but the most urgent necessity could justify the operation under these circumstances, and this necessity had not been shown to exist. At this early period, moreover, it was often difficult for an expert even to form anything like a definite opinion as to the actual extent of the lesion. A rent, which at first seemed to be an inch or two in length, on account of the distended condition of the perineum, would, after contraction, a few hours later be found to be not more than a quarter or half an inch.

The paper described in conclusion, the secondary operation, with its preparatory and after treatment. He employed the quilled suture (only using sections of a large-sized flexible bougie for the quill), in preference to the wire suture on account of the more difficult introduction and removal of the latter. If, however, the rent or loss of structure involved any considerable portion of the recto-vaginal septum he

said he would recommend, so far at least as the rectal fissure was concerned, the wire suture either with or without Bozeman's clamp.

At the conclusion of the reading of the paper, Dr. Hamilton made a few extemporaneous remarks in which he argued against the views of Dr. Fordyce Barker in regard to the effect of chloroform in labor, and went on to say that as to the frequency of a perineal rent of a serious character, Meigs, in the fifth edition of his work on midwifery, p. 54, said: "I defy any one to show me from my own practice a case of durable rent of the perineum."

By a case of durable rent of the perineum, Dr. Hamilton said he presumed that he meant one which would require surgical interference. It would not do to ignore this and say that Professor Meigs was an old practitioner, for his was not a theoretical idea, but a fact. But he was an accoucheur who very seldom employed instruments, and who, like his predecessor, Dewees, very seldom, if ever, resorted to anæsthetics.

DR. AUSTIN FLINT read a paper on

PERSISTENT FLATNESS OVER THE LIVER AS PROOF THAT ACUTE DIFFUSE PERITONITIS IS NOT ASSOCIATED WITH INTESTINAL OR GASTRIC PERFORATION.

Having referred to the paper which he read before the New York State Medical Society in 1882, in which he dwelt upon the significance of resonance over the hepatic region as an indication of the presence of gas in the peritoneal cavity from perforation of the intestines or stomach, he quoted at length the account of a case given by Dr. Alonzo Clark in his article on peritonitis in Pepper's System of Practical Medicine, by American authors. The patient, who was an iron-worker, aged fifty-nine years, died March 3, 1883. On the twenty-third of February, he had been attacked with severe pains in the region of the right iliac fossa. There was little fever and only slight acceleration of the pulse. His stomach was much disturbed, and the bowels were some distended with gas. Dr. Clark saw him February twenty-seven, in consultation with Dr. J. D. Elliott, the attending physician. The pulse was then 81; bowels much swollen and very resonant on percussion, the stomach still greatly disturbed. There was no green vomit, but much flatulency. Respiration was nearly or quite as much abdominal as in health, and there was a short friction sound in inspiration, but an entire absence of the sound produced by peristaltic action. There was no dullness on percussing over the iliac fossa, and no pain on pressure over any part of the abdomen. Dr. Clark says he was careful in examining the right fossa, for the first pain was there, and it was severe; but there was no physical sign by which perforation could be ascertained. Still, his mind dwelt on the probability of perforation, and he expressed his fears to Dr. Elliott regarding it. The respiration was of natural frequency. The bowels had not moved for two or three days. The history then goes on as follows:—

"The next day Flint was added to the consultation. The symptoms had changed but little; the pulse was 102; no pain, no tenderness, no peristaltic action; slight friction at one point only; the abdominal respiration was as marked as before. Frequency of respiration, 18; patient sleepy; pupils only slightly contracted. When we were in consultation I again

expressed my fear of perforation, but Flint expressed the most decided opinion as to its absence, because there was dullness to percussion over the liver. I had read his paper on the intrusion of gas between the ribs and liver in cases of intestinal perforation, and felt as if I were almost reproved for entertaining the thought without this physical corroboration. Thursday, March first, the stomach had become much more retentive; there was pain and no tenderness on pressure; pulse, 109; no friction sound, no sound of peristaltic action, no dullness on percussion over right iliac fossa, but resonant over the whole abdomen, excepting over the pubis; there the resonance was not clear; over a small space there was dullness: this was ascribed to moderate fulness of the bladder, and, as there had been difficulty in emptying it, nothing was said of it. The abdominal respiratory movements were the same as before. Friday morning, at 3 A. M., no marked change had occurred in the symptoms, but from this time onward there was a steady sinking of the vital powers. The pulse grew small and frequent, the hands became cool, the breathing more frequent, and without any sudden change or any new symptoms he died early in the morning. At the last visit there was no resonance of percussion of the liver." The autopsy was made Saturday, March third, at two P. M. There was now pretty free resonance over the liver, and the action to open the abdominal cavity was carefully made, with the aim of ascertaining whether there was air or gas in the peritoneal cavity. When a half-inch opening was made through the peritoneum, gas was forced out through it for some seconds with an unmistakable noise. Over the middle and upper portion of the intestines, which were not opened by this cut, there was a very thin film of false membrane; while two or three inches above the symphysis pelvis the section opened a collection of pus which extended downward into the pelvis. In this region a lump of fecal matter not indurated, and as large as a marrowfat pea was found, although the intestine was still unopened. Search was made for the appendix reuniformis, but at first it was not found on account of its shortness. It was found, however, pointing directly toward the median line of the body, and was short because a part had been separated from the rest by slough. The end of what remained was marked by a border, one-eighth of an inch deep, of a very dark-green gangrenous color. There was fully six ounces of pus, and it was completely bounded and shut in by adhesions.

Dr. Flint remarked in regard to this case that he could not agree with Dr. Clark in regard to the occurrence of early perforation. On the contrary, the inference which he drew from it was, that perforation did not result until just before the close of life, when it was produced by the sloughing of the appendix reuniformis; and the case, therefore, afforded, as it seemed to him, a striking proof of the correctness of the assumption that as long as there remained flatness or percussion over the liver, there could be no perforation. Dr. Flint then read the following notes in regard to the case, which he made at the time in his inter-linear copy of his own work on the practice of medicine:

February twenty-eighth, visited Mr. Fletcher (50 to 60) with Drs. Elliott and Clark. Peritonitis had existed for three or four days. At this time hepatic flatness was normal. He was apparently doing very

well under full opiate treatment up to 3 A. M., March second. At that hour he was seen by Dr. Elliott, and there was no change for the worse. At 6 A. M., he was in collapse, and he died in the forenoon. Before the autopsy, percussion showed absence of hepatic flatness and great abdominal distension. A portion of the reniform appendix had sloughed away, leaving an opening. There was a local collection of purulent matter near the appendix, but elsewhere the appearances did not denote intense inflammation.

Conclusion: The patient was progressing favorably toward recovery, when sloughing of the appendix caused an opening, and death was by shock. The large intestine was collapsed; the small intestine much distended with gas. March 4, 1883."

Dr. C. S. Wood read a paper on

#### INTUSSUSCEPTION OF THE INTESTINES, WITH THE REPORT OF A CASE.

The case reported was that of a child eight years of age, who recovered after a long and tedious convalescence. The plan of the treatment adopted was, injections every three hours, of large quantities of warm water, while the patient's lips were elevated and the head depressed, one-tenth of a grain of calomel every hour as an alterant, sufficient morphia to relieve pain and procure some rest (usually one-eighth of a grain every three hours), ice *ad libitum*, milk and beet tea in small but frequent doses, and hot water cloths frequently renewed, over the abdomen. Sometimes a few drops of turpentine or of essence of peppermint were added to the warm water enemata. Afterwards the calomel was discontinued, and ipecac with aromatic syrup of rhubarb, given three times a day. Dr. Wood showed from statistics how extremely uncertain in its results was the operation of laparotomy for the relief of intussusception, especially in children, who easily succumbed to shocks, or inflammation produced by it.

THE PRESIDENT, DR. CHARLES A. LEALE, made some remarks on

#### A METHOD OF DIRECT LOCAL TREATMENT FOR DISEASES IN THE REGION OF THE ILEO-CÆCAL VALVE, AND ALSO FOR THE SAFE REMOVAL OF IMPACTIONS OF THE INTESTINES.

Having referred to the unsatisfactory results from oleoentesis by means of a long capillary needle, he exhibited a flexible rubber tube, which could be readily attached to an ordinary fountain syringe, and the extremity of which could be made to pass the ileo-cæcal valve, if this were required. He related a case in which there was infection of forces with an enormous accumulation of gas, and in which the tube passed fifty-nine and one-half inches into the intestinal canal, with the effect of affording complete relief. When it was deemed advisable to make applications to any part of the intestine thus brought within reach, bismuth or other suitable agents could be added to the water injected, and as a rule it was a good plan to insert a large rectal speculum before introducing the tube into the bowels.

Dr. H. M. Briggs presented some

#### INTERESTING PATHOLOGICAL SPECIMENS,

One of which was a heart with abundant vegetation on all four of its valves, a condition so rare that Dr. Briggs stated that he had never heard of another instance of it.

### Recent Literature.

*Antiseptic Treatment of Wounds.* By W. WATSON CHEYNE, M.D., F.R.C.S. New York: J. H. Vail & Co. 1885.

This little book (144 pages) is especially adapted to the use of medical students just entering upon their hospital experience. Beginning with a short review of the subject of septic diseases, it goes on to speak of the various antiseptic preparations and of the methods of disinfection. Finally the general principles and special methods of application of the antiseptic dressing, as used by Professor Lister, are carefully set forth. The following sentence, bearing upon a much-mooted point, is given entire: "It must always be remembered that Sir Joseph Lister carried out a septic treatment for years with great success without any spray; and if at the present time he were compelled for any reason to give up some one precaution, he would at once throw aside the spray as that one which is least necessary and which could be the most easily dispensed with. At the same time the spray is an immense convenience in many cases, more especially in abscesses, empyemata, in stitching up wounds, etc.; and it saves the necessity of applying a great deal of carbolic acid to wounds by irrigating them, with the consequent irritation and risk of carbolic acid poisoning."

The manual cannot be too highly recommended to students; and they will find "Listerism" a very different thing from the slack methods they have seen employed under that name. The illustrations are numerous and good, and add greatly to the value and interest of the book.

*Clinical Lectures on Scrofulous Neck.* By T. CLIFFORD ALLBUTT, M.D., and *On Surgery of Scrofulous Glands.* By T. PRIDGEN TEALE, F.R.C.S. J. & A. Churchill: London. 1885.

These two colleagues in the Leeds Infirmary, present respectively the medical and surgical aspects of their subject. Dr. Allbutt regards scrofulous disease of the cervical glands as always secondary to some neighboring surface irritation, but thinks a tendency to the disease to be inherited as a "vulnerability of tissue."

As the pressure of caseous glands in the neck still further depresses the general health, the patient is rendered thereby less capable of resisting the advance of the disease to new glands. To break up this vicious circle he thinks that the thorough removal of the caseous material must be sought by surgical interference, and Mr. Teale relates many instances of the fortunate results of this treatment.

The idea of scraping out these glands is by no means new, and is in fact but one special application of the modern surgical treatment of tuberculosis; still every contribution towards the rapid propagation of correct surgical principles is of importance.

*Berlin as a Medical Centre: A Guide for American Practitioners and Students.* By HORATIO R. BIGELOW, M.D. Sandy Hook, Conn.: New England Publishing Co. 1885.

This unpretentious little volume (117 pages) is really what has long been desired by Americans, or we may justly say English speaking students who intend going to Europe for professional study. Its

main object is to present all desired information in respect to Berlin, but it incidentally gives valuable hints as to the advantages of certain of the other European medical centres. The work is full of those facts which most guide-books and descriptions do not mention, and gives the details of every necessary expense from leaving America until established in quarters in Berlin. Several schedules of prices for the entire cost of living in Berlin are given, from the most economical scale such as prevails in the student quarter where the tenant is a bachelor, to the comfortable, not to say luxurious suite of rooms of the married man, who desires all possible comforts for himself and wife.

A list of really good hotels and excellent boarding-houses is incorporated in the book, with prices and remarks as to quality of fare, rooms, etc. The reviewer can personally vouch for the correctness of a part of these from actual experience, and such an addition will no doubt be highly valued by the American student arriving in a strange city alone and unable to speak the language. To this is added a list of the libraries, museums collections, etc., of Berlin, which are not always easy to find or freely accessible to one entirely unacquainted with the ways of the German capital.

The advantages of matriculation and the method of obtaining it are described and the entire curriculum of the University course (medical) is given, as well as the "Ferien" courses, which are those most sought by our countrymen, the limited number of attendants allowing much greater freedom in personal examination and much more attention from the lecturer. The price of each course is given, so that the American student may fully map out his entire plan of study and form a tolerable accurate idea of the expense of his trip before leaving home. The principal subjects, surgery, gynecology, etc., and the eminent teachers in them are briefly touched upon. Then follows a list of the hospitals, with location and days of visiting of each. To this is added a list of shops for the purchase of the various articles of personal or professional need while travelling, and finally a list of omnibus and street-car routes. The book finishes with a street directory and a map — which latter is the only typographically poor feature of the work.

The volume contains a large amount of just that practical kind of information which a stranger needs, and is for the English speaking physician desiring to make the best use of his time and his money, an indispensable companion. It is evidently the result of good faith and professional sympathy, as well as much effort on the part of the author, and is a reliable guide.

— Five young ladies, recent graduates of the New York Blind Asylum, have commenced the very laudable work of organizing a circulating library for the blind.

— One of the most novel and important of the practical philanthropies in the east end of London, a residence club of university men who have established themselves in the heart of Whitechapel in the aim to influence, by personal association and teaching, the degraded life of that locality, derives its name "Toynbee Hall," from its projector, Mr. Arnold Toynbee, a son of the eminent English artist.

## Medical and Surgical Journal.

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### RHEUMATISMS AND PSEUDO-RHEUMATISMS. — II.

AMONG the diseases to which the name rheumatism has been applied is one whose clinical characters are so well defined that it has by common consent been taken as a type of rheumatic affections, namely, acute articular rheumatism. But inasmuch as we have as yet no precise etiologic notion of this malady, and know no single criterion by which it is distinguished, so the mere fact of the existence of an arthritic disease is no proof that this arthritis is rheumatic. Certain arthritides are of traumatic origin; others are serofulous, syphilitic, pyæmic, etc. The joint affections of glanders are certainly of infectious nature, as are those which sometimes attend scarlet fever and small pox.

There is no doubt as to the legitimacy of the term rheumatism as applied to rheumatoid arthritis chronica. This disease has very close relations with acute rheumatism, often succeeding or being followed by the latter, always having a common parentage with it, and well-marked affinities with other diseases which are clearly of the family of rheumatisms. The specially predisposing conditions are inheritance, previous attacks of acute rheumatism, residence in cold, damp localities, exposure when the system is fatigued or debilitated to chilling blasts, to wetting, etc. It has been remarked that influences which provoke acute rheumatism in the young and robust, produce chronic rheumatism in the old and enfeebled. Charcot observes that there is a marked similarity between the changes occurring in chronic articular rheumatism and in the acute form, so that the lesions of the former may be regarded as but a higher expression of those which take place in the latter. Moreover, the visceral inflammation which complicates the chronic form are similar to those of the acute affection, although they are much less frequently witnessed.

For similar reasons rheumatoid arthritis has been assigned a place in the family of rheumatisms; this is especially true of that form known as Heberden's nodosities, "The pathogenesis of the rheumatoid arthritis," says Dr. R. P. Howard,<sup>1</sup> "is the subject of differences of opinion very like those existing in regard to acute

<sup>1</sup> *Esper's System of American Medicine*, Vol. II, p. 92.

articular rheumatism. The weight of evidence is in favor of its diathetic relationship to rheumatism, and the doctrine of an arthritic diathesis and of the operation of the causes of the disease through the nervous system appears to be specially applicable to it, with less difficulty than to acute rheumatism, and the probability of a specific germ being the true cause is very remote. What seems to be necessary, in addition to the preceding, is that the causes shall be more persisting and oft recurring, so as to maintain a prolonged local irritation of the articular tissues, or that the neuro-arthritic diathesis shall be highly developed."

It is worthy of note that chronic progressive articular rheumatism (primitive asthenic gout, arthritis pauperum) has been somewhat violently separated from this group by Bouchard.<sup>1</sup> This disease, according to Bouchard, has more marked relationship to scrofula and phthisis (it attends on conditions of poverty, misery and debilitation) than to rheumatism or the rheumatic diathesis.

The various affections of the fibro-muscular structures included under the term muscular rheumatism (torticollis, pleurodynia, lumbago, rheumatism of the limbs, etc.), are so closely associated with the rheumatic diathesis, occurring so frequently in rheumatic subjects and under conditions known to give rise to typical rheumatism, that their place in the nosology of this family of diseases can hardly be disputed, at least while precise etiological data are lacking. As much cannot be said of those arthritides, solitary or multiple, which sometimes accompany or follow erysipelas, pyæmia and other infectious maladies; which, as before said, appear to be of specific, microbiotic origin, and have in their symptoms, course, lesions, and complications, nothing in common with typical rheumatic poly-arthritis.<sup>2</sup> These are clearly pseudo-rheumatisms, and so is that blennorrhagic arthropathy known as gonorrhœal rheumatism.

The nature of this familiar affection of the joints has been long under dispute. It is to Swediaur in 1781 and to John Hunter in 1786, that we are indebted for the first descriptions of gonorrhœal rheumatism. Rollet, in 1854, made an exhaustive study of its etiological conditions, and it was discussed in all its bearings at the meetings of the Société Médicale des Hôpitaux in 1866.<sup>3</sup> Some of the speakers said that this was a

true rheumatism which has blennorrhagia for its occasional provocative cause. Others affirmed that it was not rheumatism, but an infectious blennorrhagic affection of the joints. Others denied both the rheumatic and the gonorrhœal nature of the articular affection, seeing in it only the result of a lesion of the urinary passages, which according to one hypothesis, provokes arthritides by neurotrophic reflex action; according to another, by simple infectious metastasis. We may sum up the present status of the question in the words of Bouchard: "It is probable that this form of arthritides is only exceptionally a true rheumatism. In fact the history of particular cases shows that the blennorrhagic arthritides have a particular physiognomy; that they are, in general, apyretic, ordinarily monoarticular, obstinate; that they have the characters of plastic arthritides; that they tend to ulceration of the cartilages and fibrous ankylosis; that they are not at all influenced by salicylate of sodium; that the endocarditis and the pericarditis so frequent in true rheumatism are extremely infrequent in blennorrhagic arthritides; that, on the contrary, another complication rare in true rheumatism is here especially frequent, namely, iritis."

Recently Kammerer (Schmidt's "Jahrb., No. 1, 1885) claims to have found gonococci (the supposed specific microbe of gonorrhœa) in the joint exudation of a patient affected with blennorrhagic arthritis; these same gonococci were also found in the urethral discharge. It will be interesting to note whether micrococci of this character shall continue to be found associated with this form of arthritis.

There is a peculiar kind of rheumatism brought on by overwork, and often without the direct or indirect influence of diathesis, inheritance, or exposure to cold and wetting. It is called by Albert Robin "pseudo rheumatism of overwork."<sup>4</sup> M. Robin has well described this arthritic affection. It is by no means a pathological rarity, whether considered as a rheumatic or pseudo-rheumatic phlegmasia, and veterinary practice offers abundant examples of this disease. M. Philippe Hen, a veterinary surgeon, relates the case of a four years old courser which, after a prolonged race, was taken with erratic swellings of the joints and fever; in eight weeks the animal died of endopericarditis, as was proved by the autopsy. He has also witnessed formidable arthritides of ambulant character with cardiac troubles in colts too early put to hard work. This surgeon has also known excess of coitus in animals (another kind of overwork) to have a similar effect: young bulls after extreme genital fatigue in the service of cows have been taken with acute arthritides, which have in some instances been accompanied by endocarditis.<sup>5</sup> Bricou, in a recent number of the *Progrès Médical*, gives a similar instance of a male cat which had been a sort of feline Don Juan; the heart was found hypertrophied with right auriculo-ventricular insufficiency.<sup>6</sup>

That muscular fatigue may produce severe joint fluxions seems put beyond all reasonable doubt by

<sup>1</sup> Maladies par relâchement de la Nutrition, p. 345.

<sup>2</sup> Chareot has shown that sometimes scarlet fever induces the outbreak of an articular disease in no way distinguishable from acute rheumatism, but he also admits the existence of the pseudo kind (alluded to above), which is "an arthritide of an opposite nature, benign in the vast majority of cases, but which may become very grave, and assume a purulent character. The latter cases alone deserve the name of sericarticular arthritis." He shows that the same thing holds good with erysipelas, angina, cholera, and even blennorrhagia. The joint swellings which sometimes complicate cholera are often of a severe and obstinate kind, and unmistakably rheumatic. — Vide *Diseases of Old Age*, Am. Ed., p. 152.

Recently the microbiotic theory of the etiology of rheumatism has again been brought prominently forward by Edelfers and Friedländer. These writers base their views on the inductive study of several hundred cases of polyarthritides. Their assumption is that the virus is of organic nature, and that its abode is in the ground soil. That the maximum of cases observed occurs in January, the minimum in February, can be explained by the action of the microbes on account of the heated, hence rarefied and rising, currents of air prevailing in the houses in January, while in February on account of the continued heating by drying, a certain exhaustion of the soil, with a diminution of contained germs, naturally ensues. Vierrordt of Leipzig goes a step further and believes in the essential contagiousness of rheumatism. (*Therapeutische Gazette*, July 15, 1885.)

<sup>3</sup> Bouchard, *Loc. cit.*

<sup>4</sup> *Gaz. Méd. de Paris*, June 20-27, 1885.

<sup>5</sup> *Gaz. Méd. de Paris*, 1885, No. 26.

<sup>6</sup> *Progrès Méd.*, 1885, p. 147.

cases which have been adduced by Trousseau, Gubler, Peter, Carriou, and others. Are these arthritides from fatigue or strain, of a rheumatic or pseudo-rheumatic nature? Doubtless in some instances true rheumatism has been so induced. A slumbering diathesis has been awakened, a "morbid opportunity," necessary for the development of an attack of typical rheumatism, has been created. In other cases the arthritic affection resulting from fatigue lacks conformity to the general type of classical rheumatic inflammation. The essential elements of the latter disease — the diathesis, even, — are wanting. M. Robin, in the monograph referred to, cites instances, and seems to us to have made out his case. One peculiarity of these "pseudo-rheumatisms" is their relatively indolent character and their painlessness. Not only "diathesis" and inheritance, but cold and humidity can often be excluded as causal factors. The swellings of the pseudo-form are fixed and persist in the joints primarily affected. The fever is mild, and the local symptoms have not that correspondence with the febrile symptoms which prevails in acute rheumatism.<sup>1</sup> In fine, the course of the pseudo-rheumatism is in no way influenced by salicylate of soda.

Robin thus attempts to explain the pseudo-rheumatism of overwork: "The first series of phenomena produced by overtaxing consists in modifications of the general exchanges, due to excessive activity of the nutrition of the muscles. A muscle in work gives rise to divers extractive matters and to lactic acid, the proportion of which increases in the ratio of the energy put forth. It is even upon this exaggerated production of lactic acid that an entire humoral theory of rheumatism has been built up, of which lactic acid is the morbid principle. Two things are lacking to this theory: First, the proof that lactic acid is really in excess in rheumatic patients; second, the explanation of the manner in which this acid can determine rheumatismal accidents. Let us then leave one side lactic acid, and retain only *en bloc* the excess of extractive matters thrown into the circulation as the result of a profound and continued trouble of the muscular nutrition.

"While the general nutrition is being thus modified, a second series of phenomena takes place on the part of the joints. There is heightened local activity of the exchanges (easily understood), which profoundly alters the synovia. Frerichs has made on this point some useful observations which may be thus summarized: In overdriven animals the synovia of the large joints undergoes important modifications; its quantity diminishes, at the same time that the fluid becomes thicker, denser and more tenacious; its richness in white globules augments and very notably, while the solid inorganic materials are lessened. Lastly, the synovine and extractive matters undergo an appreciable augmentation. Hence we have on the one hand a vice in the general nutritive exchanges, and on the other a local alteration in the nutrition of the overtaxed joints, whence results a *locus minoris resistentiæ*;

such are the sole pathogenic elements which it is in our power to set forth, and which, if they give a dim general idea of the process, are certainly insufficient to clear up all the details."

According to this view the organism is poisoned by its own waste products; the local fixation in joints which have been the seat of too much friction, of refuse elements of disassimilation (chiefly extractives), is the proximate cause of the arthritis. This is, as we understand it, substantially the theory of Bouchard, and does not differ much from the chemical theory of rheumatism itself. The darkness which still invests the subject of causation is well shown in these attempts at the explanation of familiar diseases. Recently a vigorous and plausible writer in the London *Lancet* has advanced a new doctrine of rheumatism, which he supports by a formidable display of chemical formulæ. "It is," he says, "the excessive formation of glycocine and of uric acid in the tissues that develops the symptoms of rheumatic fever, and salicylic acid cures the disease by combining with the antecedents of these bodies and preventing their formation."<sup>2</sup>

#### THE INTERNATIONAL CONGRESS.

It has been evident for some time that the prospect for a successful international congress in this country was very small. It is impossible to expect men of scientific attainments to cross the water to take part in a congress about which there is so much misunderstanding as in the present instance. It is exceedingly unpleasant to accept hospitalities in a house whose inmates are unable to agree as to the manner in which such hospitality shall be shown.

We are permitted to-day to print a letter from a medical gentleman, well known on this side of the water, which expresses the attitude which men, interested in the science and not at all in the politics of medicine, must necessarily take. The letter is addressed to Dr. J. Collins Warren, and is as follows:—

LONDON, 13 HURLEY STREET, July 25, 1885.

My Dear Collins Warren,—I have seen in medical papers, and heard through private sources, that a serious disagreement has occurred in respect to the organization of the ensuing International Congress in Washington. A few of those who had been concerned in organizing the London Congress, recently met to talk the matter over, for we feel that any failure which might attend the congress in the United States would be little short of a professional disaster. I do not myself think, and most here would share my opinion, that a congress from whose ranks some of your best physicians and surgeons have determined to withdraw, and whose members are to be further restricted to such as belong, either directly, or, by affiliation to one medical body in America, would be likely to be attended by many colleagues from this country.

Speaking from personal knowledge, an International Congress cannot be a success, unless taken in the warmest and most self-sacrificing manner by all the principal men in the country where it is to be held. I was present at the meeting in Copenhagen, where the invitation to meet in America in 1887 was given, and after some discussion accepted. I am sure it was present to the

<sup>1</sup> This is well shown in Robin's thermometrical tracings.

<sup>2</sup> Latham in London *Lancet*, June 20, 1885. "Way does Salicylic Acid cure Rheumatism?"

mind of every one there that the invitation was one from the profession of America and not from any section of it, or any particular medical society in it. Otherwise I feel pretty certain Professor Virchow's invitation to meet on the next occasion in Berlin, would have been accepted.

Even now, it would appear to me wiser to have that invitation renewed, or to meet in some other place, than to have a meeting in America, from which so far as we may at present judge, many of the chief men on both sides of the Atlantic, would absent themselves. You are at liberty to use this letter as you deem fit.

Yours very faithfully, WILLIAM MACCORMACK.

It is not easy to see how the matter can be remedied so as counteract the disagreeable impression already made up on foreigners. What the committee may be able to accomplish at its extra meeting in September can only be conjectured, but we are very sceptical as to their power to accomplish any good results. Certainly nothing can be expected from men who consider the numerous resignations that have taken place as manifestations of a conspiracy or as part of a game of bluff. We trust the editor of the Journal of the American Medical Association will be able to comprehend at least that the opinion represented by the above letter is not the expression of those who have "deliberately undertaken to obstruct the work of organization."

## Correspondence.

### MEDICAL STUDY IN GERMANY. — FINKLER AND PRIOR'S BACILLI'S.

ZURICH, July, 1885.

MR. EDITOR. — Our medical graduates when they go to Germany for continued study usually at once choose Berlin or Vienna, or both, for that purpose. I think this a mistake, and for two reasons: In the first place it is rarely the case that the student knows the German language sufficiently to be able, during the earlier portion of his stay, to follow a lecturer without great difficulty. This reason, I think, increases the force of the second, namely, material in the large schools is so plentiful that a young graduate cannot grasp the salient points and retain them in the hurried progress from organ to organ in a pathological course, and from patient to patient in large wards. In short, if the teacher, from press of organs or patients, has not time to cover the entire ground as it should be covered for a student, the latter under the difficulties arising from ignorance of the language, and from the almost bewildering profusion of material, naturally has not time either to comprehend or examine with anything like thoroughness.

Of course I do not mean to say that an American student should not study in Berlin and Vienna, but I believe he will go home with a far richer store of information, if he devote the first half of his stay to a smaller school where he may study without being embarrassed by the *Sturm und Drang* of the schools of the capitals and where, while he quietly, and therefore more quickly, develops his knowledge of the language, he at the same time is enabled to follow each branch of medical study with the thoroughness which arises from slower progress, and which is equally a result of more detailed explanation and demonstration on the part of the teachers, who, having less reason for haste than those of Berlin and Vienna, have more time for the needed instruction. If the student begin his course where in each lecture only one or two subjects are taken up and carefully treated, at its close, always supposing he knows the language, he has a clear understanding of the subjects in question. Whereas, if in the same period of time, the teacher is obliged to touch upon twenty different matters,

can it be denied that at the end of the hour the student, instead of knowing something clearly, would be in the painful confusion resulting from understanding but little and that imperfectly of a score of similar subjects. Imagine, too, this confusion worse confounded by a tongue which he does not comprehend! This, I believe, is the mental condition of many of our young men during their first four, perhaps six months in Berlin or Vienna. Leaving America with but slight or no knowledge of the language, can a man be expected to advance very rapidly, excepting by means of what he sees, within the eight or nine months of session in the year of a German medical school? Subtract from his medical development, too, the time devoured by the thousand outside distractions of Berlin and Vienna and the year abroad shrivels still more. Many, I know, begin by devoting the first two months to the language, and this is eminently wise, indeed, is very nearly a *sine qua non* of merely a reasonable amount of advance in medical knowledge. The majority, however, fail to do this, and consequently too many return to America with a halting acquaintance with the language and likewise less scientific information than if they had not sacrificed time in a wrong method. One year abroad is really too short a period. Better half the loaf, of course, than no bread, but better the whole loaf if it can be procured. Our medical courses in general being none too long, it would always be advisable for the student to arrange a stay of at least two years. His German experience, in that case, would be valuable. Even if he go to Germany determined to devote himself to a specialty, it would be wiser to begin in a school of relatively circumscribed facilities and give at least two semesters to general medicine, for a specialist who has a good foundation of general medicine is twice the man he would be if he began at once upon his special study to the avoidance of a broad substratum. A young man not versed in the German language should in my opinion pursue the following plan: He comes abroad in June. His intention should be to begin his medical study in one of the provincial schools in which, he it fully understood, the teachers by a wise arrangement are all very able men. The student should settle during the summer vacation in some quiet town — Weimar, Eisenach, or Cassel — or still better in the vicinity of the school, and devote at least six hours daily to severe study of the language. If during the year previous to coming abroad he has made himself familiar with the principal parts of verbs and has gotten through the most foggy portion of the declensions, so much the better. He works faithfully six hours daily, talks whenever and wherever he can without regard to slips and blunders, listens to one sermon every Sunday, goes to the theatre every night if possible, and by the last of October he is passably prepared to listen to, say two, medical lectures daily of a practical sort, for example, clinical medicine and clinical surgery in which the eye aids the ear. Meanwhile he begins to read German medicine, especially upon the cases which he sees. By this means he quickly familiarizes himself with German medical terms. He increases the number of daily lectures according as he progresses in the language, and in the course of six weeks is probably ready to attend the entire course. As a bright and excellent type of the provincial schools I would cordially recommend that of Bonn. Following the general plan already laid down, the student should remain at the Bonn school until August 15th of the next year, when the summer semestre terminates. After a vacation, during which he should steadily pursue the study of the language, the student is ready for Berlin and Vienna. Now the fulness of material will not embarrass him, for he is familiar with the language, with German methods of teaching, and with medical expressions in that tongue. Moreover he has far more money at his command than if he had meanwhile been living in a large city, expenses of every nature being much less in Bonn. Hoping that my entire meaning has been made clear, I need say no more in regard to the student's course, but will rather confine myself to a sketch of the Bonn school to which I sincerely regret I did not give my first student year in Germany.

The instruction is carried on in various buildings, all of which are new and very handsome, and each of which possesses its comfortable lecture or operating room, the whole forming a large hospital. One building is devoted to clinical medicine, nervous diseases and laryngoscopy. Another to surgical teaching and operations. A third to midwifery and gynecology. A fourth to syphilitic and skin diseases. A fifth to anatomy, histology, chemistry, physiology, and the surgical operative course. This building is situated half a mile distant from the others, and is probably the finest and most convenient structure of its kind in existence. A sixth building is the well-arranged pathological institute, and stands within the hospital enclosure. Finally there is the building for infectious diseases. Pharmacy is taught, and eye and ear clinics are held in the old University building. Clinics on mental diseases are held by Professor Nasse in the noble hospital for the insane, just out of the city.

*Clinical Medicine* is taught by Prof. Hugo Rühle, a compatriot and student friend of Traube's, of whom he speaks with warm affection. Many interesting details did he give me of Traube's early struggles, of his poverty which was so bitter that Traube often had no dinner, but nevertheless was such an enthusiastic student that after receiving his degree, still being very poor, he was annoyed by any call from patients which took him away from his experiments. In his first studies upon the pneumogastric nerve his battery was of the oldest and most primitive character. At that time Schönlein taught in the *Charité* in Berlin, but so convinced was Traube of Schönlein's errors on certain clinical and pathological points that he would not attend the lectures of the famous clinician and laid down his arms only when Schönlein invited the young and almost unknown Jew to become his assistant. Traube had now attained such brilliant development in the newly-discovered art of auscultation and percussion and had made such important discoveries in clinical pathology and symptomatology that Schönlein found him indispensable, and thus Traube won entrance into the *Charité*.

Rühle was formerly in Breslau, afterward in Griefswald, from which school he was called to Bonn. Now, somewhat advanced in years, he is an excellent teacher, a fine diagnostician, and his whole heart is in his work. He holds a clinic every day in the week and lectures didactically once weekly. His material is more than sufficient, being sometimes drawn from the polyclinic, which is conducted by Dr. Prior in an ante-room, sometimes from the adjacent wards. Rühle's method is similar to that of the other clinical teachers, and one description will suffice for all. Upon a large cardboard each teacher has a full list of students who are called upon by name in the order of their inscription, a zero being set against the name of those who do not respond, and thus the marks for or against a student are taken into account at the close of a semestre. Upon the medical roster this summer are sixty-eight names, upon the surgical seventy-five. The student in responding to the call comes down into the arena where is every possible facility for making, or failing to make, a diagnosis of the case before the class. Rühle likewise makes an examination of the patient, gives a brief lecture upon the disease, and clears up the diagnosis *per ratiocinationes*, and directs the treatment, seeking suggestions from the student, who is obliged to write a prescription upon the spot. Urine, blood, sputa and fluids from the cavities are examined before the class chemically and under the microscope, the clinical assistant aiding the student. Rühle makes a strong point of the Leyden crystals found in the sputa of asthma, believes them a principal cause of the spasmus, directs the treatment with a view to their dissolution, and seeks for them in every case. During one clinic from one to four students enjoy this opportunity of making a diagnosis under Rühle's direction. Very frequently the class is taken into the wards for a similar purpose, and the clinic could not be better. Rühle has at home, as well as at the clinic, a very convenient chair which may be raised or lowered and the hinged back of which drops when the posterior portions of the patient's lungs are to be examined.

The clinic covers seventy-five minutes. The room, like all the lecture rooms in the Bonn school, is arranged with especial regard to light and the convenience of students, the back of each row of seats having a broad top which serves the comfortable purpose of taking notes, something which is generally forgotten at home, our students in the majority of schools being obliged to hold their note-books on the knee, a most fatiguing necessity. Every patient is examined and the entire range of symptoms and the organic results and effects are discussed with absolute thoroughness. This is a very striking characteristic of the school. It is remarkably thorough. No teacher leaves a subject until he has exhausted it, and the teaching is of the most cultured and scientific nature. In a school where material is too plentiful for the requirements of instruction, such thoroughness would be nearly unattainable. If a death occurs in Rühle's wards the autopsy, performed in the fine pathological building, occupies the first half of the ordinary clinical course, and at its termination the class proceeds to the clinical department, and there the professor sketches the disease of which the patient has died and with great care gives the points revealed by the necropsy, the students having already heard the protocol of the pathologist and examined the organs as they are removed from the body. If the autopsy be upon the cadaver of a surgical patient, the professor of surgery concludes his clinic thirty minutes earlier than usual in order to give students opportunity to attend the *post mortem* without interfering with the medical which follows the surgical clinic. An autopsy on a patient from the midwifery wards immediately follows the medical clinic.

In order to include in this letter mention of a matter of present and wide interest, I will allow myself temporarily to leave the clinical department to speak of the work of Professor Finkler.

With the assistance of Dr. Prior, Finkler, as you know, has taken strong grounds against Koch's assertion that the comma bacillus is peculiar to cholera Asiatica. Immediately after the discovery of the Koch bacillus, Finkler examined the feces of cholera nostras in cases occurring in Bonn. He discovered a similar bacillus. He at once started for Genoa, where the cholera was then raging. Prior accompanied him. They procured the Koch bacillus and compared it with the one they had discovered. On his arrival from Genoa, Finkler packed up his microscope and with no written preparation whatever, hurried to the Cholera Congress of last summer, then in session, where, as a heretofore unknown man, he took the meeting by surprise in a brilliant address in which he announced his discovery of the comma bacillus in cholera nostras and asserted its similarity and kinship to the comma bacillus of cholera Asiatica. Finkler is gifted with the power of easy extemporaneous speech and fine language which made his address the more impressive. It aroused a storm of indignation and denial in the Berlin journals and among Koch's adherents. At first the existence of the comma bacillus in cholera nostras was denied even after search for it had been made. Later its presence in the feces of this disease was conceded, but Koch pronounced it unlike his bacillus, and it was claimed that it was *not* pathogenic. As you know, there has been and still is hot battle in the journals. Little by little various points have been yielded, and to-day Koch admits that the Finkler-Prior bacillus is pathogenic, and the only difference to be claimed between the two bacilli is that the bacillus of cholera nostras grows more rapidly in culture fluids than the Koch bacillus. This is acknowledged by Finkler and Prior, but they have found that after injecting the Koch bacillus into the intestines of a guinea-pig the bacilli which are obtained from the animal (for example, from the urine) grow in culture fluids as rapidly as, or even more so, than the bacillus from cholera nostras. For this reason, Finkler told me, he fancies the bacillus of cholera nostras will eventually be shown to be a degenerate descendant of the Koch bacillus—one that has lost something of its original virulence, or differs in virulence because of its growth in a different soil. I will merely add that I have examined the two bacilli frequently, and have

watched their growth from day to day in various culture fluids, and I believe the position taken by Finkler and Prior with such scientific calmness to be indisputable. Allow me to close by giving you a careful translation of a *resumé*, taken from the proof-sheets of an extended pamphlet by these gentlemen, now in press, in which they state at they will gladly welcome any discussion of their views.

*The resumé.*—(1) We confirm the existence of Koch's comma bacillus in the contents of the intestines and in the dejections of patients who suffered from cholera Asiatica in Genoa in 1884.

(2) We have discovered the comma bacillus in the feces of cholera nostras patients; we have thus found them directly, by means of the microscope, and we were the first to breed them in pure culture fluids as well as the first to describe them.

(3) These two kinds of comma bacilli are vibrios which form genuine spirilla. In reference principally to their morphological rank, as well as in relation to the changes which they may undergo in form, the two vibrios are alike.

(4) The conduct of both in cultures agrees in most kinds of culture procedures. Differences manifest themselves only under very closely related conditions of culture surfaces and temperature, and declare themselves not so much by *absolute* as rather by far more *relative* peculiarities, namely, greater energy of growth and of vitality of the vibrio of cholera nostras.

(5) Of the physiological characteristics of these vibrios, we especially denote, and have already done this in an earlier paper, their marked capability of resistance against drying, against different temperatures and against putrefaction.

(6) We maintain the possibility of a condition of tenacity and consider it probable that this tenacity of existence

resembles that of one of the spores of some other micro-organism of similar formation.

(7) Both vibrios are pathogenic. (8) The pathogenicity of Koch's vibrio is greater than that of the *Finkler-Prior* vibrio; this also is only a question of *relative* difference.

(9) The pathogenic character does not manifest itself in all kinds of animals; far more, rather, a great number of animals possess immunity against both vibrios. They manifest themselves only under certain conditions. The animals which are susceptible to and the conditions which are favorable for the action of the bacilli are the same for both vibrios.

(10) The evidences of the disease called forth by the vibrios in the bodies of animals, possess a certain similarity to those of cholera in human beings; they are, however, not specific, but in the guinea-pig can be imitated by means of other infectious matters and by chemical poisons.

(11) The causative connection between the comma bacillus and cholera Asiatica is most probably shown by the constant presence of the bacillus, but is not to be considered as certainly proved by experiments on animals. The causal connection between the comma bacillus (discovered by us) and cholera nostras is probably shown on the one hand by the constant discovery of the micro-organism, on the other by the extreme similarity of the symptoms of cholera nostras to those of cholera Asiatica, as well as in the biological and pathogenic peculiarities of the two comma bacilli.

(12) The two vibrios can reach the blood after being injected into the intestines and are secreted in the urine. The sojourn of the Koch bacillus in the body of an animal creates an increase in the rapidity of its growth, so that thereby a still greater similarity between the two vibrios is attained in their demeanor in cultures.

H. O.

## REPORTED MORTALITY FOR THE WEEK ENDING JULY 25, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Malarial Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	1091	764	43.42	7.91	35.05	.54	2.76
Philadelphia . . . . .	927,985	—	—	—	—	—	—	—
Brooklyn . . . . .	614,526	509	266	41.94	8.33	36.46	1.76	1.37
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	256	151	35.48	8.00	32.04	—	2.24
Baltimore . . . . .	108,520	318	180	37.20	8.37	29.45	2.17	1.55
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	173	91	33.64	7.54	29.53	—	1.16
New Orleans . . . . .	234,000	116	62	31.08	8.60	19.78	9.46	—
Buffalo . . . . .	201,000	70	39	25.74	15.73	8.58	—	5.72
District of Columbia . . . . .	194,310	165	81	32.94	9.76	19.62	.61	—
Pittsburgh . . . . .	186,000	—	—	—	—	—	—	—
Milwaukee . . . . .	112,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	60	34	44.82	10.00	44.82	—	—
New Haven . . . . .	62,882	39	—	58.88	7.68	53.76	—	—
Nashville . . . . .	54,400	30	12	43.29	3.33	29.99	3.33	—
Charleston . . . . .	52,286	31	9	25.84	16.15	16.15	3.23	—
Lowell . . . . .	74,417	37	24	62.10	10.80	51.70	—	—
Worcester . . . . .	69,422	32	18	44.20	10.40	38.00	—	2.60
Fall River . . . . .	62,674	38	28	10.40	5.20	7.80	—	—
Cambridge . . . . .	60,985	33	15	27.27	9.09	27.27	—	—
Lawrence . . . . .	45,516	14	5	45.45	9.09	45.45	—	—
Lynn . . . . .	41,895	16	11	31.25	18.75	25.00	—	6.25
Springfield . . . . .	38,090	16	12	56.25	—	56.25	—	—
Somerville . . . . .	31,550	14	7	21.42	7.14	21.42	—	—
Holyoke . . . . .	30,475	19	16	63.12	—	52.60	—	—
New Bedford . . . . .	39,144	18	11	50.00	—	44.44	—	—
Salem . . . . .	29,503	10	8	60.00	—	60.00	—	—
Chelsea . . . . .	21,347	17	8	16.66	—	5.88	—	—
Taunton . . . . .	22,633	7	3	42.81	—	42.81	—	—
Gloucester . . . . .	21,400	6	4	33.33	—	16.66	—	16.66
Haverhill . . . . .	20,905	11	5	51.54	9.09	45.45	—	9.09
Newton . . . . .	19,121	11	6	36.36	—	36.36	—	—
Brookton . . . . .	18,523	19	4	30.00	10.00	20.00	—	10.00
Malden . . . . .	15,273	5	3	40.00	—	20.00	—	—
Newburyport . . . . .	13,947	7	1	—	42.81	—	—	—
Waltham . . . . .	13,568	12	5	25.00	25.00	25.00	—	—
Fitchburg . . . . .	13,433	5	4	40.00	—	40.00	—	—
Northampton . . . . .	13,165	1	0	—	—	—	—	—
53 Massachusetts towns . . . . .	—	88	33	27.36	12.54	27.36	—	—

Deaths reported 3,666; under five years of age 1,508; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers and diarrheal diseases) 1,520, diarrheal diseases 1,652, consumption 305, lung diseases 115, diphtheria and cough 66, typhoid fever 48, malarial fever 37, whooping-cough 10, cerebro-spinal meningitis 24, scarlet fever 22, measles 21, puerperal fever 12, erysipelas eight. From malarial fever, Brooklyn 10, New York and New Orleans seven each, Chicago five, New Haven three, Baltimore two, Philadelphia, Nashville and Salem one each. From whooping-cough, New York 14, Brooklyn and Chicago four each, District of Columbia three, Philadelphia two, Baltimore, New Orleans, and Malden one each. From cerebro-spinal meningitis, Philadelphia and Chicago four each, Cincinnati three, New York, Lowell, and Fall River two each, Boston, Charleston, Taunton, Haverhill, Newton, Brockton, and Waltham one each. From scarlet fever, New York and Philadelphia five each, Brooklyn and Boston four each, Cincinnati two, Chicago, Baltimore, New Orleans, and District of Columbia one each. From measles, New York

seven, Chicago five, Philadelphia four, New Haven two, Brooklyn, Baltimore, and New Orleans one each.

In 115 cities and towns of Massachusetts, with an estimated population of 1,424,704, (estimated population of the State 1,555,104), the death-rate for the week was 25.98 against 23.83 and 23.81 for the previous two weeks.

In the twenty-eight greater towns of England and Wales, with an estimated population of 8,996,446, for the week ending July 25th, the death-rate was 19.5. Deaths reported, 3,322; infants under one year of age 1,164; deaths in London 1,636; acute diseases of the respiratory organs (London) 180, diarrhoea 409, measles 125, whooping-cough 108, scarlet fever 57, fever 25, diphtheria, 24, smallpox (London 36, Liverpool one) seven.

The death-rates ranged from 9.1 in Brighton to 36.4 in Leicester; Birmingham 16.5; Bradford 16.3; Birkenhead 15.7; Hull 14.6; Leeds 16.9; Liverpool 21.2; London 20.9; Manchester 24.6; Nottingham 17.0; Sheffield 17.1; Sunderland 21.2. In Edinburgh 14.2; Dublin 19.5; Glasgow 34.2.

For the week ending July 25th, in the Swiss towns, there

## REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 1, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	926	484	39.42	8.64	32.18	.54	2.59
Philadelphia	927,665	575	265	20.80	4.55	17.68	1.70	1.70
Brooklyn	644,526	362	204	42.30	6.40	34.80	.60	1.20
Chicago	632,100	344	216	46.50	5.10	34.20	3.90	1.50
Boston	423,800	276	134	38.11	13.69	30.45	1.48	2.59
Baltimore	408,520	217	110	35.85	7.82	28.48	2.30	1.84
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	173	91	33.64	7.54	29.58	—	1.76
New Orleans	234,000	114	35	19.36	14.96	8.77	.88	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	127	63	28.44	13.43	19.75	3.95	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,400	—	—	—	—	—	—	—
New Haven	62,882	37	20	45.50	8.10	24.90	—	2.70
Nashville	54,400	35	13	37.05	8.55	25.65	2.85	2.85
Charleston	52,286	37	20	18.50	8.10	13.50	—	—
Lowell	71,447	39	22	17.92	7.68	30.72	—	7.68
Worcester	69,442	26	14	34.65	7.70	34.65	—	—
Fall River	62,674	33	20	45.45	9.09	39.39	—	—
Cambridge	60,935	35	19	24.20	2.85	24.20	—	—
Lawrence	45,516	13	7	29.67	7.69	29.67	—	—
Lynn	44,885	19	7	42.08	5.26	21.04	—	21.04
Springfield	38,090	25	14	48.00	16.00	40.00	—	8.00
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	35	24	54.15	11.40	51.30	—	—
New Bedford	30,144	31	19	48.45	9.69	48.45	—	—
Salem	29,503	9	3	44.41	—	33.33	—	4.00
Chelsea	24,347	11	10	14.28	14.28	14.28	—	—
Taunton	22,633	9	5	33.33	22.22	22.22	—	—
Gloucester	21,400	9	6	44.41	11.11	44.41	—	—
Haverhill	204,05	18	11	55.55	5.55	44.44	5.55	5.55
Newton	19,421	11	9	36.36	—	27.27	—	9.09
Brockton	18,323	11	6	36.36	9.09	27.27	—	9.09
Malden	15,273	4	2	75.00	—	50.00	—	—
Newburyport	13,947	4	3	50.00	25.00	50.00	—	—
Waltham	13,568	10	7	70.00	—	60.00	—	10.00
Fitchburg	13,433	4	3	75.00	—	75.00	—	—
Northampton	13,165	7	3	—	—	—	—	—
94 Massachusetts towns.	—	83	39	36.00	4.00	11.60	—	—

were 31 deaths from consumption, diarrheal diseases 30, lung diseases 14, typhoid fever three, smallpox two, diphtheria and croup one, whooping-cough one. The death-rates were: at Geneva 10.1; Zurich 15.5; Basle 24.9; Berne 26.2.

Deaths reported 3,285; under five years of age 2,210; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 1,662, diarrheal diseases 1,662, consumption 282, lung diseases 127, diphtheria and croup 60, malarial fevers 36, scarlet fever, 31, whooping-cough 29, typhoid fever 28, measles 26, puerperal fever 15, cerebro-spinal meningitis 10, erysipelas six, smallpox one. From scarlet fever, New York, 10, Brooklyn, Baltimore, and District of Columbia four each, Cincinnati, Buffalo, and Holyoke two each, New Orleans, New Haven, and Charleston one each. From whooping-cough, New York 15, Baltimore and District of Columbia five each, Brooklyn, New Orleans, Buffalo, and New Haven one each. From typhoid fever, New York and District of Columbia seven each, Boston five, Baltimore and Lowell two each, Brooklyn, New Orleans, Nashville, New Bedford, and Malden one each. From measles, New York 16, Buffalo four, Brooklyn three, Boston, New Haven, and Nash-

ville one each. From puerperal fever, New York five, District of Columbia four, Brooklyn and Boston two each, New Orleans and Nashville one each. From cerebro-spinal meningitis, New York and Cincinnati three each, Buffalo, Worcester, Fall River, and Chelsea one each. From erysipelas, Baltimore two, New York, Brooklyn, District of Columbia, and Charleston one each.

Cases reported in Boston: measles 28, scarlet fever 19, typhoid fever 18, and diphtheria 18.

In 115 cities and towns of Massachusetts with an estimated population of 1,472,704 (estimated population of the State, 1,555,104), the total death-rate for the week was 23.87, against 23.81 and 17.33 for the two preceding weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,996,446, for the week ending July 18th, the death-rate was 19.5. Deaths reported 3,321; infants under one year of age 1,020; deaths in London 1,616; acute diseases of the respiratory organs (London) 197, measles 143, whooping-cough 140, diarrhoea 291, fever 40, scarlet fever 34, diphtheria 23, smallpox (London 11, Sheffield and Sunderland one each) 13. The death-rates ranged from 11.5 in Halifax to 26.9 in New.

castle-on-Tyne; Birkenhead 19.6; Birmingham 15.0; Bradford 12.2; Hull 13.4; Leeds 18.0; Leicester 23.8; Liverpool 22.1; London 2.06; Manchester 23.8; Sheffield 23.2. In Edinburgh 14.2; Glasgow 22.1; Dublin 27.2.

For the week ending July 18th in the Swiss towns there were 35 deaths from consumption, diarrheal diseases, 18, lung dis-

eases nine, smallpox four, diphtheria and croup one, typhoid fever one. The death-rates were: at Geneva 10.0; Zurich 7.8; Basle 24.9; Berne 27.3.

The meteorological record for two weeks ending August 1st, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
Saturday, July 25, 1885.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ...10	29.991	69.2	74.2	60.1	62	70	78	70.0	N.E.	E.	W.	9	8	12	C.	C.	F.	—	—
Monday, ...20	29.922	76.1	87.4	68.1	77	58	65	63.3	N.	S.E.	S.W.	11	6	8	O.	C.	C.	—	—
Tuesday, ...21	29.762	81.3	92.8	70.1	46	112	103	70.7	S.W.	W.	N.W.	9	17	6	O.	C.	C.	—	—
Wednesday, ...22	29.919	76.4	86.4	67.0	58	56	51	55.0	...	E.	N.	0	4	8	O.	C.	C.	—	—
Thursday, ...23	30.192	70.5	76.9	65.1	59	79	88	72.5	...	E.	N.W.	0	8	5	O.	C.	C.	—	—
Friday, ...24	29.945	76.1	85.4	67.8	89	47	27	54.3	S.W.	S.W.	S.W.	3	12	11	O.	O.	O.	—	—
Saturday, ...25	29.833	80.1	91.4	72.6	89	59	80	76.0	S.W.	W.	W.	12	12	5	O.	O.	F.	4	0.18
Mean, the Week.	29.926	75.7	84.9	67.3			68.8												

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

Week ending	Barom-eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
Saturday, Aug. 1, 1885.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Sunday, ...26	29.940	77.2	89.8	68.4	78	52	66	65.2	...	N.	N.	0	18	10	C.	O.	O.	—	—
Monday, ...27	30.121	68.6	74.7	62.2	62	58	73	61.3	...	E.	S.W.	11	19	6	C.	F.	C.	—	—
Tuesday, ...28	29.967	68.8	75.4	60.8	67	68	68	61.7	N.W.	S.E.	E.	2	12	4	O.	C.	C.	—	—
Wednesday, ...29	29.797	70.2	81.5	63.0	79	43	92	78.0	S.	S.	N.E.	12	13	8	C.	O.	T.	—	—
Thursday, ...30	29.840	65.6	71.5	61.3	87	80	90	85.7	N.	N.	N.W.	10	9	4	O.	O.	C.	—	—
Friday, ...31	29.858	65.3	71.1	61.1	91	77	90	86.0	N.E.	E.	W.	3	10	3	H.	C.	F.	—	—
Saturday, ...1	29.894	67.5	72.4	64.5	81	84	90	85.0	N.	E.	S.	3	12	2	G.	F.	O.	8.5	2.87
Mean, the Week.	29.918	69.3	77.1	63.1			75.6												

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 1, 1885, TO AUGUST 7, 1885.

BROWN, J. M., surgeon. Assistant surgeons. Clarence Ewen, A. W. Taylor. Ordered to rejoin the proper stations in Department of the Platte.

EMR, G. L., and C. S. Black, assistant surgeons. Ordered to rejoin their proper stations in the Department of Texas. G. O. No. 7, Division Mo., August 1, 1885.

TESORO, L. S., captain and assistant surgeon. Ordered from Fort Stockton, Texas, to Fort Davis, Texas. S. O. 90, Department of Texas, July 27, 1885.

CARTER, W. F., captain and assistant surgeon. Ordered for duty as post surgeon, Fort Stockton, Texas. S. O. 90, Department of Texas, July 27, 1885.

POWELL, J. L., captain and assistant surgeon. Assigned to temporary duty at Fort Leavenworth, Kansas. S. O. 110, Department of Missouri, July 20, 1885.

DREY, W. D., first lieutenant and assistant surgeon. Ordered from Fort Sedon to Fort Stanton, N. M. S. O. 111, Department of the Missouri, July 31, 1885.

#### DEATH.

Died in South Boston, August 5, 1885, Joseph Rutter Draper, M. D., M. M. S. S., aged fifty-five years.

#### APPOINTMENT.

DR. LEROY M. BRIGHAM, of Burlington, Vt., has been appointed Professor of Surgery in the University of Vermont, as successor to Dr. J. L. Little, deceased.

#### BOOKS AND PAMPHLETS RECEIVED.

Heart and Pulse in Acute Nephritis. By G. Baumgarten, M. D., Professor of Physiology, St. Louis Medical College. (Reprint from St. Louis Courier of Medicine, July, 1885.)

Dr. S. F. Starley's attack on Dr. A. C. Douglas, and Dr. Douglas' reply.

A case of Double Narcotic Addiction. Opium and Alcohol. Imbecility. Recovery. By J. B. Mattison, M.D., Brooklyn, N.Y. (Reprint from Canada Lancet, December, 1884.)

Case of Poisoning resulting from taking chloroform internally. Recovery supplemented with a table of reported cases by Llewellyn Eliot, M.D. (Reprint from Medical Record, July 11, 1885.)

Quarterly Station-list of officers of the Medical Department and Hospital Stewards, U. S. Army, July 1, 1885.

Seventh Annual Annoucement of the Fort Wayne College of Medicine. Session 1885-86.

Annual Annoucement and Catalogue, Memphis Medical College. Session 1885-86.

Les Remèdes dits Spécifiques sont des Agents Antizymotiques. Lettre adressée à M. le Dr. Dujardin-Bennet par G. Pecholier, professeur agrégé à la faculté de médecine de Montpellier. 1885.

Thirteenth Annual Report of the Board of Health of the City of Boston. For the financial years 1884-1885. Boston.

Shadows in the Ethics of the International Medical Congress. By Levi Cooper Lane, A.M., M.D., etc. San Francisco.

Cooper Medical College, San Francisco. Annual Annoucement. Session of 1885.

## Original Articles.

A CASE OF LABOR IN A WOMAN WITH SPONDYLOLISTHETIC PELVIS.<sup>1</sup>

BY F. H. LOMBARD, M.D.

Mrs. Nellie O., age, twenty-six years. Primipara. Of Irish parentage, born in Boston, where she has always lived. Father died of pneumonia. Mother, who became insane when Nellie was two years old, has been in the asylum at Worcester ever since.

Learned to walk during second year. When three years old while playing in the street was run over by a horse and carriage, the wheels passing directly across her body. Whooping-cough the only disease she has ever had.

Catamenia appeared at fourteen years; always regular; every four weeks; five days; moderate; considerable pain and discomfort always the day before her sickness appears.

I first saw the patient in October, 1883, when she was suffering from tonsillitis. She reported herself to be five months advanced in her first pregnancy and asked if I would take care of her during her confinement. Her dwarfed stature attracted my attention and obtaining her permission to measure the circumference of the pelvis, this was found to be 69 cm. (27 $\frac{1}{2}$  inches), the normal being 90 cm. (35 $\frac{1}{2}$  inches). Although a primipara whose abdominal walls had never been previously distended, the abdomen was so pendulous that in the upright position the umbilicus was on a level midway between the hips and the knees.

Her husband was told the risk there would be in advising the pregnancy to go on to term and was advised to have his wife enter the hospital.

To this she objected, but promised to consider the matter and let me know. An abdominal belt with shoulder straps was improvised and, as subsequently learned, this was worn until within a few days of confinement.

The next day I visited the patient again and took accurate internal and external measurements of the pelvis. Two weeks later, having heard nothing from Mrs. O., I called to see her but found the family had disappeared, no one knew where.

March 3, 1884, four months later, I was summoned to the house in the rear of number 378 North Street, where I found Mrs. O. in labor.<sup>2</sup> It was then five o'clock in the afternoon and she had been having irregular pains since early morning. Examination showed an os the size of a silver quarter dollar, membranes intact, head presenting, and not yet engaged in the pelvis, though with difficulty moveable. Fetal heart could not be heard; back of fetus to mother's right. Mother's pulse 108, fairly strong. Temperature 99.3° in the axilla. The pains which had been strong and frequent all the afternoon were beginning to tell upon the mother, but during the hour following my visit, they had little or no effect upon the os. Fifteen grains of chloral were given by the mouth and the dose repeated twice at intervals of twenty minutes.

Mr. C. E. Taft, at that time a third year student, was sent for, and to him and to Mr. Howe I am indebted for valuable assistance in the subsequent care of the case. The failure of the strong pains to dilate

the os, being evidently due to the great anterior obliquity of the uterus which kept both the fetal head and the bag of waters from entering the os as a wedge; the patient was put to bed on her back, and from this time until the head had engaged in the pelvis (a space of twelve hours) the uterus was held in position and every effort made with each succeeding pain to force the head into the pelvic cavity.

During the night and following morning progress was slow but steady. The patient suffered a good deal from nausea and vomiting, but as her pulse, temperature, and general condition continued favorable there seemed to be no indication for active interference. Small quantities of brandy and tea were given at intervals through the night and morning. Hot carbolic (1 to 60) vaginal douches (110° F.) were given from a fountain syringe three times during the morning, with a view to assisting the dilatation of the cervix and to reducing the excessive edema of the anterior lip which progressively increased with the advance of the head. At 11.10 A.M., when the os was about the size of a trade dollar, the membranes were accidentally ruptured during an examination. Two hours later, the os being fully dilated, forceps were applied (the patient refusing ether) and in thirty minutes a fully developed male child, stillborn, was delivered. All attempts to resuscitate the child failed; length 50 $\frac{1}{2}$  cm.; weight not taken. The uterus contracted well after delivery, but there was considerable hemorrhage from the lacerated cervix and perineum, requiring the application of ice.

Five silk sutures were taken in the perineum which had been deeply torn to the right of the median line, the tear extending into the sphincter. Convalescence was slow, the patient not sitting up until the fourteenth day, and recovering her usual strength only at the end of two months. The pulse during the first fourteen days averaged 107, reaching its maximum, 132, on the evening of the third day.

The temperature did not fall below 100° F. during the first fortnight, averaged 101.5°, and reached its highest point, 103.2°, on the twelfth day.

Incontinence of urine lasted until the fourth day; incontinence of feces until the fourteenth. Tympanites was a troublesome symptom until the fourth day, although a large amount of flatus was involuntarily expelled with every change in position.

The lochia were scanty throughout, chiefly purulent and stopped altogether on the sixth day; they were never offensive.

The uterus contracted slowly during the first four days, swinging from side to side high above the pubes, apparently affected by every change in position of the flaccid bowel. After the second involuntary defecation and the coincident disappearance of the tympanites on the fourth day, the uterus sought the middle line and its involution then progressed normally.

The body of the uterus was never abnormally tender to the touch, and by the fourteenth day the fundus had disappeared below the pubes. Extensive sloughs which subsequent examination showed to have been parts of the bruised and lacerated cervix came away from time to time with varying amounts of pus in washing out the vagina.

The upper perineal stitches sloughed through on the third day, while the lower ones, removed on the seventh, showed integumentary union in the lower half of the wound.

<sup>1</sup> Read, by invitation, before the Obstetrical Society of Boston, April 10, 1885.

<sup>2</sup> This was exactly 981 days from the afternoon of her marriage (May 26, 1883) on which date her last catamenia ceased.

On the eighteenth day after delivery vaginal examination revealed: Partially healed perineum; about an inch and a quarter above the anus the tip of the little finger introduced into the rectum appears in the vagina. Uterus low in pelvis, slightly ante-flexed, firmly contracted. Deep, left lateral laceration of cervix with extensive loss of substance.

The moderately high and even course of pulse and temperature is consistent with the pretty extensive suppuration which occurred, and shows that the pus had free outlet and that there was at no time septic infection.

*Treatment:* Consisted briefly of liquid and farinaceous diet, free use of brandy and tonic doses of quinine throughout. Ergot was given several times during the first three days, and opium was required once or twice. Turpentine in stupes and internally was given to relieve the tympanites.

Hot carbolie vaginal douches (4:60 at 110° F) were given twice a day, and a wad of absorbent cotton soaked in carbolie was kept constantly at the vulva, the swollen entrance to which was dusted twice a day with Pulv. Iodoform.

Nothing could have been more unfavorable than the hygienic surroundings of this patient.

A family of six adults occupied two small rooms and a closet in the second story of a wooden tenement in one of the worst slums of the city. A row of stinking privies resorted to by the whole neighborhood as well as by passers-by, stood in the yard below, — a stench-centre sufficient to contaminate the whole district. The lying-in room, into which no ray of direct sunlight ever fell, opened off the kitchen, and nearly all of the available space in it was occupied by the bed. To make matters worse, though with a view to making them better, the landlord had sent the plumbers on the day of Mrs. O.'s confinement to clean out the trap under the kitchen sink, in the midst of which process I found them on my first visit.

With this germ-laden condition of the atmosphere, and with an extensive suppurating surface ready for infection, we must either agree with Winckel (who does not hesitate to place a healthy, recently-delivered woman by the side of a case of puerperal septicæmia) that the atmosphere plays an insignificant rôle as a carrier of infection, or we must admit that the much-abused, vaginal douche occasionally performs an important service in prophylaxis.

A month after her confinement I again lost sight of the patient and did not see her again until February, 1885, when she came to the Dispensary complaining of backache, amenorrhœa and distress at each menstrual epoch.

Feces had continued to be expelled through the vagina for six weeks after her confinement. Since then defecation had been natural. Examination by the rectum showed complete closure of the recto-vaginal fistula, a circular cicatrix, the size of a three-cent silver bit, marking its site in the posterior vaginal wall.

By the vagina very little could be seen or felt of the left half of the vaginal portion of the cervix; the uterus, normal in size, lay in the position of right latero-retroversion, and was slightly adherent. Last week Dr. C. M. Green kindly examined the patient with me at the Boston Dispensary, when the above condition of the pelvic organs was corroborated and the following measurements taken; except that they

are more complete they do not differ essentially from those taken during pregnancy.

Weight 77 lbs.			
Height,	125	ctm. = 4 ft. 1 $\frac{1}{2}$ in.	
Length of spine,	30	" = 11 $\frac{1}{2}$ "	
Hips to Heels,	82	" = 32 $\frac{1}{2}$ "	
Circ. of Thorax,	74	" = 29 "	
Circ. of Pelvis,	69	" = 27 $\frac{1}{2}$ "	
Iliac Crests,	25	" = 9 $\frac{3}{4}$ "	
Ant. Iliac Spines,	22	" = 8 $\frac{1}{2}$ "	
Trochanters,	25.5	" = 10 "	
( R. Ext. Oblique,	20	" = 7 $\frac{3}{4}$ "	
L. " " "	20	" = 7 $\frac{3}{4}$ "	
Ext. Conj.	15	" = 5 $\frac{1}{2}$ "	
Diag. "	9	" = 3 $\frac{1}{2}$ "	
Height of Symphysis,	5	" = 1 $\frac{1}{2}$ "	
(Inclination of Symphysis			
slightly less than normal).			
Conj. Vera,	7	" = 2 $\frac{3}{4}$ "	
(i. e. from Symphysis to			
nearest point in spine).			
Post. Sup. Iliac Spines,	14.5	" = 5 $\frac{1}{2}$ "	
Tubera Ischii,	10	" = 3 $\frac{1}{2}$ "	

#### SUMMARY OF THE CASE:

Labor at term in a primipara 26 years old, with Spondylolisthetic Pelvis.

Duration of { First stage, 2 $\frac{1}{2}$  hrs.  
 Labor 23 hrs. } Second " 50 min.  
 Third " 40 min.

Delivery with forceps of a fully developed, dead, male child. Extensive laceration with subsequent sloughing of cervix. Deep tear in the perineum which partially united, leaving a recto-vaginal fistula that subsequently healed of itself. Slow convalescence with moderately high and uniform temperature and pulse.

#### DIAGNOSIS OF THE SPONDYLOLISTHETIC PELVIS.<sup>3</sup>

This form of contracted pelvis is rare. According to Schroeder,<sup>4</sup> nine such cases have so far been reported in which there was obstruction to delivery. In seven of these the peculiar deformity was confirmed by autopsy.

The chief feature consists in the separation of the body of the last lumbar from the first sacral vertebra and the consequent sinking of the lumbar spine into the pelvis, so that the inferior surface of the last lumbar rests on the anterior surface of the first sacral vertebra. The anterior surface of the last lumbar vertebra is directed downward; that of the fourth, third and second lumbar vertebra form an arch, the most prominent part of which being nearest to the symphysis, takes the place of the normal promontory. The result of this displacement is a considerable shortening of the antero-posterior diameter of the inlet of the pelvis.

The gradual sinking of the vertebrae is accompanied by an atrophy of the intervertebral cartilages and by a bony union between the lumbar and sacral vertebrae. The weight of the body conducted through the spine is now transmitted to the anterior surface of the sacrum instead of to its base, which tends to throw the pelvic centre of gravity forward. This is compensated for invariably by lessened<sup>5</sup> inclination of the pelvis, the anterior portion being slightly tilted upward. The backward pressure upon the base of the sacrum forces

<sup>1</sup> Lusk, pp. 190-196.

<sup>2</sup> Lehrbuch der Geburtshilfe, s. 576.

<sup>3</sup> Schroeder, Loc. cit.

the posterior iliac spines wide apart while the apex of sacrum is thrown forward thus encroaching on the antero-posterior diameter of the outlet.

The traction upon the ileo-femoral ligaments approximates the tubera ischia, which, with the lateral displacement of the ilia due to the forcing back of the sacrum, results in a narrowing of the transverse diameter of the pelvis that becomes more marked as the outlet is approached.

Thus we have antero-posterior narrowing beginning above and extending below the inlet of the pelvis, together with a narrowing of the transverse

transverse processes induced by traumatism, or by traction upon the articular ligaments sufficient to produce luxation (as from the too early carrying of heavy weights). In the case here reported the trouble dated apparently from the accident which occurred in the third year.

#### DIAGNOSTIC SIGNS.

Breisky<sup>6</sup> calls attention to the peculiar figure of persons with spondylolisthetic pelvis. The thorax and extremities are normal while the abdomen is unusually short and appears to have sunk between the prominent iliac crests.<sup>7</sup> The pelvic inclination is lessened, the



crests of the ilia are wide apart and the gluteal region abnormally steep.

The point of division of the abdominal aorta into the common iliac arteries is displaced downward by the descent of the lumbar vertebrae and brought within easy reach of the examining finger introduced into Douglas' cul-de-sac. The pulsation of these vessels whose abnormal situation is held by Schroeder to be of extreme diagnostic value, could be distinctly felt in the case reported.

Marked cases of rachitis may result in the same prominent lumbar lordosis and descent of the spine

<sup>6</sup>Breisky, "Archiv. f. Gynaec." Bd. ix. 1876, p. 4.  
<sup>7</sup>See accompanying plates.

diameter beginning in the cavity and becoming more marked toward the outlet (compare measurements and plates.)

#### ETIOLOGY.

The primary cause of this deformity is a separation of the articular surfaces of the last lumbar from the first sacral vertebra. This may be brought about by fracture of the transverse processes; caries of the

into the pelvis. The differential diagnosis is easily established by absence in cases of true spondylolisthesis of signs of rachitis elsewhere, and by the fact, attention to which was first attracted by Breisky<sup>8</sup> that in pelvic deformity due to rachitis, the sacral lateral masses pass outward from the projecting promontory, while in spondylolisthesis one can feel at the pelvic inlet only the rounded prominence of a single vertebral body without laterally expanded wings.

#### PROGNOSIS.

The prognosis is bad in comparison with that in pelves contracted to an equal degree from other causes; because the deformity begins above and extends below the pelvic inlet instead of being limited to a comparatively short space.

#### TREATMENT

Generally consists in the induction of abortion or at term in Casarean section. Premature delivery was beyond all question the proper treatment to have followed in this case, and labor would have been induced at the seventh month or soon after, had not the patient disappeared from sight. Pregnancy having advanced to term, the choice lay between Casarean section, turning, delivery by forceps, and craniotomy. The mother's safety certainly did not demand Casarean section and the operation would have been justified only for the sake of securing a living child.

Turning would have been practicable, the patient having been seen before the head had engaged in the pelvis and the membranes being still intact.

The operation would, however, have been difficult, owing to the extreme ante-flexion of the uterus, and although to be preferred to the application of high forceps in the interest both of mother and child, it was by no means clear to me that it was my duty to turn, rather than to wait, and while watching the case carefully, give nature a chance.

I think the result justified my choice of the latter action. The deformity being one which involved not merely contraction at the inlet, but contraction beginning above and extending to the outlet, even had version been effected, the chance of delivering a living child would have been, I think, very small, while the dangers to the mother, from laceration of the soft parts, would have been as great, and those of septic infection greater than in application of forceps to the head after it had entered the cavity of the pelvis.

As for perforation; the obstruction to delivery was not sufficient to demand it, and as the death of the fetus was not absolutely certain, perforation would not in this case have been justifiable.

Of the nine cases quoted by Schroeder:—

One died undelivered. In four Casarean section was performed. Three of these patients died from the operation; the fourth (Panderbörner's case) survived a first Casarean section and having become pregnant again, succumbed to the second operation. In two, craniotomy was performed, and in two, artificial abortion was induced. Total, seven deaths; two recoveries.

So far as I know, this is the first case of spondylolisthetic pelvis of obstetric interest reported in this country.

### CONSAINGUINEOUS MARRIAGES: THEIR EFFECT UPON OFFSPRING.<sup>1</sup>

BY CHARLES F. WIGHTINGTON, M.D., OF Roxbury.

THE subject of this paper is of interest alike to the physiologist and to the practitioner of medicine, who is constantly liable to be called upon for his opinion as to the desirability, or more often as to the safety, of prospective marriages between relations. The great practical importance of correct views upon this matter has seemed to me, therefore, to justify still further investigation of a topic on which, although much has been said, little has been settled.

The traditional belief, held still by a large majority of the laity and by very many of the medical profession, has been given physiological expression by no one with greater clearness than by Dr. Devay. He says<sup>2</sup>:—

"The objection to consanguineous marriages is not . . . the perpetuation in families by means of inter-marriages of maladies susceptible of hereditary transmission, as certain forms of temperament, certain organic predispositions, like narrowness of the chest or other vices of formation. It is evident that the condition of consanguinity in itself adds nothing to the chances of morbid inheritance which, depending upon the health of those marrying and of their respective ancestors, have the same source in every sort of marriage. We charge upon unions between relatives of the same stock, the production, by the sole fact of non-renewal of the blood (*non renouvellement de sang*), of a specific cause of organic degeneration fatal to the propagation of the species."

Now this statement is very explicit, to the effect that besides the ordinary laws of inheritance which may affect offspring for good or for bad, there is in marriages of relations a specific degenerative influence, due to the mere fact of "non-renewal of the blood." If this be true, it follows that the operation of this influence will be equally potent and baneful when the persons united are healthy as when they are diseased. And there should be discoverable among the offspring of such unions a conspicuous deterioration, out of all proportion to those other hereditary influences whose potency is so well established. Indeed it is difficult to see why, if this supposition be true, we should not find some evidence of degeneration present as the rule in all the persons born from marriages of relations, inasmuch as in all these cases by the hypothesis this specific cause of degeneration is present. Whether this is the fact, has been made the subject of inquiry by many investigators, but with results so utterly diverse as to leave the student more bewildered than ever, and to suggest that in no field of investigation has the statistical method more pronounced limitations than in this. In a paper like the present we can only allude in the briefest manner to some of the most important collections of cases illustrating the opposite views on this question.

Dr. Bemis<sup>3</sup> collected thirty-four cases of consanguineous marriages. Seven, or 20.5 per cent were barren. One hundred and ninety-one children were born; an average of 5.6 children per marriage, barren and fertile. Of the one hundred and ninety-one children, fifty-eight died young; fifteen of them from con-

<sup>1</sup> Read at the annual meeting of the Massachusetts Medical Society, June 9, 1885, and recommended for publication by the Society.

<sup>2</sup> Hygiene de l'Enfance, 2d ed., p. 246.

<sup>3</sup> N. A. Med. Chirurgical Review, January, 1857.

sumption. Of the surviving one hundred and thirty-four, thirty-two are said to be "deteriorated, but without absolute indications of disease." A large number of diseases and defects are ascribed to forty-seven of the remainder, and only forty-six are described as healthy.

Dr. Bemiss also made a report to the American Medical Association<sup>4</sup> the following year, in which he collected eight hundred and thirty-three consanguineous marriages, producing three thousand nine hundred and forty-two children, being 4.6 children per marriage, 28.7 per cent are put down as defective, 3.6 per cent as deaf mutes, 2.1 per cent as blind, 7 per cent as idiots, 2.04 per cent as insane, 1.5 per cent as epileptic, 7.6 per cent as scrofulous, and 2.4 per cent as deformed; 22.4 per cent are recorded as "having died young."

Dr. Howe<sup>5</sup> collected in the same year, from statistical tables in Massachusetts, seventeen cases of marriage of kindred. "Most of the parents were intemperate or scrofulous; some were both one and the other." These unions produced ninety-five children, of which forty-four (nearly 50 per cent) were idiots, twelve were scrofulous or puny, one deaf and one a dwarf.

Dr. Arthur Mitchell,<sup>6</sup> Deputy Commissioner in Lunacy for Scotland, found among one hundred and forty-six children born from forty-five consanguineous marriages (thirty-seven of them being fertile), 5.5 per cent idiots, 3.4 per cent imbecile, 7.5 per cent insane, 1.1 per cent epileptic, 3.0 per cent paralytic, 1.1 per cent deaf mutes, 2 per cent blind, 1.5 per cent "consumptive, scrofulous or manifestly of weak constitution." A total, as he says, of 61 per cent of the marriages producing children in some way injuriously affected.

M. M. Cadiot,<sup>7</sup> Devay<sup>8</sup> and Boudin<sup>9</sup> have also published statistics showing the evil effects of marriages of kin among their own countrymen.

If we now turn to the other side of the account we find equally positive results. In the first place M. Bourgeois<sup>10</sup> gives us the history of his own family, descended from a consanguineous union in the latter part of the seventeenth century. Eight of the marriages are those of cousins and the remainder, some sixty in number, all feel the influence of consanguinity. Yet only one union in the entire number has been infertile, and here the fault was undoubtedly in the wife, a woman of alien stock, while the husband was three generations removed from the nearest marriage of kin. In one branch there are four marriages of cousins in five successive generations, one of them being of double first cousins. Yet the children of this last union, being four times of kin, are six in number and are all well and bright save one, the victim of a traumatic accidental injury. The health of all the two hundred descendants is excellent, except in one family of grandchildren and great-grandchildren from the double cousin marriage, where a scrofulous taint has crept in.

Seguin<sup>11</sup> gives the particulars of ten marriages of kin in his own family, two of the number being of

uncle with niece and the rest of first cousins, from which sixty-one children were born, most of whom lived to grow up, not a single one showing deaf-mutism, hydrocephalus, stammering or polydactylism.

Dally<sup>12</sup> gives a case of continued intermarriages between two families, all being of first cousins save two which were of second cousins. This has continued for five generations with an average of three or four children per marriage. The total number of branches direct and collateral is one hundred and twenty to one hundred and forty, though quite a number of the family have been celibates. There has been no case of idiocy or deaf-mutism, but one of insanity, and that in an old woman.

M. Voisin<sup>13</sup> found in the isolated commune of Batz forty-six consanguineous marriages. Five were between first cousins, producing twenty-three children; thirty-one were between second cousins and produced one hundred and twenty children; and the ten remaining unions gave birth to twenty-nine children. All were healthy and free from deformities of every kind. The community consists of some 3,500 souls, and has always been very much isolated. They are simple, intelligent and moral, and not a single case of mental disease, deaf-mutism, albinism, retinitis pigmentosa or any malformation could be found, though the inhabitants had closely intermarried from time immemorial.

These two classes of observations, so diametrically opposite in their conclusions, cannot both be accepted as fairly representing the facts. If, now, we look for a moment at the testimony with regard to specific constitutional defects, given in most part by men agreed as to the generally unfavorable effect of consanguineous marriages, we find equally unreconcilable discrepancies. Take the point of idiocy, for instance. Dr. Howe's figures show that 41 per cent of the children of persons related to each other were idiots, while Bemiss, in one set of his cases, found the idiots to compose 7 per cent of all the children born, and in another set to amount to only 2 per cent.

In the matter of deaf-mutism, we have the statement of Dr. C. A. Cameron,<sup>14</sup> based upon the Irish census of 1881, that of the 5,136 deaf mutes enumerated in that country, 135 (being 2.6 per cent of the whole) were the children of first cousins. Yet Dr. Fitzpatrick, in the very discussion which followed the reading of Cameron's paper, asserted that in his experience almost every case of deaf-mutism occurred in persons born from parents who were related.

Huth, in his interesting work, to which I am indebted for one or two of the foregoing references, has collected the results published by some fifteen investigators as to the proportion of deaf mutes consanguineously descended,<sup>15</sup> and finds the percentages given to vary from a maximum of 30.1 to a minimum of 3.3,—a range so great as seriously to invalidate the figures.

One or two discrepancies in the results of individual observers deserve to be noted. In this same matter of deaf-mutism, Boudin says,<sup>16</sup> that estimating the danger of a deaf mute being born from an ordinary marriage as one, in a union of cousins it is eighteen, in one of uncle with niece it is thirty-seven, and in one of aunt

<sup>4</sup> Transactions American Med. Association, 1888, vol. XI, p. 310-3.

<sup>5</sup> Journal Psych. Med. and Mental Pathology, July 1878, pp. 369-4.

<sup>6</sup> Mem. to the Anthropological Society of London, vol. II, 1886. See also Edinburgh Med. Journal, vol. VII, p. 575.

<sup>7</sup> Comptes Rendus, tome LVII, p. 958.

<sup>8</sup> Gazette Hebdomadaire, quoted in Edin. Med. Journ., vol. VII, p. 620.

<sup>9</sup> Annuaire d'Hygiène Publique, tome XXIII.

<sup>10</sup> Comptes Rendus, tome LVI, p. 178.

<sup>11</sup> Comptes Rendus, vol. XL, p. 54.

<sup>12</sup> Anthropological Review, May 1861.

<sup>13</sup> Mémoires de la Société d'Anthropologie de Paris, vol. VI, 1869, p.

<sup>14</sup> Med. Press and Circular, May 16, 1881.

<sup>15</sup> The Marriage of Near Kin, London 1887, p. 100.

<sup>16</sup> Annuaire d'Hygiène Publique, tome XXIII.

with nephew seventy. If this defect is due to the mere fact of consanguinity in the parents, its danger should vary directly as the nearness of the relation. But an aunt and nephew are no nearer than an uncle and niece. Why then should there be twice as much danger of deaf-mutism in the one case as in the other?

Again, it appears from the tables of Bemiss,<sup>17</sup> that the percentage of the "defective" in the children of third cousins is actually greater than in the offspring of second or even of first cousins. But it is manifestly absurd that effects due to the mere fact of consanguinity should be more disastrous where the degree of relationship is the eighth than where it is the fourth, — in persons having only six per cent of the blood of a common ancestor than in those having 25 per cent.

Impressed by the murdability of many of the statistics published upon this subject, I have gathered what cases I could hear of, as a contribution to the study of an important subject. Before laying the results before you, I may be allowed a word regarding some of the difficulties of the problem. In the first place, all cases collected in this way are almost of necessity selected ones, and I cannot flatter myself that my own form an exception to the rule. In recalling instances of consanguineous marriage, persons are apt to remember only those which have been made conspicuous; and nothing is more conspicuous than defectiveness among the offspring. The opposite kind of selection, that is, the suppression of unfavorable cases, is much less common, for if an individual should keep back an unfortunate page of his family history, his neighbors will know and report the fact, even while they become oblivious of the uneventful commonplace cases. It is the ill news that travels fast and far. At least three of the unfavorable cases in my list I heard of from multiple sources.

In judging of the results, moral factors have to be allowed their just value. Intemperance, which was present for instance in most of Dr. Howe's cases, the depraved morality attendant on incestuous unions, the luxury and dissipation prevalent in many royal and noble families, the sloth and shiftlessness of many isolated communities, should often bear some at least of the responsibility that is put upon consanguineous marriages. Testimony is sometimes colored by religious prejudices in those who hold allegiance to the canon law. When one reads over the forty or more abnormalities ascribed to the intermarriage of kin, as in the cases collated by Huth, and finds among them such diseases as psoriasis and whooping-cough, he is forced to believe that the narrator was run away with by his hypothesis.

The great difficulty, after all, is in cases where the children of relations display any taint or defect, to exclude the influence of morbid inheritance. The influence of this factor is very evident in some of my own cases, and is abundantly sufficient to account for the evil results had there been no relationship between the parents.

In regard to inheritable diseases in the parents, I have often been unable to gain information. But no one I think can deny that simple heredity may have borne an important part in most of the cases. Whether it will account for all the facts is a question which we must reserve till later. Now one very important conclusion follows, namely, that a case where no evil result follow a consanguineous marriage is of more value as evidence against the intrinsic harmfulness of

such a union than an unfavorable case is for its harmfulness. For in the former instance at least we know that consanguinity was harmless; in the latter we know that *something* was harmful; it may have been consanguinity or it may not. In other words, the effect being removed there can have been no efficient cause, not even consanguinity; the effect being present, the cause must be looked for among *all* the antecedents, not consanguinity alone. If then there were an equal number of good and bad results from such unions, the evidence would preponderate in favor of the harmlessness of the element of consanguinity. I have tabulated one hundred and eight cases of consanguineous marriage, collected from various sources, professional and non-professional. (These tables will be appended to the present article.) None of the cases, so far as I am aware, have been published before. In eighty-six instances the relationship was that of first cousin; in four, first cousins once removed; in thirteen, second cousins; in one, third cousins; in one, cousins, degree not specified; in one, uncle and niece; in two cases the parents bore the relation to each other of brother and sister.

I have classed as healthy only those individuals who appeared to be free from any congenital defect or disease, and who had an average degree of intelligence and bodily well-being. On this principle among the non-healthy are included all who suffered even from such slight defects as stammering and strabismus; all who were "under par" in intelligence or "not strong"; all who had phthisis, even though the disease developed late, and the individual was for thirty or forty years considered well; all who died in infancy, unless there was evidence that the death was from some acute disease and independent of any possible inherited taint.

With this somewhat stringent interpretation of the word, I find three hundred and twelve "healthy" children out of a total of four hundred and thirteen, the direct offspring of consanguineous marriages,—the per cent being about 75].

The non-healthy individuals comprised:

Deaf Mutes, . . . . .	12
Insane, . . . . .	7
Idiots, . . . . .	13
Blind, . . . . .	3
Died of Consumption, . . . . .	15
Nervous, . . . . .	5
Of less than average intelligence, . . . . .	8
Died in infancy, . . . . .	16
Not robust, . . . . .	6
Hermaphrodite, . . . . .	1
Died of Meningitis, . . . . .	2
Cross-eyed, . . . . .	2
Still born, . . . . .	2
Deaf (not congen.) . . . . .	2
Stammerers, . . . . .	2
Myopic, . . . . .	2
Deformed, . . . . .	2
Epileptic, . . . . .	1

Total, . . . . . 101

Among these one hundred and one persons were also duplicate defects, as follows: 2 cases of talipes varus; 1 case of somnambulism; 1 case of myopia; 1 case of polydactylism; 1 case of epilepsy; 2 dwarfs.

In all of the one hundred and eight marriages, save five, there was issue. In one of these infertile cases

there was mechanical impediment present in the wife, and in another the marriage has lasted only two years. In fifty-seven cases only, is it known that husband and wife lived together the average period of fertile married life, which I have assumed at twenty-five<sup>18</sup> years. The total number of children born from these fifty-seven unions, only two being infertile, is two hundred and eighty-two,—an average of about five children per marriage.

In seventeen of the marriages the contracting parties were one or both descended themselves in the first or second generation from consanguineous unions; one of them was blind, another a deaf mute, child of a deaf mute. Fifteen of these marriages have thus far been fertile, with a total of sixty-eight children, of whom forty-eight, or 70½ per cent, were "healthy."

The remaining twenty comprise two idiots, three below average intelligence, five who died of phthisis, one of meningitis, five who died in infancy, one hermaphrodite, one scrofulous, two not robust.

Only nine of these consecutive consanguineous marriages are known to have lasted through the complete period of conjugal fertility. These nine produced fifty children, an average of 5.5 each.

The statement has often been made, as for instance by Guipon,<sup>19</sup> that when sterility does not attend the marriage of relatives it yet shows itself in their offspring. Our tables give the facts regarding one hundred and twenty-eight marriages in which one or both parties were descended in the first or second generation from consanguineous unions, but themselves married persons not related to them. Of these one hundred and twenty-eight unions, some of which have lasted but a short time, one hundred and ten, or 86 per cent, have thus far proved fertile. The number of children cannot be told, because my information in many cases is simply that there was issue. Interpreting that expression to mean only one child, there are, at least, three hundred and seventy-two children. In forty-seven of the cases only is there evidence that the union has lasted twenty-five years, and at the same time a definite record of the number of children. These forty-seven marriages give two hundred and forty children, an average of 5.1 children each. As to the proportion of disease among the offspring, no calculation can be made in the absence of a definite statement of the number of the offspring. Suffice it to say, that only thirty-seven cases of abnormality are recorded among all these children. They include eight cases of deaf-mutism, six being in children of deaf mutes. This point will be again referred to. Eighty-eight of the one hundred and ten fertile marriages have no cases of disease among any of the offspring.

[To be continued.]

— From a French State paper, lately brought to light, says the *Popular Science News*, it appears that in 1770 the following parliamentary decree was solemnly passed and duly registered under Louis XV: "Whosoever, by means of red or white paint, perfumes, essences, artificial teeth, false hair, cotton-wool, iron corsets, hoops, shoes with high heels, or false hips, shall seek to entice into the lemons of marriage any male subject of his Majesty, shall be prosecuted for witchcraft, and declared incapable of matrimony."

<sup>18</sup> Because I have assumed the extreme average length of time that married women continue to produce in this country, as twenty-two years. That standard would not have admitted any large number of my own cases into the category of those having completed their reproductive career than does the one I have preferred.

<sup>19</sup> Comptes Rendus, vol. XLII, p. 313.

## CASE OF VAGINAL EXTIRPATION OF THE UTERUS FOR CANCER.<sup>1</sup>

BY W. H. BAKER, M.D.

Mrs. R— was admitted to the Free Hospital for Women, Feb. 11th, 1885, and gave the following history. She was fifty-four years of age; married, but has never been pregnant. The menopause occurred at forty-five, and in three years after the cessation of the menses they reappeared, and she continued regular for five years, or, until one year ago. The length of such periods was from three to five days, and the process was unaccompanied by pain. For the past year there has been a continuous flow of blood, though small in amount.

In April, 1884, however, there was an alarming hemorrhage which left her very weak, and she entered the City Hospital, where she gained considerably in general strength, though the slight hemorrhage continued. At the time of her admission to the Free Hospital for Women she was saturating from four to five napkins a day with bright blood. There was no foul odor in this discharge, and her complaint was of this loss of blood, weakness, and pain in the back and legs.

Feb. 12th, 1885, under ether, the uterine canal was rapidly dilated and the uterine cavity curetted with Sim's sharp curette. From the indurated feel conveyed by the curette, cancer was feared and the scrapings submitted to Dr. W. F. Whitney: Microscopical examination proved such disease to be present beyond any doubt. She was entirely relieved by this operation, and for four weeks there was no return of any hemorrhage or pain. She was, however, told that both would return, and that her only hope was in the removal of the uterus. To this operation she readily gave her consent.

March 19th, she reported a slight return of the flow, and on examination such was found to be present. There was not the slightest evidence in the appearance of the cervix uteri of any disease. The depth of the uterine cavity was three and one-quarter inches and the organ shown to be retroverted. There was no evidence of the disease having extended beyond the uterus. The vagina was small and the perineum firm.

March 24th. Ether having been administered, total vaginal extirpation of the uterus was performed after Schroeder's method, Drs. Davenport, Elliot, and Clark assisting. Great difficulty was met from the small size of the vagina and the firmness of the perineum, and it was not until the latter had been incised in the median line down to the sphincter muscle that the operation could be completed. Another serious obstacle in its performance was the fact that the size of the uterus was much increased by the existence of two small fibroids. Two hours and a half were occupied in the removal of the uterus, the pulse of the patient remaining good throughout. There was comparatively little blood lost. A drainage tube of soft rubber was carried through the wound into the peritoneal cavity, the proximal end of which was left protruding from the vulva; the perineum was closed with silver sutures; and the vagina was packed with iodoform gauze. Dr. Elliot had the supervision of the case subsequently, and Dr. A. W. Clark the immediate care of her. From the records I gather the following facts: She reacted well from the operation. The highest point which the temperature reached was at

the end of the first day, when the thermometer recorded 101°. Pulse 130°. On and after the fifth day it was normal until the twelfth day, after which time it was sub-normal, 96½ and 97° being recorded.

During the first day there was a large amount of bloody serum discharged from the drainage tube, thoroughly soaking a sheet which was folded thick under her hips. She was given small doses of morphia subcutaneously from time to time to relieve the restlessness which the enforced quietness of body induced.

The diet consisted of milk and lime water at first, then beet tea and Mellin's food. The urine was drawn with the catheter. The drainage tube was removed on the fifth day, and the packing of iodoform gauze on the seventh day. She was turned on her side the eighth day. The perineal sutures were removed and the bowels moved on the tenth day, and she was sitting up on the sixteenth day.

Now, at the end of three weeks, the wound in the vault of the vagina has closed and the ligatures are still intact in two masses in the outer angles of the cicatrix. She will be discharged from the hospital in a few days.

Aug. 14, 1885. Some two months ago, the patient came to the Out-Patient Department of the hospital, when the ligatures were removed, and she has since continued to do well.

## RECENT PROGRESS IN OPHTHALMOLOGY.

By O. F. WADSWORTH, M.D.

### THE PATHOGENY OF SYMPATHETIC OPHTHALMIA.

THE theory, at least as old as Mackenzie, that the way of transmission of sympathetic ophthalmia from one eye to the other is along the optic nerve and chiasma, which for a time was almost entirely abandoned, but has been revived of late years, has received a strong support from the results of experiments undertaken by Deutschmann.<sup>1</sup>

The opinions advanced by Mac Gillvary, Kniro, Leber, and Lucien on this subject in general accord, although somewhat differing in details, have been given in the JOURNAL, volume cxi., page 518-519.

Deutschmann, basing his experiments on the belief expressed by Leber that only septic infection of the first eye will excite sympathetic inflammation of its fellow, began by injecting septic material into one eye in rabbits. The constant effect was the destruction of the injected eye by panophthalmitis without inflammation of the other. He sought therefore a material which would cause as intense inflammation without destroying the eye by auto-suppurative, and found it in the spores of *aspergillus fumigatus*. When a solution of these spores in a three-quarters per cent solution of salt was injected into the optic behind one eye a papillitis in the eye began to be developed on the following day, and six to fourteen days after the injection papillitis also appeared in the second eye. The inflammation did not progress farther, however, and the sympathetic papillitis subsided after a few days, leaving the disc of normal appearance.

Anatomical examination at the height of the process, seventh to tenth day after injection, showed neuritis and perineuritis of both nerves and of the chiasma. There was cellular hyperplasia in the substance of the

nerves and in their inner sheath and proliferation of endothelium in the intervaginal space. The inflammatory process had extended from the point of injection forward to the eye and backward to the chiasma, thence forward along the other nerve to the papilla of the opposite eye, and the choroid around the papilla was more rich in nuclei than in the normal condition. The pia mater of the anterior portion of the basis cerebri was also infiltrated with lymph corpuscles. The spores did not appear to have germinated, but were found in small rounded masses resembling tubercle, encapsuled by pus corpuscles and spindle cells. (It may be stated here that subsequent examinations proved that germination of the spores did take place to an inconsiderable extent.) Similar injections into the vitreous provoked purulent infiltration of it without leading to panophthalmitis, and were followed after an interval of seven or eight days by sympathetic papillitis of the other eye, which, as after injection into the optic, subsided in a short time. Here too, neuritis and perineuritis extending from one eye to the other were found.

Becker<sup>2</sup> denied the propagation of sympathetic ophthalmia through the optic nerves because he had found in such a case with choroiditis and retinitis of each eye, that the inflammatory changes in both optic nerves had disappeared before reaching the optic foramina and that the intracranial portions of the optic and the chiasma were unaffected. He regarded the condition as ascending neuritis. Deutschmann refers to this case but holds that it does not prove Becker's view. In inoculating tubercle in the brain of the rabbit he found as a rule that the most marked changes on the sheath of the optic occurred close to the eye and that the whole central portion of the nerve was intact, and yet the germ exciting the inflammation must have passed along the nerve or its sheaths. He considers it therefore possible that in sympathetic ophthalmia the exciting cause of the inflammation may sometimes pass along the optic and induce changes, first at its bulbar end. In the experiments here described also the inflammatory alterations were most pronounced at the bulbar ends of the nerves, so that this must be regarded as in a certain sense the place of least resistance.

So far the results of experiments were unsatisfactory in that a typical sympathetic ophthalmia, that is, an implication of the uveal tract and vitreous have not been produced. Suspecting that too rapid encapsulation of the spores might be the cause of the cessation of the process, injections into the vitreous were now<sup>3</sup> repeatedly made, four times in the course of twenty-four days. In two cases the attempt failed, in a third it succeeded. Papillitis of the second eye appeared in about a week; in a fortnight there was slight opacity of the vitreous, and in four weeks, four days after the fourth injection, numerous small prominent yellow masses appeared over the whole lower portion of the choroid. These rapidly multiplied, and increasing vitreous infiltration obscured the fundus. Left further progress of the affection might interfere with microscopic examination the rabbit was killed.

The injected eye presented advanced suppuration of iris, choroid, retina, and vitreous. The choroidal infiltration was in direct connection with that of the inner sheath of the nerve. Following the nerve backward there was found interstitial neuritis and perineuritis and dilatation of lymph vessels all the way to the chiasma.

<sup>1</sup> Archiv. für Psychiatrie, xii., 1.

<sup>2</sup> Archiv. für Ophthalmologie, xxix., 1.

<sup>3</sup> There was cellular hyperplasia in the substance of the  
Archiv. für Ophthalmologie, xxviii., 2.

The chiasma itself was moderately, its pial covering strongly, infiltrated with cells. The second nerve showed like alterations, of moderate amount near the chiasma, but increasing in intensity forward, and most pronounced close to the globe. The papilla of the sympathizing eye was greatly inflamed and swollen; the retina infiltrated with cells. The adjacent choroid was much thickened and consisted almost wholly of masses of pus corpuscles. The choroidal changes extended backward in the form of a dense infiltration of round cells in the pial sheath of the nerve, forward in diminishing degrees to the ora serrata. The iris was accidentally lost, and not examined. The vitreous contained numerous pus cells and membranes. Nothing pathological was seen in the ciliary nerves.

Deutschmann calls attention to the fact that his experiments showed that the inflammatory appearances in the tissues connecting one eye with the other are only temporary, and soon subside when the second eye has become affected; that it would not therefore be difficult in a later stage to find these tissues free from inflammation. On the other hand the propagated disease spreads where it finds a suitable soil, that is, in the sympathetically affected eye.

The inflammation may spread in the pia at the base of the brain sufficiently to offer clinical symptoms, and Moore has reported cases of sympathetic ophthalmia with brain symptoms.

The possibility of renewing the subsiding sympathetic affection in animals by reinjection of the infecting material offers an analogy to the late infection and recurrence of inflammation in the second eye in sympathetic cases in man. Here it may be supposed that the infecting material in the first eye may become encapsuled and so inert, either before it has infected or just after infecting the other, and later by some chance be again set free to exercise its harmful influence. The greater rapidity of the spread of the choroidal affection compared with that of the papilla may explain the apparent earlier appearance of the sympathetic inflammation in the uveal tract.

In a third paper<sup>1</sup> Deutschmann continues the subject. He had already suggested that the inflammation excited in his experiments was the result of a chemical irritant, because there appeared to be no wandering of the spores of *aspergillus* and no other micro-organisms could be found. To decide this question two sorts of experiments were undertaken.

1. *Aspergillus* was cultivated so as to exclude the presence of any other fungus, and the injection of the spores into the vitreous was followed by a propagated inflammation precisely similar to that observed before.

2. Croton oil was injected into the vitreous and produced an inflammation spreading along the optic nerves to the other papilla, but the death of the animal took place before the uveal tract became involved. These experiments seemed to demonstrate the efficacy of a chemical stimulus.

Nevertheless, as chemical irritation can seldom be the cause of sympathetic ophthalmia to man, and Leber has shown that septic infection is at least probable in such cases, Deutschmann returned to a septic agent and injected pure cultivations of *staphylococcus pyogenes aureus* into the vitreous. The first rabbit thus treated presented symptoms of meningitis on the second day, and on the morning of the third day was found dead. The microscope revealed a purulent inflammation of

the injected eye which extended along the nerve and its sheath to the chiasma, diminishing in degree as it proceeded; then it passed forward along the other nerve and its sheaths, again increasing in intensity as it approached the eye, and involving the papilla. There was also purulent infiltration of the pia. In all these parts the *staphylococcus pyogenes aureus* was readily demonstrated.

Of five rabbits treated with a weak solution of the virus, in the effort to avoid meningitis, only one gave a negative result, showing no change in the second eye, even after several weeks, and in that one the bulb burst and emptied its infectious contents on the third day after injection. All the others had sympathetic inflammation of the other eye, beginning in the papilla at varying intervals of time after injection, from five to six days to two to three weeks, but all died before the inflammation had had time to reach the choroid and iris. The autopsy revealed no anatomical cause of death, in particular no meningitis, of which moreover the animals had presented no symptoms during life. The suspicion that there had been a general infection of the blood was confirmed by cultivation of the *staphylococcus* from the blood and its fatal effect when inoculated in other animals. The susceptibility of the rabbit to general infection has been shown also by the results of experiments in inoculating tubercle in the eye. In all these cases there was discovered with the microscope an infiltration of pus cells, and of micro-organisms identical with those injected, in both optic nerves and their sheaths, in the chiasma, and in the papilla and surrounding parts in the second eye. In all the pia mater of the base was either absolutely intact, or contained in the immediate neighborhood of the chiasma lymph cells so few in number that it could not be decided with certainty if the physiological limit was exceeded.

Experimental evidence that only the early death of the rabbits prevented the cocci from producing inflammation of the anterior parts of the uveal tract in the sympathizing eye was furnished by dividing the nerve near the foramen opticum, injecting deeply into its peripheral end a solution of the cocci and applying a ligature so that none of the fluid could flow out. This brought about first, papillitis, later, irido choroiditis and infiltration of vitreous, but several days elapsed before the process had extended to the iris.

The usual absence of meningitis in these cases is explained by the supposition that the flow of lymph naturally is from the brain to the eye. This theory is supported by the result of an experiment in which a solution of India ink was injected into the optic nerve. Four days later the rabbit was killed and all the ink found between the place of injection and the globe, none having passed upward.

Having convinced himself that certain micro-organisms did pass from one eye to the other, Deutschmann now examined twelve eyes which had been enucleated for sympathetic ophthalmia. Owing to the method of preservation six of these eyes were not in a suitable condition for the detection of micro-organisms. Of the other six, in five microparasites were found. Perhaps quite as important is the fact that in all the twelve eyes there was evidence of purulent infiltration of the whole uveal tract, and of either recent or former papillitis, neuritis and perineuritis; the infiltration of the choroid appearing to be in direct connection with that of the inner sheath and intervascular space.

<sup>1</sup> *Archiv. für Ophthalmologie*, xxv, 3.

Four eyes enucleated either after the outbreak of, or to avoid sympathetic ophthalmia were all found to contain cocci. Cultivation proved these to be the staphylococcus pyogenes albus, a microbe having like characteristics to the staphylococcus pyogenes aureus employed in the experiments above described, and differing from the latter only in color. Injections of it into the vitreous of rabbits produced precisely similar results in all respects. It is of interest moreover that although the beginning of the inflammation, the original perforating wound, occurred from two to four years before enucleation the micro-organisms had preserved their full vitality.

The same staphylococcus was obtained also from a sympathetically inflamed eye. A man received a severe wound of the right eye and refused enucleation till the left began to be affected. A year after the injury, iridectomy and removal of lens from the left. Cultivation from the piece of iris removed furnished the staphylococcus pyogenes albus, and a bit placed in the anterior chamber of the eye of a rabbit excited purulent irido-cyclitis and the animal died after two days.

Still another case, even more conclusive, observed after the main article was printed, and given as an addendum,<sup>6</sup> may be cited here. A boy of fifteen; wounded in right cornea, iris, and lens. Enucleation only permitted when after five or six weeks in the left eye. The disc was very red, the retina surrounding it gray, the vessels dilated and tortuous, the vitreous clear, the iris normal in appearance and secretion, but numerous fine deposits on the lower half of the posterior surface of the cornea. The aqueous of this eye was removed by puncture with a broad needle and carefully collected in a sterilized pipette. It brought away with it the deposit on the back of the cornea, which the microscope showed to consist of micrococci, endothelial and a few lymph or pus cells, and a network of fibrin. A portion under cultivation produced the staphylococcus albus, again injected into the eye of the rabbit gave rise to the same irido-choroiditis as in former experiments. The enucleated eye contained the same micrococcus.

Deutschmann concludes from all these circumstances that it is probable that the so-called sympathetic ophthalmia of man is an inflammation propagated from one eye to the other along the optic nerves, and that the exciting cause of the inflammation is either micro-organisms, which in some way have obtained access to the first eye or perhaps rarely some chemical irritant. To the objection that a papillitis is not always first observed in the sympathizing eye, it is answered that sympathetic disease generally is brought to our notice only after disturbance of vision occurs, that is, when irido-cyclitis and vitreous opacities are already present. A number of cases have been published, however, in which neuro-retinitis was early observed, and these demonstrate that no visual impairment need exist at such a time.

— The death of a child, aged  $3\frac{1}{2}$  years, from sun-stroke is reported to have occurred last week in Dumfriesshire.

— Mr. Erichsen is to become a candidate for the representation of the Universities of Edinburgh and St. Andrew's in Parliament.

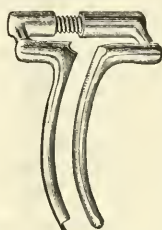
## New Instruments.

### A SKELETON TUBE FOR USE AFTER TRACHEOTOMY.

BY EDWARD T. WILLIAMS, M.D.

THE accompanying cut shows an instrument lately made for me by Messrs. Codman & Shurtleff as a substitute for a tracheotomy tube.

It consists of two parallel blades or branches, bent to the curve of a medium-sized tracheotomy tube, for insertion into the trachea. These branches are grooved



on the inside like a tube, and convex on the outside. The upper rectangular portion lies flat upon the neck, and is secured by tapes in the same manner as an ordinary tube. The screw, which is worked by turning the male branch round with a broad sweep, separates or approximates the tracheal branches at will, so as to fit any size of trachea, whether of a child or adult. It works into a female screw drilled into the opposite branch. It is evident that when the two branches are brought to the proper degree of approximation, and inserted into the trachea, all further revolution of the screw is prevented, and the parallelism of the blades maintained by the tracheal walls.

The advantages of this instrument over the ordinary tube are twofold: it gives more space, and serves equally well for all sizes of trachea.

It is needless to say to any one, who has stopped to reflect upon it, that a common tracheotomy tube is a wholly unscientific instrument. It takes up room unnecessarily, and prevents the entrance of air and the discharge of morbid matter. There is no occasion for a circular tube to dilate the trachea, since the trachea is naturally dilated by the tracheal wings. All that is wanted is to keep apart the edges of the slit in the tracheal wall. It was an old practice to excise a portion of the trachea, but this left behind a tendency to hernia, or protrusion of the soft parts. Others employed hooks or stitches to drag apart the edges of the slit. The latter operation by sutures secured with adhesive strips originated with the late Dr. Martin, and has been performed successfully in several cases. It is a convenient makeshift, and likely to prove extremely useful in cases of sudden emergency, but can hardly take rank as a finished surgical procedure. The stitches are liable to tear through, as I found in a case of my own recently, when a second one had to be inserted on one side to maintain a firm hold. At the same time Dr. Martin is entitled to great credit for so clearly pointing out in his paper before the American Medical Association the disadvantages of the ordinary tubes.

The principle of the instrument described above is not in all respects a novel one. Split tubes of various patterns have been made and used before; but I think I can claim that nothing approaching mine in simplicity of construction has thus far been suggested.

They can be ordered of Messrs. Codman & Shurtleff, 13 Tremont Street, Boston, who have the model which I designed; or, I should suppose, of any ingenious mechanic.

<sup>6</sup> Ibid, p. 731.

## Reports of Societies.

### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

APRIL 11, 1885, the President, DR. A. D. SINCLAIR, in the chair.

DR. F. H. LOMBARD reported, by invitation,

A CASE OF LABOR IN A WOMAN WITH SPONDYLOLISTHETIC PELVIS.<sup>1</sup>

DR. W. H. BAKER reported a

CASE OF VAGINAL EXTIRPATION OF THE UTERUS FOR CANCER.<sup>2</sup>

DR. DAVENPORT said that the difficulty of operating in this case could hardly be estimated. The patient had never borne children and the vagina had, moreover, undergone senile atrophy: the fibroids, too, were a troublesome complication. Unless the uterus is absolutely too large for removal per vaginam, even though, as in this case, it is considerably above the normal size, he believed the vaginal method was to be preferred to abdominal section: the mortality by the latter method being from 70 to 75 per cent; by the vaginal method only 25 per cent.

He was confident that the field of this operation would enlarge as increased skill in operating lessened the mortality. Not only cases of carcinoma and sarcoma would be proper ones for total extirpation of the uterus, but cases of changes in the mucous membrane and glandular structure of the body, which though apparently benign as shown by the microscope, yet show a tendency to recur even after repeated and thorough attempts at their cure by less serious means have been made.

DR. J. W. ELLIOT said that many were doubtful about the advisability of a radical operation for cancer of the uterus, as the results so far had been discouraging. Hofmeier had lately added to our knowledge on this subject by collecting and classifying the cases operated on by Schröder during the last eight years. From his statistics it appears that cancer of the body of the uterus is much less liable to return than cancer of the cervix or of the vaginal portion. Schröder has had the best results from supra-vaginal amputation of the body by abdominal section. After this operation 80 per cent were found healthy after a lapse of two years. After total extirpation per vaginam 35 per cent only remained healthy for two years. This apparent advantage in favor of the abdominal operation may be due to the more complete removal of the Fallopian tubes. The mortality of the operation itself is higher than the vaginal extirpation.

It seemed to Dr. Elliot, considering the nature of the disease as it occurred in the fundus and the comparatively isolated anatomical relations of the body of the uterus, that these results of Schröder's were not so surprising as they appeared at first glance. Dr. Elliot thought that an indiscriminate use of the radical operation was to be condemned, but that in favorable cases, especially of cancer of the body, the radical operation should be urged with more vigor than ever.

The vaginal extirpation has been done several hundred times. The technique is already pretty well settled and the mortality is not high. One recent operator reports twelve successful cases and no deaths from the operation.

DR. BAKER said that in his experience uterine cancer was confined to the body alone in not over two per cent of his cases. He had never seen primary corporeal cancer in women who had borne children: on the other hand, he had seen only one case of cancer beginning in the infra-vaginal portion in which there was no evidence of laceration of the cervix. When the cancerous growth is confined to the cervix and lower portion of the body, Dr. Baker preferred the operation described by him in the *American Journal of Obstetrics* for April, 1882; but in corporeal cancer he would remove the uterus either by vaginal extirpation or by supra-vaginal amputation.

DR. REYNOLDS queried whether cancer of the uterus, occurring as it does chiefly in married women, after the middle period of life, was not due to the stimulation by coitus of an exhausted organ which had ceased to respond to the demands made upon it.

DR. CHADWICK had noticed that cancer of the uterus was especially common in prostitutes, and he thought that contusion of the cervix by coitus after the menopause might well be a cause of uterine cancer.

### VOMITING OF PREGNANCY.

DR. M. A. MORRIS, present by invitation, spoke of a case of obstinate vomiting in a woman pregnant for the third time: every known remedy was tried, with only temporary benefit, and the patient's condition became very serious. Dr. Reynolds saw the case in consultation when the pregnancy was about four months advanced, and advised the continued use of morphia and nutritive enemata. Large doses of morphia were given up to one and one-fourth grains, and some relief obtained. Thus the patient continued until the end of four and a half months, when the vomiting ceased.

DR. CHADWICK said he had advised the chewing of spruce gum in cases of moderate vomiting of pregnancy, and had found relief to follow in one half the cases: whether the benefit was a reflex phenomenon from the act of mastication or was attributable to increased flow of saliva into the stomach thus induced, he could not say. He thought nausea and vomiting were often attributable to the fact that the patient went too long without food. At all events, he had found that eating a late supper and perhaps taking food during the night and frequently during the day, were often successful in the treatment of nausea.

### CHICAGO MEDICAL SOCIETY.

STATED meeting June 1, 1885.

The President, C. T. PARKES, M. D., in the chair.

### MAY FEVER, ITS CAUSES AND CURE.

DR. E. FLETCHER INGALLS read a paper with the above title, in which he said this disease had been the subject of investigation since it was discovered by Bostick in 1819, but only recently has the profession arrived at satisfactory conclusion as to its etiology and treatment. The disease is met with commonly in southern England and the United States, rarely in

<sup>1</sup> See page 169.

<sup>2</sup> See page 175.

Europe, and never among the natives of Asia and Africa. It is an aristocratic affection, being found more commonly among the residents of villages and cities and the opulent, rather than farmers and the poor, notwithstanding the theory that it is caused by the pollen of grains. Hay fever usually makes its appearance about the middle of August, and lasts until the first frosts of autumn. During an attack the mucous membrane covering the turbinated bones is greatly swollen, usually congested, the congestion often extending to the palate, fauces, pharynx and conjunctivæ. Microscopic examinations of the secretions have revealed numerous vibrios which were formerly thought to be the cause of the affection, but, it is more probable that their presence is accidental, as they may usually be found in the nasal secretions at other times.

The pollen of plants acts as a cause, not *per se* but as an exciting cause, being irritant to an exhausted nervous system. This nervous exhaustion renders the nasal nerves peculiarly susceptible to irritant substances. The theory of the nervous origin of hay fever has been generally accepted by the profession, although it has been only recently established that the tract involved is limited in the majority of cases to the lower turbinated bones and the lower and back part of the septum. In a considerable number of cases the sensitive areas are even more limited, though in some cases the middle turbinated bones are involved. The sensitive areas are not uniform in different cases. After referring to the symptoms and diagnosis of the affection the treatment was discussed. Weak solutions of quinine had been applied to the diseased regions on the theory that this drug would destroy the minute organisms which were formerly supposed to be the cause of the affection. While this remedy had proven efficacious in some instances, it was found that weak solutions of soda or other non-irritating drugs had proved as efficacious. Many remedies have been vaunted as specifics in the treatment of this as in that of other intractable, self-limited diseases, and they have been found sadly wanting in curative properties. Internal remedies that are of value are tonics and antispasmodics, and local remedies which sometimes give relief in the onset of the disease, are weak solutions of quinine, carbolic acid, tincture of opium, powders of morphia, bismuth, iodoform, etc., but they are not curative. For the asthmatic symptoms we can use the remedies appropriate to spasmodic asthma. However, it is only recently that we have found a method of treatment which promises to cure nine cases out of ten, and a remedy which promises to relieve the distressing symptoms in a fully developed case of hay fever. The latter is cocaine. Its action is such that it promises to be very valuable in the palliative treatment of the disease. A case of idiosyncratic catarrh, which closely resembles hay fever, came under Dr. Ingals' observation recently. A two per cent mixture of cocaine and starch was blown into the nose as soon as the paroxysms came on. It gave immediate relief and was repeated as the attacks recurred. About two weeks after, another attack supervened and the same treatment gave relief. Cocaine will doubtless prove to be a remedy of great palliative power in this affection. Successful treatment by the galvanocautery, which was first thoroughly tried by Dr. Roe, had previous to last May, been applied by Drs. Roe, Allen and Sajous, to about thirty cases, about eighty per cent of which were reported cured. As the disease is caused by a peculiar

sensitiveness of the terminal branches of the sphenopalatine ganglion and nasal nerves which are distributed over the septum and turbinated bodies, the treatment to be effectual must remedy this hyperæsthetic condition. The means adopted for accomplishing this purpose consists in applications of glacial acetic acid, carbolic acid and other escharotics, and searing the membrane with the galvanocautery. The chemical agents often fail, but the galvanocautery properly used seldom fails. Successful treatment with the galvanocautery requires from ten to twenty sittings, and should be completed before the attack comes on. The method used is to first examine the nasal cavity with a slender, flat probe by which the sensitive spots are located, and then the cold electrode is passed into the nares, and having reached the point to cauterize, the electricity is turned on whereby the wire is heated. It is applied for the fraction of a second to the diseased tissue, causing a small superficial burn. This operation is repeated at intervals until all sensitive spots have been relieved, care being taken not to burn too large a surface, else severe inflammatory action may ensue. When skillfully performed the operation causes little pain, and if cocaine is applied previously no pain will follow. If no anæsthetic is used the pain may be relieved by spraying the parts with Dobell's solution. In conclusion, nearly all cases may be cured by systematic, thorough, superficial cauterization with the galvanocautery of the hyperæsthetic portion of the nasal mucous membrane, providing the treatment is carried out between the attacks. Care must be taken to cauterize every sensitive spot, and not too much at once. The operation may be made painless by cocaine, and this drug may give relief during the attacks. General treatment must not be neglected.

Dr. INGALS then exhibited the battery which he uses, which is a large battery of the ordinary pattern. He said it was necessary to have a good battery with a large amount of reserve force so it can be used without the necessity of frequently agitating the fluid. The fluid must be often renewed.

Dr. F. O. STOCKTON opened the discussion by saying, that while he complimented the author on his paper, he thought more prominence might have been given to the causal relation of hypertrophied turbinated tissue to hay fever. In all cases of hay fever he had met, he had found hypertrophied nasal catarrh. If we treat hay fever, why not also treat the hypertrophic catarrh, which is a causal factor in the disease? He always removes the hypertrophied tissue on this account. In all other points he agreed with the writer, especially in the use of cocaine. Since this drug came into use, he has used it in several cases which resembled hay fever with good results. It gave more relief than quinine, belladonna, or any other drug.

Dr. ROBERT TILLEY protested against the use of the term hay fever, when it is shown it does not depend on the pollen of hay exclusively as a cause. He thought a better term to be idiosyncratic coryza, as it is caused by a multiplicity of circumstances. That morning he was visited by a patient in whom the symptoms were almost identical with hay fever, and if they had arisen at the proper season it would have been so diagnosed. He is a grocer, and the attacks occur whenever he has to handle coffee. Cocaine was used in a four per cent mixture with bismuth and it gave immediate relief. He has often in cases of

hay fever performed scarification of the inferior turbinated bones and mucous membrane of the septum with good results. He applies first a little cocaine, and very little bleeding follows. With reference to the locality of the sensitive areas in the nose, he thought that certain indefinable pathological conditions of the mucous membrane gave rise to the sensitiveness which may be found in any region where the mucous membrane is in a pathological condition.

Dr. G. F. HAWLEY remarked that in passing the Eustachian catheter when it reached the posterior part of the turbinated body it often produced a reflex cough even in healthy persons. He had one patient in whom asthmatic symptoms occurred the moment this region was touched, and after the removal of hypertrophied tissue by the Jarvis snare, the asthma disappeared. Hay fever may be a neurosis or the result by reflex action of disease existing elsewhere. McKenzie, of Baltimore, relates a case of a young woman who had ovarian disease, and had attacks of hay fever during each menstrual period. On examination of the nose, there was found a small piece of hypertrophied tissue at the posterior extremity of the inferior turbinated bone, not large enough to obstruct the nares or give rise to any troublesome symptoms of itself, yet when it was removed the hay asthma disappeared forever. It would be hard to define the relation between this tumor and the diseased ovaries which caused monthly attacks of hay asthma, but it seemed to exist.

In conclusion, Dr. Ingals stated that he is of the opinion that a careful examination of every case of hay fever will disclose the presence of a sensitive area. In the case quoted in which the hay fever occurred during the menstrual periods, it was stated that there was a sensitive spot which when irritated, gave rise to the asthmatic symptoms. After cauterization the mucous membrane heals in about ten days. A small spot the size of a dime or nickel, should be cauterized and then allowed to heal perfectly, before another cauterization.

The society then adjourned.

## Recent Literature.

### *The Curability and Treatment of Pulmonary Phthisis.*

By S. JACCARD. Translated and edited by Montagu Lubbock, M.D. New York: D. Appleton & Co. 1885. pp. 397.

The author's preface tells us that "this book contains the substance of lectures delivered in December, 1880, and January, 1881," that is to say, before the discovery of the bacillus tuberculosis; the organism was, however, in the air in more senses than one, although it had not yet been seen by the eye of man, and phthisis was believed to be an infectious disease before it was known precisely wherein the infection lay. What future study may bring forth, and whether some means may be discovered by which the bacillus nestling in the warm and succulent structures of the living lung, can be destroyed without simultaneous destruction of the pulmonary tissue, we do not yet know. Probably for some time to come Koch's great discovery must continue to illuminate pathology more than therapeutics; consequently, while we sympathize fully with the annoyance which the distinguished French professor must feel at the—in a certain sense—premature delivery of his literary offspring, we recognize the fact

that there is no reason for any feeling stronger than that of annoyance. The child is interesting, vigorous and fair to look upon, and the clothing provided by D. Appleton & Co., the American sponsors, is in every way worthy of their god-child and of themselves. We could wish that the English sponsor, the translator, had performed his duties better and left fewer traces of the French idiom behind him.

M. Jaccard holds the view that phthisis is curable, or he would hardly have written so large a book upon its treatment. To quote his own words, "pulmonary phthisis is curable in all its stages; this is the prolific notion which presides over the whole history of the disease, and which should unceasingly inspire and direct all medical action." The conditions of curability are discussed in chapters second and third, and among these there is one on which we must take issue with the author, who says "when it is asserted that pulmonary phthisis is curable, this proposition applies only to cases in which the disease receives appropriate treatment;" and again "nothing is so complex, so difficult to reconcile with the ordinary habits of life, so costly in expense as the treatment of pulmonary phthisis." We are far from asserting that the prognosis is not greatly influenced by the pecuniary circumstances of the patient; but on the other hand, we are convinced that relative poverty does admit of recovery, even when no change of climate is possible, and any treatment is necessarily very imperfect. That phthisis is sometimes self-limited has been clearly shown by Flint, and the frequency with which cicatrized apices are found, post-mortem, has been often remarked upon. That acute miliary tuberculosis is not absolutely hopeless as regards recovery is believed by M. Jaccard; he reports one case which has come under his own observation and alludes to those of Lebert, McCall, Anderson and Sick.

The "appropriate" treatment of M. Jaccard is indeed "complex," and the cases in which it can be carried out completely are comparatively rare. It is however well worth study, and will be found suggestive in detail, even if applicable in its entirety to but very few cases. It is impossible here to give a scheme of the treatment, which, of course, varies with the phase and stage of the disease, and the individual who is the subject of it. There are a few points, however, which we will briefly mention. To hydrotherapeutics and acrotherapeutics, especially as bearing on prophylaxis in those predisposed to phthisis, a fair share of space and attention are devoted. These methods of treatment are, in this country at least, in their infancy; but we have no question that they will in time grow to maturity and prove of great value in stimulating the general nutrition, and in improving the circulation in, and development of the lungs by more complete expansion of those organs in general but of the apices more particularly.

Cod liver oil is given by M. Jaccard in larger doses than is usual, four to six tablespoonfuls daily being the smallest quantity which he thinks capable of rendering any real service. Pyrexia is an absolute contra-indication to the use of this remedy, for which glycerine—5-ss-ii daily—is to be substituted. It is important that the glycerine be absolutely pure, and a little essence of mint with a couple of teaspoonfuls of brandy or rum can be added to each dose if the patient finds the glycerine alone insipid. The subcutaneous use of cod liver oil is not alluded to. Against fever systematic

and energetic treatment is directed, an effort being always made to determine the special cause of the elevation of temperature. The fever due to ulceration is the most intractable to remedies; for fever which is symptomatic of a local process in the lungs, quinine is used, the hydrobromate being the form selected, and the drug being given hypodermically if the stomach is irritable. For the fever of absorption (hectic) salicylic acid and salicylate of soda are preferred, the former for administration by the stomach, the latter under the skin. We have ourselves strong doubts as to the possibility of clearly distinguishing these forms of fever clinically in many cases, and M. Jaccoud seems to admit that he is himself often enabled to do so rather from the effect of treatment than from the rational and physical signs. For failure to mention antipyrin and the other modern remedies of its class before they were discovered the author is of course not to blame. The salicyl compound he has found absolutely useless in those who use alcohol in excess.

The three concluding chapters, comprising more than an hundred pages, are devoted to the climatic treatment. The health resorts of Europe and Northern Africa are alone considered; but the value of the observations and opinions of the author is greatly enhanced by the fact that he speaks of all these health stations from personal knowledge.

In conclusion, it gives us pleasure to heartily commend the book as a whole, and to wish it a large sale. One cannot absolutely pin one's faith upon it, but if nothing was to be learned except from books quite above criticism the physician would economize much midnight oil, to say nothing of more precious things.

F. C. S.

*Manipulation of the Microscope.* By EDWARD BAUSCH. Illustrated, p. 96. Published by the Bausch & Lomb Optical Co., Rochester, N. Y.

The object of this book is best explained by the following statement of its author:—

"In order to accomplish the greatest good, I have started out in this little manual with the supposition that the purchaser or owner is a beginner, and absolutely ignorant of the microscope and everything which pertains to it, and therefore have attempted to convey, step by step, in as simple language as I could command, information which will lead to ease of manipulation, and give both pleasure and profit to those for whom it was especially written."

The chapters on the care of the microscope, and on testing objectives are especially clear and useful to the beginner, and to all who are desirous of obtaining correct information as to the elementary principles of microscopy, the book may safely be recommended.

*A Practical Treatise on the Diseases of the Ear.* By D. B. St. John Roosa, M.D., LL.D., etc. Sixth Edition, Revised and Enlarged. Wm. Wood & Co. 1885. 8vo. pp. 718

This book is too well known and appreciated to require any extended notice of this, the sixth edition. It is fully revised to date, and much enlarged; is characterized by the judicial and critical spirit and by the full appreciation of the labors of others for which the author has always been known. It, more than ever, deserves to retain the place it has so long held as a thorough reliable and entertaining hand-book of practice.

*The Ten Laws of Health: or how diseases are produced, and prevented, and Family Guide to protection against epidemic diseases, and other dangerous infections.* By J. R. BLACK, M.D. Philadelphia: J. B. Lippincott & Co. 1885. pp. 413

This volume is a medical decalogue of Sanitary Science, or preventive medicine, in which the following subjects are treated at considerable length. Pure Air, Food and Drink, Exercise, Clothing, Sexual Function, Climate, Occupation, Personal Cleanliness, Rest and Sleep, Consanguineous Marriage.

The newer or supplementary portion of the work is devoted to the subject of infectious diseases, and has for its object "to enlighten and forearm the family and the public against the pestilential foes to their health and lives."

Many books have been published for the alleged purpose of reference in the family, the majority of which are either positively bad, or at least of doubtful value. This book is an exception, its precepts in the main being sound, and clearly stated. It is almost needless to add, that no book, however sound in its teaching, can safely be allowed to usurp the function of a trusted medical adviser.

*A Practical Treatise on Nasal Catarrh and Allied Diseases.* By BEVERLY ROBINSON, A.M., M.D., (Paris), Clinical Professor of Medicine at the Bellevue Hospital, Medical College, etc., New York. Second Edition, Revised and Enlarged. With 152 wood engravings. New York: Wm. Wood & Co. 1885.

Five chapters have been added to this second edition of Dr. Robinson's work. These are on:—(1) Aural Complications of Catarrhal Inflammation of the Nose. (2) Deflection of the Nasal Septum and Bony Obstructions of the Nasal Passages. (3) Ulcerous Coryza. (4) Adenoid Vegetations at the Vault of the Pharynx. (5) Mucous Nasal Polypi. The rest of the book remains practically as it appeared five years ago. The illustrations are numerous and well-executed. The type and material of the volume leave nothing to be desired, and in many ways the book will prove a valuable addition to the library of the general practitioner as well as to that of the specialist.

*A Guide to the Study of Ear Disease.* By P. McBRIDE, M.D., Fellow of the Royal College of Physicians, Edinburgh, etc. New York: J. H. Vail & Co. 1884. 8vo. pp. 198

A Compendium of the anatomy, physiology, examination and diseases of the ear, unobjectionable and fairly complete, but like most of such compressed works more useful, in our opinion, to one already familiar with the subject and who wishes to refresh his memory on certain points, than to a beginner.

It deals chiefly with the more common forms of disease and entirely from a practical standpoint, omitting almost entirely descriptions of pathology, which have always seemed to us the most solid foundation for the student (or practitioner) to work upon.

It contains a number of chromo-lithographs of anatomy and of the appearances of the drum membrane in health and disease, which are well executed, and also a number of woodcuts of the more common instruments.

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## THE STUDY OF DIETETICS.

THE address in therapeutics, by Dr. W. Roberts, at the last meeting of the British Medical Association was devoted to a phase of the subject of great importance, but which as the writer suggested, receives comparatively little attention in most of the schools of medical education. We refer to the subject of dietetics. Students are more or less fully instructed as to proximate principles, the differences between azotized and non-azotized foods, and the supposed function of each class. Yet after all, much if not most of the effect of food upon its economy, depends upon other considerations than the elements of which chemical analysis shows it to be composed. The form, the odor, the savor and the appearance of food are well known to affect favorably or unfavorably the digestive action and the nutritional value. Facility of digestion is not the great requisite in a nutriment, and he who should subsist entirely upon such articles as are shown experimentally to be converted into peptone with the greatest rapidity, would certainly lack much of being the best nourished of men. If this be true with persons in health it is reasonable to suppose that it may be so likewise with the sick. Who has not observed repeatedly that a patient may thrive better on some article which he craves, even though it be something abhorrent to the dietetic traditions of the profession, than upon the blandest slops so readily digested in the experimenter's laboratory? The fact is, that while digestion is a chemical process, the stomach is something quite different from a test-tube. There is often a mortifying contrariety in the advice given by different physicians to the same patient regarding some particular article of diet, one allowing and another forbidding it in a manner, which, as Dr. Roberts suggests, shows an utter want of any guiding principle upon which to base the decision.

Dr. Roberts assumes as an axiom upon which to base his conclusions, the statement that the concurrent customs of mankind in the matter of their food are the outcome of profound instincts and correspond to important wants of the human economy, being the fruit of accumulated and inherited experiences. Yet while

this is a correct assumption, it is true that special nations differentiate their dietary in a measure from that accepted by universal consensus, in accordance in part with the natural distribution of food-plants and animals and in part with the requirements of their climate and habitat. So too, the individual perhaps by a natural instinct modifies his diet to meet some requirement of his own economy. If the instinct of animals in a natural state is unerring as to what they shall eat, is it probable that human beings have a less perfect guide? It is just in proportion as this human instinct is overborne by the influences of restrictive legislation, of imitation, of fanaticism and of vicious habit, that dietetic errors creep in. On the other hand, as the commercial enterprise of a country brings a wider range of food within the reach of its people, physical and intellectual eminence are produced through the increased facility offered each citizen of obtaining just those nutriments best suited to his needs.

Of the many interesting and practical points of Dr. Roberts' paper, we have space to notice but a few. The subject of tea dyspepsia is elucidated in a measure by the observations of the author upon the intense inhibitory effect produced by tea upon salivary digestion. He says:—

"You can no more have tea without tannin than you can have wine without alcohol; and I found, experimentally, that tea infused for two minutes had almost exactly the same inhibitory effect on digestion as tea infused for twenty or thirty minutes. If you wish to mitigate the effects of tea on salivary digestion, you should direct the patient not to sip the beverage with the meal, but to eat first and drink afterwards. In this way time is given for the saliva to perform its functions unhindered. Another device is to introduce a pinch of carbonate of soda into the tea-pot; this removes the deterrent effect of tea on salivary digestion; it is a practice occasionally followed in some households, under the idea that soda helps to extract the virtues of the tea-leaves. It was found that the addition of so small a proportion as one per cent of the weight of the dry tea greatly mitigated its injurious effect on starch digestion, and that twice this quantity (two per cent) almost entirely removed it. This latter proportion corresponds roughly to ten grains of bicarbonate of soda to an ounce of tea-leaf."

Dr. Roberts recognizes, of course, that for certain forms of disease, a diet is requisite, having marked purposive modifications from the diet of the healthy. In considering the class of fools adapted to seriously sick patients, and hence deviating widely from the common customs of diet, he naturally gives a prominent place to milk. In speaking of the artificial pre-digestion of milk by the pancreatic ferments the practical difficulty is acknowledged that peptonization cannot be carried to any considerable extent without developing a bitter taste which is a great obstacle to the administration of the food, especially to children in whom such predigestion is sometimes so desirable. He claims, however, that in the cold the action of the ferment is

comparatively slow, and it takes some hours to produce an appreciable change of flavor. But as soon as milk, thus charged with the ferment, is swallowed and passes into the warm atmosphere of the stomach, it is rapidly digested. He has seen, in cases of typhoid fever, when undigested curds of milk were observed to be coming away with the stools, this plan followed by the immediate disappearance of these masses from the motions. But the palates of invalids are sometimes abnormally sensitive, and they detect, and resent the mere presence of the ordinary pancreatic preparations in articles of food, quite apart from the digestive changes produced by them. It is gratifying, therefore, to learn of a pancreatic preparation which is absolutely free from taste and smell. This preparation, made by a Mr. Benger, is said to consist of the pancreatic enzymes in a highly purified state, under the form of a light, nearly white, powder. It is not hygroscopic, and may be kept unchanged for an indefinite period fully exposed to the air.

An important matter touched upon, is the difference in properties and effects of the flour made from the different cereals, and leguminous vegetables. Wheat, oat, barley, and pea flour are believed to have different effects, and a study of these separate substances is strongly urged upon the profession, in order that they may intelligently prescribe for each required case nutriment which are often carefully combined in the numerous prepared foods, but which in every secret preparation must always be given somewhat blindly as to the fitness for the special case in hand. The writer very wisely adds:—

“It is, I repeat, a serious disadvantage that the control of the preparation of food for the sick-room and nursery should pass from the hands of the medical attendant to those of the purveyor. In the matter of drug-giving, all enlightened practitioners are chary of prescribing secret remedies. Such a practice, it is felt, must be fatal to the intelligent use of drugs. So it is with providing food for the sick. What we want is to have at our disposal a supply of the several articles of food in their simple state, and suitable appliances in connection with the sick-room or nursery for cooking and combining them in various ways according to the exigencies of our patients.”

#### ON THE TREATMENT OF FURUNCLES.

GINGEOT has contributed to the *Bulletin Général de Thérapeutique* (t. xviii), a valuable series of articles on the treatment of boils and carbuncles, of which the following is a summary. Brodie, in his *Lectures on Pathology*, published in 1846, advanced the view that the furuncle was a species of eruption analogous to small-pox, and a local expression of a poison circulating in the blood. Alphonse Guérin in the article *Anthrax* in “*Jacquot's Dictionary*” (1865), teaches that furunculosis is a septicaemia, and assigns to it an intermediate position between the general affections which localize themselves, and those which, becoming generalized, result from a lesion primarily local.

The contagiousness of furunculosis was established by Startin in 1866. He proved: 1, the auto-inoculation of the contagium by scratching; 2, the transmission from individual to individual by contact (as by occupation of the same bed); 3, the development of boils on the hands of surgeons and dressers consecutively to their being wounded with a history which had been used in opening a furuncle. Lannelongue inoculated patients with matter from boils, producing at the point of puncture, furunculous eruptions.<sup>1</sup>

It is not only proved that boils and carbuncles can be transmitted from man to man by contagion, but the active principle of the contagion, according to Gingeot, has been discovered. For this discovery we are indebted to Pasteur, who, on applying to the furunculous affection the same means of study as had been applied by him to the investigation of the pathology of splenic fever, fowl cholera, and other virulent diseases, “has been able, thanks to the method of cultures, to demonstrate that every furuncle contains certain aerobic microscopic parasites, and that it is to these that are due the local inflammation and the pus formation.” This microbe is called by Pasteur the *torula pyogenica*; this mycologist, moreover, identifies this bacterium with that of abscesses of the soft parts, of osteomyelitis, and of puerperal fever; certain it is, however, that the product of cultures of furunculous origin has never given rise, by inoculation in animals, to anything but simple abscesses, never to furuncles. Gingeot explains this fact by referring to the peculiarity of the tissue, (namely, the glandular apparatus of the skin, and especially the pilo-sebacious glands) where the furuncle has its seat; the inoculation of the microbe would have a different result according as such inoculation were made into a follicle, or into the subcutaneous cellular tissue. M. Loewenberg has repeated Pasteur's cultures and inoculation experiments, and has confirmed them; he has also shown the part played by hairs in the collection of germs. According to M. Loewenberg, furunculosis is rather a local than a blood disease, the *torula pyogenica* being aerobic, and unable to wrest from the blood globules the oxygen it requires. The view which he adopts, and which Gingeot endorses, makes furunculosis a parasitic disease resembling scabies, and the old humoral notions respecting the etiology of boils and carbuncles are repudiated. It is, however, certain that furunculosis is attached by many bonds of union to the other virulent affections. A certain predisposition of constitution is necessary; the *torula* does not thrive unless it finds a favorable medium. This predisposition is found in certain debilitated states of the economy from overwork, alcoholism, diabetes, lithæmia, etc., in which there is such modification of the secretions of the skin as renders the piliferous and sebaceous glands a suitable habitat for the *torula pyogenica*.

The indications of treatment are: first, if possible, to cause the furuncles to abort; 2, this indication being

<sup>1</sup> On the Contagiousness of the Furuncle, (Courier Méd. Nov. 27, 1866.)

impossible of fulfilment, to moderate the amount of suppuration; 3, to antagonize the constitutional condition which favors furunculous productions.

There are two principles laid down as the fruit of large experience: first, never to open early; second, seldom or never to open, even if suppuration have taken place, but to leave the boil or carbuncle to nature. Since the furuncle is a parasitic affection, the essence of the treatment ought to consist in the destruction of the parasite. One of the first precepts is to apply no poultices. Even when put on cold, the poultice has no power to stay the development of the furuncle, and when warm, it can only favor such development, as heat and moisture promote the vital activity of the lower organisms; moreover, the organic substances of which the poultice is made furnish a contingent of food to the parasite. Even when the boil has gone on to suppuration, the poultice is rather injurious than otherwise, aiding the penetration of new follicles by the microbe, by spreading the pus over the skin and keeping it in contact with the glandular orifices dilated by the heat.

One of the external remedies likely to be most successful in the abortive treatment of furuncle, and which Gingcot highly recommends, is the tincture of camphor. Both the alcohol and camphor in this preparation are excellent parasitocides. The camphorated spirit is applied to the part by means of a compress and allowed to remain in contact with the skin a few minutes. Thus treated, boils, if taken at the commencement, are frequently made to abort. The application should be made three or four times a day.

Another good agent for fulfilling the same indication is tincture of iodine, which should be painted freely several times a day over the furuncle and a little beyond. If applied till epidermic disquamation takes place, the iodine tincture does no harm, and if it does not always prevent, it certainly moderates suppuration, thus fulfilling the second indication and better than (perhaps) any other remedy. Gingcot believes that the iodine does good by its superlative parasiticide action: "the parasites cannot escape contact with the liquid which is introduced by capillarity into the glands, and by endosmosis into the acuminated vesicle of the top of the furuncle."

The same treatment is applicable in the early stage of carbuncle, and will often arrest its development; if, however, the progress of the carbuncle cannot be stayed, a strong solution of carbolic acid (equal parts of the strong acid and glycerine) must be brought in contact with the diseased tissue, as Dr. Eade of London recommends.

The central core or stem must be destroyed; this may be done by freely applying the carbolic acid through any openings which may exist in the centre of the swelling, or a sufficient opening may be made with acid nitrate of mercury.

When the furuncle is opened and discharging, the usefulness of tincture of iodine is ended. Then there is nothing better than borie acid applied in the form of fine powder, which is freely dusted over the boils, or

of the saturated aqueous or alcoholic solution which is kept constantly in contact with the diseased parts by means of compresses soaked in the liquid.

As for internal medication, Gingcot has nothing better to suggest than the recommendation to follow out the line of treatment several years ago indicated by Dr. Sidney Ringer, and endorsed by Dr. Duncan Bulkley at the last meeting of the American Medical Association. This consists "in the administration from the first of sulphide of calcium in small doses (one-sixth or one-fourth grain) every two hours." It is worthy of note that in the excellent paper which Dr. Bulkley read at this meeting, he coincides very nearly with the line of treatment above briefly summarized. He insists on the avoidance of poultices and other warm dressings; the avoidance of incision, "the entire process of opening and discharge of the pus and slough being left to nature;" the perfect protection of the inflamed parts from first to last by means of an ointment (preferably one containing ergot and zinc) thickly spread upon lint and changed as often as comfort and cleanliness require; the proper nutritive support of the system, (the surgeon should be chary of alcoholic stimulants); the necessity of suitable anodynes and tonics—as a tonic, the mixture of sulphate of iron, sulphate of magnesia, and sulphuric acid<sup>2</sup> is deemed especially beneficial; finally, on the persevering use of the sulphide of calcium pill in the doses above stated.

In closing the discussion, Dr. Bulkley said that he never opens a carbuncle, even when it is full of pus, as shown by fluctuation. He "leaves it to nature to supply a free outlet. He thinks that an incision leads to absorption of purulent material and blood poisoning."

#### MEDICAL NOTES.

—A cut in *Science et Nature* represents a practical application of antizymotic prophylaxis in vogue a century and a half ago. It shows a French physician, at the time of the pestilence of Marseilles (1720-21), equipped for his round of visits. He wears a complete armor of morocco, with high gloves and a helmet. The mask of the headpiece is extended forward into a sort of beak or bill placed in front of the nostrils. This artificial nose was stuffed with aromatics, and while it may have intercepted an occasional obtrusive bacillus, in appearance it suggests a Mardi Gras festival. To the caricaturist, the long flat duck-bill must have offered obvious suggestions, while to the patient, in the delirium of fever, the doctor may well have appeared like an apparition from the nether world. The rod which he carries in his hand seems to suggest that with all his antiseptic precautions the physician only dared touch his patient, as it were, with a ten-foot pole.

2 R Magnesia Sulphatis . . . . .	3 vi.
Ferri Sulph. . . . .	vi.
Acid. sulph. dil. . . . .	3 iii.
Sympl. Zingib. . . . .	3 i.
Aquam ad . . . . .	3 lb.

M. sig. A teaspoonful after each meal.

—The Massachusetts State Board of Health recently sent out some fifty orders for drugs to various apothecaries in Boston and the neighboring cities and towns, for the purpose of seeking adulterations. Among the orders was one, sent to an apothecary near Boston, for certain amounts of deodorized tincture of opium, white wine, syrup, precipitated sulphur, and zinc, all marked "U. S. P." The inspector brought back the drugs supplied in five different bottles as furnished by the apothecary. The opium was found to be just one-tenth its proper pharmacopœial strength. The white wine was simply strong alcohol. The syrup was largely contaminated with dirt. The order for precipitated sulphur the druggist declared himself unable to fill, while for zinc, two salts of that metal are said to have been furnished for the purchaser to take his choice. A prosecution is looked for.

—Mrs. Clara T. Leonard of the Massachusetts Board of Health, Lunacy and Charity, has published an appeal to "respectable trustworthy persons in comfortable homes" to provide accommodations in their houses for receiving as boarders, homeless insane persons. The overcrowded condition of all the State Lunatic Asylums is well known, and of course if the right sort of persons could be brought together on an equitable pecuniary basis as hosts and guests, it would largely solve the problem now in the way of the accommodation of the increasing insane population. But the two great practical difficulties, first of determining with certainty just which of the cases are and will continue to be harmless, and secondly of protecting this class of patients, so many of whom would be aged and feeble, from the imposition and abuse at the hands of persons attracted by the chance of profit into taking this kind of boarders, does not seem likely to be easily surmounted.

—Dr. J. M. Fothergill, in one of his letters to the *Philadelphia Medical Times*, says: "New books are certainly coming out here, but in sparse quantity compared to the legion springing up on your side of the water, many of which find their way over here, and are in repute." Not only are the products of the United States in drugs and chemicals taking the lead of home productions, but in literature they are threatening the old supremacy of England, or, rather, the United Kingdom; for Edinburgh always has held a good position in medicine, and when a Dublin man girds up his loins for a book, it is usually for a good one."

—The daily papers announce that the Austrian government has established an office for the "practical testing" of all patent medicines. The expression seems to imply, that the investigation is of a physiological as well as a chemical nature. But it is doubtful, if, even in Vienna, life is cheap enough to permit the material for such a test of all the nostrums. Perhaps, however, a paternal government, seeking to carry out the maxim, *falsum experimentum in corpori citi*, may take upon itself to apply the test in the person of the manufacturer. It is sometimes better than "sport to have the engineer hoist with his own petard."

## Miscellany.

### THE MODE OF CULTIVATION OF COCA.

DR. SQUIBB gives, in the *Ephemeris* for May, much interesting information regarding this drug.

The general method of cultivation seems to be common to Peru and Bolivia. The best coca is said to be produced on hillsides which are from 3,000 to 6,000 feet above the sea-level, and it is grown upon terraces of various widths on the sides of deep narrow valleys called "yungas." The seed is sown during August in beds, or boxes filled with earth, and by the following June, when the plants are eight or ten inches high, they are transplanted on the terraces about three feet apart, in a soil kept free from shade and from any other growths. By November the first lower leaves are of the deep olive-green color which marks maturity. A rich soil is needed, but fertilizers are not used, and, however good the soil, it is said to be rather rapidly exhausted by the plants, so that a succession of fresh plantings is kept up. The shrub grows to the height of from two to six feet, but the largest plants do not yield the best leaves. Each bush yields, as a rule, three crops a year,—or, in exceptional localities, four crops. The first is called the March crop, the gathering commencing in January. The second is the Saint John crop, beginning in May, and the third is All Saints, collected in October, and then the shrub is completely stripped of leaves. Moist seasons produce the most delicate leaves of finest quality, and droughts are very destructive to the crops, but as droughts in these mountains do not extend over very large districts, the total crop is not often seriously varied from this cause. The crops are gathered leaf by leaf, chiefly by Indian women and children, who stoop in front of each bush and collect only the leaves which are mature, in their aprons. The women are careful not to touch the top of the bush, for, if this be touched by man or animal "it withers and dries up." Men visit the women from time to time, and take the gathered leaves, in large sacks, to an enclosed yard, which is paved with smooth flat stones or slates, laid with very close joints and kept very clean. These pavements are so situated as to get the full force of the sunshine, and the first gathering of leaves is not brought to them until they are very hot from the sun's rays. The leaves are then spread thinly over the hot pavements, and being loosely raked and turned from time to time, are dry in from three to four hours in favorable weather. Sometimes, however, they have to be left over night, and are then liable to be damaged by dew. No gathering is done in very cloudy or damp weather, and damage only occurs from changes during the day after the collection has begun. When dry, the leaves are packed at once by means of a rude wooden press in square bales, of coarse cloth, of a cista, of about twenty-five pounds each. Two of such bales are put together under another envelope, generally made from the bark of the banana-tree, and such a package of about fifty pounds is called a tambor, or drum, and measures about 11 x 15 x 17 inches. When these parcels have to be sent across the coast range of mountains for exportation, three are put together in a tarpanlin covered package of one hundred and fifty pounds, and two of such packages make a load for a mule or other pack animal for this transportation of several hundred miles

through mountain passes. Coca is very easily damaged by the combined effect of heat and moisture, and is therefore always stored in cool, dry warehouses, and rarely handled or transported in damp weather or during the rainy season. This rainy season is from January to April, and therefore that stored on the west side of the coast range is alone available for export during the rainy season. When exported it is said that it usually starts in very good condition, and will reach its destination in the same condition, if carried in a cool, dry place. Such transportation is always stipulated for in bills of lading, but the proper precautions are generally neglected, and hence the worthless condition in which it is often seen. The only absolute security for it in transit is, therefore, to have it soldered up in tin or zinc, enclosed in wood, and such parcels generally contain two tambores, or about a Spanish quintal of a hundred pounds. United States Minister Gibbs, at Bolivia, who has made a full and interesting report to the Department of State on the cultivation of this drug, states the interesting fact that he is informed that habitual consumers of coca know nothing of toothache, and have their teeth in good condition to the greatest ages attained.

#### FERROCYANIC TEST PELLETS FOR ALBUMEN.

DR. PAVY, of London, has arranged a compact portable test for albumen based on the reaction long considered a delicate test for the presence of albumen, namely, ferrocyanide of potassium in the presence of an excess of acetic acid. It is figured and described in the *Lancet* for June 13th.

The whole appliance can be carried in the pocket like a pencil-case, which it only to a trifling extent exceeds in size. There is a celluloid tube for holding the pellets, and this fits into a glass tube, which is employed as the test-tube. No heat being required for the application of the test permits the glass tube to be made of sufficient thickness to be carried in the pocket without danger of breaking. The celluloid tube has a partition inside to keep the acid and ferrocyanide pellets separate, and at either end there is a screw top. The glass tube is provided with a metal cap which screws on and closes it. As the pellets are devoid of any foreign principle whatever, there is nothing to undergo deterioration by keeping. Citric acid is just as eligible for the purpose required as acetic acid. Enough is supplied in the pellet to secure the presence of free acid in any alkaline specimen of urine that is likely to be come across, provided the quantity mentioned in the instructions for the application of the test is taken. Should any doubt exist, two pellets can be used in place of one. The ferrocyanide pellet consists of the sodium instead of the potassium salt, on account of its yielding a looser and more speedily soluble product.

In using the test about a drachm of urine is taken as the quantity to be employed. An acid pellet is dropped into it, and with a little agitation is found to be quickly dissolved. One of the ferrocyanide pellets is next dropped in, and the urine again shaken to facilitate solution. If albumen is present, a precipitate immediately appears.

It is necessary that the test should be used in the manner which has been mentioned — that is, the acid pellet must be first dropped in and dissolved, and then

the ferrocyanide pellet added. The latter pellet it is which supplies the information required, and if a precipitate is by this pellet produced, the conclusion may be drawn that albumen is present, for the test does not precipitate peptones or other principles incidentally present in the urine. For sensitiveness the ferrocyanic will bear comparison with any other albumen test; and should no precipitate be rendered visible it may be safely inferred that no albumen is present. There is no need therefore for anything beyond the test itself being employed, and no spirit lamp being required, gives it a great advantage.

Sometimes a slight precipitate of uric acid is caused by the addition of the acid pellet, but it clears up under the addition of warm water and in no way interferes with the albumen test, which is made only by the ferrocyanic pellet in the presence of the excess of acid. Mucin also is precipitated by an acid, and the best plan here is to take two test-tubes and to treat the urine in one with the acid pellet alone, and in the other with both pellets. A comparison of the two will show whether albumen is present or not.

#### EXTENSIVE BRAIN LESION WITH SLIGHT SYMPTOMS.

DR. FOULIS related an instructive case at a recent meeting of the Medico-Chirurgical Society of Edinburgh (*Edinburgh Medical Journal*, June, 1885).

In January, 1884, a lady consulted him for pain in the left occipital region. A week after she fell into a deep sleep, out of which she awoke with all motor power abolished on the right side. She recovered, went to Moffat, enjoyed the summer, came home; and fell asleep for three days. After the administration of iodide of potassium, she remained well for some weeks. Six weeks before death she fell into a deep sleep. Two well-known neuropathologists were consulted. One of these gentlemen diagnosed a tumor of the base of the brain in the region of the sella turcica, the other a tumor of the pons variolii. The lady recovered, and three weeks before death had no symptom of any kind; but three days before her death fell into a sleep and passed away. A post-mortem examination showed the brain healthy in all respects, except that in the substance of the left lobe of the brain, anterior to the left lateral ventricle, there was a cavity which would contain a duck's eggful of thin sanious fluid. The whole arch of the brain covering this tumor, and to the right side of the left frontal convolution, was a gliomatous tumor, and a portion of the right frontal lobe also formed a tumor. There was nothing at all in the regions where tumor was diagnosed. The symptoms he believed to be caused by the variations in pressure of the fluid in the cavity. There was nothing in the history except that ten years before she had an epileptic fit on the death of a niece. He mentioned the case to show how necessary a post-mortem examination was for the purpose of verification.

#### LIMITS OF EXPERT TESTIMONY.

THE *Therapeutic Gazette* for April quotes a case from the New York Law Reports, as illustrating the proper limits of expert testimony. A child injured by a railway accident obtained a verdict on the ground of possible future consequences. The Court of Appeal,

holding that such testimony was improper, reversed the judgment, holding the opinion that "Consequences which are contingent, speculative, or merely possible, are not proper to be considered in ascertaining damages. It is not enough that the injuries received may develop into more serious conditions than those which are visible at the time of the injury, nor even that they are likely so to develop. To entitle a plaintiff to recover present damages for apprehended future consequences there must be such a degree of probability of their occurring as amounts to a reasonable certainty that they will result from the original injury." The testimony impugned was that of Dr. Spitzka, of New York, and was given in response to a hypothetical question. He said that the condition of the boy was very likely to be permanent; and in reply to the question what he meant by "very likely," he said: "I mean that the boy will always have some remnant of his injury, some reminder of it, great or small, that is certain. How much he will retain I cannot say; but I think he will very likely retain some." He added that the boy was very likely to retain the greater part of the symptoms, if he did not develop worse signs; and when asked what he meant by "worse signs," he said: "A patient sustaining such injuries, and presenting such premonitory signs, may develop traumatic insanity, or meningitis, or progressive dementia, or epilepsy with its results." This testimony was held by the court to be improper, as opening the door to all possible inferences on the part of the jury, and leading to probable extravagant estimates of harm; a new trial was, therefore, granted. The case is of interest, as showing the carefulness with which the evidence must be given by medical experts, when future consequences of an injury are under consideration.

#### THE PRICES AND PROFITS OF DISPENSING PHARMACISTS.

Dr. Squibb, in the *Ephemeris* for July, argues in favor of the equity of the current rates of profit of the apothecary, in opposition to the popular complaint against their high charges. He begins with the following hypothetical case:—

"A moderate dispensing store may be estimated at a rental of \$300.00 to \$100.00 a year, say \$1.00 a day. The furniture and stock of such a store would cost, say \$4,000.00. Interest on cost of this at 5 per cent, say sixty cents per day. Lights, fuel, water, insurance and taxes, say seventy cents per day. Wear and tear, breakage and repairs needed to keep the furniture and fixtures up to their value, say thirty cents per day. The sum of these estimated expenses is \$2.60 per day. A competent assistant, who is a graduate of pharmacy, should not receive less than \$2.00 a day, and an apprentice and errand boy fifty cents a day, making a total daily expense of \$5.10. If the sales from such a pharmacy be, say \$20.00 a day, the purchases needed to keep up the stock could hardly be less than \$10.00 a day. Then if the purchases be \$10.00 and the sales \$20.00, the gross profit is one hundred per cent. But the expense of selling for \$20.00 what cost \$10.00, is \$5.10 or 51 per cent, leaving a net profit of 49 per cent, or \$4.90 a day, which is less than 25 per cent of the sales, although it be 49

per cent on the supposed purchases. This \$4.90 a day or \$1,800.00 a year, is the total product of a man whose position is a very responsible and important one to the public around him, and to the physicians for whom he dispenses. His average history is, or should be, that he has served an apprenticeship of not less than four years, at an income of from 50 cents to \$2.00 a day. Has had an education, both primary and professional, which is rather expensive in proportion to his capacity to earn, and has graduated from some school of pharmacy. Has next served as assistant for two or more years, or for as many years as was needed to gain a reputation and an expert skill at his calling, which has enabled him to obtain the position of a proprietor. By this time he has a wife and children to support, and the social expenditures of his station in life. Under these circumstances it must be admitted that he is not overpaid, nor fairly chargeable with extortion in prices, even when he makes 49 per cent on his purchases.

"But this 49 per cent is only an average profit. Upon a prescription, the materials of which are almost without prime cost,—often only two or three inexpensive ingredients, with a large proportion of water or other cheap solvent or vehicle,—he is reasonably entitled to a far larger profit than the 49 per cent, because the value of all prescriptions, as well as all medicinal preparations sold, is not in the material, but almost entirely in the expert knowledge and skill with which they are prepared and dispensed. A pound of corrosive sublimate or an ounce of a strychnia salt, though not of high cost, if valued by their power to do good or harm, become of enormous importance to the community around them, and this value they get from the knowledge and skill with which they are dispensed."

Dr. Squibb draws however a sharp distinction between the responsibility and consequent claim to compensation on the one hand, of the man who prepares his own medicines and fills prescriptions, and those of the man who simply sells the wares, pills or otherwise of a large manufacturer.

The dispensing pharmacist, he says, is entitled to large profits just in proportion to the professional expert knowledge and skill exercised upon his calling. If he puts up a prescription he is justly entitled to a liberal reward for always being able and ready to do it,—night or day, Sunday or week day,—whether he has few or many to put up, for this is his legitimate work, and involves grave responsibilities. But when he sells somebody else's pills or disinfectants, he is only entitled to common mercantile profits, and this entirely irrespective of the smallness or largeness of his business, or of its heavy or light expenses, and such mercantile profits can never fairly exceed 15 or 20 per cent, even upon articles of infrequent demand.

#### Correspondence.

##### MEDICAL STUDY IN GERMANY.—THE BONN SCHOOL.

Zurich, July 21, 1885.

[Continued.]

MR. EDITOR.—Turning again to the Bonn Medical Clinic—it is on record that George Hackett once blew up and suspended animation in an old lady who called at his brother-in-law's office, during the doctor's absence, by

giving her first a powder of carbonate of soda and afterward one of tartaric acid, but I never before saw this procedure applied as a clinical device. Rühle, however, when he wishes to outline a stomach by percussion imitates George Hackett. It is very inconvenient for the patient but answers every clinical end.

Among many interesting autopsies in Bonn I saw one in a case of pelvic sarcoma in a man of advanced years. The left kidney was anemic, otherwise not remarkable, its fellow being decidedly hyperemic and containing an orange-red infarctus, of the size of an almond, of uric acid. This phenomenon being almost wholly confined to the kidneys of newly-born children, it excited considerable interest and suggested to Rühle the experience of Virchow, who two or three years ago nearly died of nephritis. He was vomiting and had other uræmic symptoms. Throughout his entire illness Virchow made careful and constant examination of his urine. One day when his friends despaired of his life he added acetic acid to his urine and was struck by the enormous quantity of uric acid which consequently formed. He immediately suspected the cause of his illness to be nephritis arthritica and at once began to drink large quantities of alkaline water. The result was a total disappearance of his ailment and his restoration to health. Virchow himself told the story before the Berlin Medical Society. I was curious to hear what explanation the Bonn pathologist would give of this unusual infarctus in the sarcoma case. At the next demonstrative course he gave the following theory: In the pyramids of the kidney is a system of lymphatics. These reabsorb the urine and a precipitate of uric acid followed. Under the microscope it was asserted that minute crystals of uric acid could be seen in the tubules of the pyramids. Another curious discovery in the Bonn autopsy room occurred in the case of a woman, previously supposed to be in sound health, who suddenly fell dead in the market place. Examination revealed a stomach distended with blood and a minute ventricular carcinoma which had ulcerated into a subjeant, small and heretofore unsuspected aneurism, death, of course, being due to a sudden hæmorrhage. The lungs were found to be in a condition of pronounced œdema and at the judicial investigation the question arose as to whether this might not have been a chief cause of death, but Koester, the pathologist, asserted that a secondary and very extensive œdema of the lungs might occur, and in this case undoubtedly did occur, within a period of two minutes. A third very instructive autopsy, and for the present I have done with this portion of my subject. During my stay in Bonn a man from Cologne, a brickmaker, died partially from chronic pneumonia, not much advanced, but whose death was hastened by the *anchylostomum duodenale*. This was the first autopsy in Germany upon a case of anchylostomiasis. The parasite was carried into Germany partly by the Italian laborers on the Gotthard tunnel, partly by brickmakers from an Eastern section of Belgium. It is supposed to find its way into the body in the form of larvæ, which are taken either in muddy water or are carried into the mouth upon the soiled hands of the laborers in the tunnel, or of the brickmakers, the brickburners never having the disease. By the use of filix mas Rühle had obtained sixty-nine of the creatures *inter vitam*. The post mortem discovered only fifteen more. They were found in the duodenum, each clinging by its teeth to a follicle of the mucous membrane, and rather difficult of removal. They suck the blood of their host like leeches, moving from one follicle to another, and leaving bleeding apertures behind them, so that blood appears in the feces. The disease is divided into an acute and chronic stage. It is acute when large numbers of the parasite are taken into the body at once, in which case the loss of blood may be alarming. In the chronic form there are fewer worms and the symptoms are less marked, but may become serious. After the worms begin their operations there is a steady, progressive anemia suggesting the progressive pernicious form. I have never before seen an autopsy which revealed organs and tissues so thoroughly ematted of blood as in this case. One is led to doubt the possibility of such intense anemia

as the result of the ravages of the tiny bloodsuckers, and it is suggested that they may further interfere with and arrest nutrition. Nevertheless the combined and prolonged attack of scores and hundreds of these worms and the bleeding apertures which they leave as they change their location, finally and naturally cause an immense loss of blood. Microscopically the worm is white, perfectly round, and resembles the oxyuris vermiculosis; but the length of the anchylostomum is 6-10 millimetres in males, 10-18 in females, that of the oxyuris being 5 and 12 millimetres in males and females respectively. Its head is bent toward the back of the worm. Its home is in the duodenum, that of the oxyuris in the rectum. The latter may be removed by injections; to remove the former, requires strong doses of the filix mas. It likewise does not reproduce itself in the intestines. Under the microscope (a worm being gently pressed between cover-glasses and thus examined) it is seen to be armed with teeth about the mouth and that the eggs (0.05 mm. long, 0.023 wide) are oval, have granular contents which are fissiparous. In this condition the larvæ are frequently found in the feces. Within the body of the worm red blood corpuscles can be distinctly seen. The prognosis is serious, for the reason that it is very difficult to expel the worm. The stools are to be strictly watched and patients not allowed to use a common water-closet. The parasite is found most frequently in Egypt, especially in the Orient and the tropics, and also in upper Italy. In cases of intense anemia, especially among miners and brickmakers, it would be well to seek for the anchylostomum.

*Insentation and Percussion* are taught four days in the week by Professor Finkler, whose thoroughness in detail and whose familiarity with physiology render the course extremely useful. As an instructor Finkler is unusually clear and scientific. In Rühle's absence he conducts the medical clinic. On one occasion he brought before the class a man, aged fifty-five, of robust appearance, who had been treated for diabetes mellitus. During the treatment Finkler had allowed him to eat anything he chose and to drink his habitual quantity of beer. Nevertheless the sugar entirely disappeared from the urine, no trace having been seen during the six weeks previous to his introduction to the clinic. The treatment had consisted simply and only of general massage performed twice daily, thirty to forty-five minutes on each occasion. Finkler's theory is that the sugar in the urine of diabetes mellitus is *muscle sugar*,—that as oxen for example, which have big muscles, use up more hydrocarbons (which go to the formation of muscle sugar) than albumen, so in a case of diabetes mellitus massage, or muscular action, will use up muscle sugar and retain albumen. By means of this treatment he has been successful in several cases. Children have responded less readily than have adults, but still the daily record shows a gradual and steady decrease in the amount both of sugar and of urine. Massage and other muscular exertion therefore are recommended in the Bonn clinic as remedies against this disease. Cases are related in which sugar was found in the urine before but not after exercise had been taken. The tubercle bacillus plays an important rôle in all cases of suspected phthisis, the diagnosis never being considered complete until the sputa have been examined for the vibrio.

Dr. Rumpf holds two clinics weekly for *nervous diseases*, and teaches the use of galvanic and electrotherapies. A pupil and former assistant of Erb, of Heidelberg, Rumpf is a very able man and is thorough in diagnostic detail, as are all the teachers of the Bonn school.

Finally, under the roof of the clinical department, is a very good course in laryngoscopy.

*Surgery* is taught by Professor Trendelenburg, formerly Langenbeck's chief of clinic. He devotes himself so earnestly to diagnosis that he considers it of more importance to students (and rightly) than operations, and in view of the fact that his material is very abundant and that his operations are not only skillfully done, but are performed with the help of the newest facilities, the value of his clinic can easily be appreciated. He takes unusual pains to make

students clear as to the diagnosis of a case and to give them every opportunity to profit by his teaching. Instead of keeping them at a distance during an operation, those who choose may stand around the operating table and watch every step and every smallest detail. To those who have taken an operative course, Trendelenburg gives facilities which exceed any I have before encountered. The student who is called upon to make the diagnosis is kept strictly to this part of the case until it has been completely exhausted by the method of exclusion. The student is then allowed to take the knife and open abscesses, enucleate small tumors, amputate limbs (excepting at shoulder and hip) and breasts, and in short to do any operation not especially dangerous or delicate in character. Trendelenburg, of course, meanwhile aiding the student in every needed way. Naturally this clinic is highly valued. The course in operative surgery on the cadaver, held four times weekly, is not deputed to younger teachers. Trendelenburg himself superintends the students during his days and Professor Doutrelepoint, who formerly made surgery his specialty, takes charge of the other two hours.

Before the introduction of Listerism a moderate lack of cleanliness did not appear to disturb the German surgeon. This has all been changed. Trendelenburg is a model of cleanliness, washing his hands a score of times during one clinic, and no student is allowed to examine a patient until after he has washed his hands in water and in a solution of corrosive sublimate. The locality requiring operation is scrubbed with soap and water and drenched with the sublimate solution which is colored by means of a little carmine and kept in closed gallon reservoirs of glass, suspended on the walls on either hand and from each of which proceeds a long rubber tube. The strength of the solution is 1-1000. Instruments, ligatures (always of catgut), and needles are kept in the ordinary solution of carbolic acid in dishes of glass. Sponges are kept and wrung out in the sublimate solution which is frequently changed. The dressings are first iodoformized gauze, next disinfected bags of moss, surgical cotton wool and finally disinfected bandages of gauze or gray flannel. Trendelenburg's operations are very successful.

The clinic for *syphilitic and skin diseases* is conducted by Professor Doutrelepoint, well known in connection with his studies upon the bacillus of *lupus vulgaris* (he read a paper upon the subject at the recent International Medical Congress at Copenhagen) and upon the bacillus of syphilis. His clinic is interesting and thorough and he has a plenitude of material. One of the most striking of his skin cases during my visit was one of Keloid, which had arisen from a slight wound caused by a needle thrust under the thumb nail of the patient, a young woman. There were large and brilliant red cicatrices upon various parts of the body, especially between the mammae and ulcers upon the legs, all of which had followed a lymphangitis. Doutrelepoint considered that the needle may have conveyed some infectious material into the blood. He takes positive ground in regard to *lupus*, pronouncing this name a misnomer and asserting that *lupus* is not only tubercle of the skin but that it may be derived from an ordinary phthisis, and quoted the case of a woman who nursed her husband through tubercular consumption and afterward was attacked by *lupus*. Yet Kaposi, at Copenhagen, went so far as to say, in spite of twelve hundred cases of *lupus* which he had examined, that the disease is not tubercular, that it always appears first in childhood, and in maturity is always secondary. He has since recanted. Doutrelepoint also maintains that *lupus vulgaris* can no longer in any case be considered syphilitic because *lupus* is a tubercular disease. In regard to the present value of Lustgarten's syphilitic bacillus which Doutrelepoint claims to have discovered before Lustgarten published his observations, he says it seems to differ from the bacillus of tubercle in the dissimilar manner in which it absorbs color, but that to the eye, microscopically, there is no difference; that pure cultures has not yet been effective; that in syphilitic material only a few bacilli are found in relation to the number discovered in *lupus*; that in order to prove their character inoculation

must be attempted, and since animals do not have syphilis, this will have to be tried upon a sound man; that probably gelatine or blood-serum would be good culture fluids, but that enough has not yet been done to make the syphilitic bacillus worthy of acceptance without great reserve. Meanwhile he devotes a large portion of his time to careful examination of syphilitic material and has a large number of preparations. He uses the Lustgarten method of coloring and discoloration because it proves the most favorable. If at first other bacteria are found they disappear under the final procedures and leave the specific bacillus. These do not always appear at once. In preparations two months old Doutrelepoint was surprised to find bacilli which had not before been seen. Lustgarten claims that the bacilli are found in cells. Doutrelepoint has never found them in a cell and rarely, if ever, finds the bacillus in syphilitic tissue. He considers secretions, for example, from a condyloma, better than tissue, and finds the bacilli outside the cells.

In gonorrhoea, Doutrelepoint injects a solution of corrosive sublimate, 1-20,000, until inflammation subsides, prefers it to any other medication and also recommends the drinking of large quantities of water to dilute the urine. In syphilis he makes hypodermic injections of mercurial salts without injury to the patient, but on the contrary with excellent results. In the library of his department I noticed Dühring's text-book and atlas. The door of entrance to his classroom has large panels of ground glass which are used instead of the ordinary blackboard. In the surgical clinic are similar plates of glass set in wood and arranged to slide in a stationary frame. Colored chalks and charcoal are used, and the illustrations are much more conspicuous than upon the blackboard and are done with greater ease. Doutrelepoint is very clever, is genial with the students and a favorite teacher.

*Pathology* is taught by Professor Koester with the assistance of his colleague, Professor Ribbert. Of course every pathologist has his own views, and practitioners are much at their mercy. Koester is skeptical in regard to *all* text-books upon his specialty, but it must be said that he is a remarkably clear, painstaking and efficient instructor. An enthusiast in his line of work, he absolutely exhausts a topic before he abandons it, yet such is his ardor and such the zest with which he teaches that he holds the closest attention of the studious portion of his audience to the very end, and if students leave his room without a clear idea of Koester's views it is their fault, not his. Even the formality of the lecture hour does not check his contagious laugh, and by the post-mortem table he simply effervesces with wit and fun. But, nevertheless, in his practical course he is the strictest and most exacting of teachers, and on such occasions his never-failing laugh is probably at the expense of some blunder of the student. In making an autopsy he is one of the neatest, quickest and most clean operators I have ever seen. To study pathological anatomy under his guidance is a pleasure. So careful is he in teaching students how to make an autopsy that he rarely spends less than three hours upon one cadaver. Every step of the operation, every cut of the knife, its position, the manner of the cut and of removing the organs is taught with infinite care. Three students make a post-mortem, taking the head, chest, and abdominal cavity respectively, and each student is obliged to dictate the protocol. If an autopsy is to be made at the hospital for the insane, the names of the three students are posted on the board at the gate of the general hospital yard, and at the hour a carriage takes professor and the three students to the other hospital. Koester's demonstrative course occupies two hours twice weekly. Material is abundant. Microscopes are plentiful. Microscopical preparations exhibited to the class are made by Koester and Ribbert. The practical autopsy course is held on intervening days, twice and thrice weekly, in the new pathological institute, the demonstrative course still being confined to the old building, which is out of the grounds and very inconvenient. The new building is completed only in the portion devoted to post-mortem. When finished it will be perfect in its kind. Spa-

cious lecture rooms, a microscope room, laboratory, director's room, small apartments for special work, autopsy room, a spacious paved cellar, provided with wall-closets for cadavers and organs, the space between the closets being packed with ice. There are stone tanks and a vat for maceration and boiling. Elevators are to convey bodies to the various stories. Naturally there is abundance of water on all hands and a very convenient system of ventilation. Koester may well be proud of the building, which is arranged according to his own ideas of convenience.

He likewise teaches histology at the comfortable hour of seven A.M., at the Anatomical Institute. In this and the demonstrative course he is assisted by Professor Ribbert, an able and skilful instructor.

*Anatomy and physiology* are taught in the beautiful anatomical building. Its distance from the hospital makes little difference to the students, their first year being given to these branches, clinical instruction following later. It is necessary only to say that Nussbaum is Professor of anatomy, to make it evident that the students have every opportunity to become good anatomists. Material is never lacking. In every clinical course the students who are called to cases rarely escape searching questions which bring out their knowledge of anatomy and physiology. The physiological course is equally good, and is made very scientific by abundant apparatus of newest construction.

*Psychological diseases* may be studied under Professor Nasse at the hospital for the insane, and are illustrated by patients from the wards.

*Midwifery and gynaecological* clinics are held daily in the women's hospital by Professor Veit, who is a better gynaecologist than teacher. Indeed, he impresses one as feeling a stronger interest in his operation than in his students, who, however, fare better at the hands of Veit's very skil-

ful assistants. These not only teach practical midwifery, but likewise give operative instruction on the phantom after the Vienna manner. Veit has many patients, and the course is a valuable one if students look to the assistants for instruction. In regard to post-partum injections Veit gave this very literal reply to my question: "My theory is if a patient is doing well keep your hands out of her lap. I seldom use injections after the first day, unless warned by ill odors."

As a body the professors of the Bonn school are genial, gentlemanly men, easy of approach and free from all uncomfortable peculiarities. I am indebted to them for great courtesies.

That the Bonn school is very thorough and very desirable I trust I have sufficiently shown. The manner of teaching, namely, exhaustive treatment of every branch of study clearly indicates the character of the school.

After a student has given himself the benefit of such thoroughness he may benefit properly by the courses in Berlin and Vienna, but I believe not before.

In its situation, its surroundings, and in itself Bonn is very charming. It is quiet, orderly, and students may live at very moderate expense, and the University with its one thousand students, indeed the whole atmosphere of the place, induces to studiousness.

One thing I had nearly forgotten. In Bonn is the most exquisitely arranged and most classic museum of casts from the antique in all Europe. Here art students may receive perfect instruction from Professor Kekule, and modelling and sculpture upon an anatomical basis are wonderfully well taught at his studio by Kuppers, the sculptor, who is a cultivated anatomist. Professor Straub teaches in drawing and painting in a manner which has won for him a high reputation.

H. O.

## REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 8, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	648	339	32.85	14.40	23.85	.75	3.60
Philadelphia	927,365	—	—	—	—	—	—	—
Brooklyn	644,523	287	158	42.00	10.50	31.85	.35	3.50
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	230	112	37.41	11.18	30.96	1.72	2.15
Baltimore	408,520	154	76	34.45	1.95	24.05	1.95	5.20
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Providence	142,400	—	—	—	—	—	—	—
Milwaukee	119,405	11	17	36.60	14.64	29.28	—	—
New Haven	62,882	25	12	32.00	20.00	32.00	—	—
Nashville	54,400	25	11	24.00	12.00	16.00	4.00	—
Charleston	52,286	20	12	6.90	13.80	3.45	—	—
Lowell	71,447	—	—	—	—	—	—	—
Worcester	69,442	39	21	43.52	10.24	38.40	2.56	2.56
Fall River	62,674	27	13	25.00	—	18.50	3.70	—
Cambridge	60,995	36	25	36.14	2.78	27.77	—	2.78
Lawrence	45,516	17	13	35.72	16.66	29.44	—	—
Lynn	44,895	25	13	32.00	12.00	20.00	—	4.00
Springfield	38,000	15	8	33.33	13.33	33.33	—	—
Somerville	31,350	8	3	12.50	37.50	12.50	—	—
Holyoke	30,515	8	5	25.00	—	25.00	—	—
New Bedford	30,144	13	8	61.52	—	53.83	—	—
Salem	29,503	14	11	57.12	7.14	57.12	—	—
Chelsea	24,347	16	10	62.50	6.25	56.05	—	—
Taunton	22,623	9	6	99.99	99.99	99.99	—	—
Gloucester	21,400	5	4	80.00	—	80.00	—	—
Haverhill	20,905	11	7	54.54	18.18	54.54	—	—
Newton	19,421	10	3	20.00	10.00	20.00	—	—
Brookton	18,323	—	—	—	—	—	—	—
Malden	15,273	—	5	57.12	—	57.12	—	—
Newburyport	13,947	—	—	—	—	—	—	—
Waltham	13,568	6	4	50.00	—	50.00	—	—
Fitchburg	13,433	6	5	66.66	—	66.66	—	—
Northampton	13,165	7	3	28.56	14.28	28.56	—	—
90 Massachusetts towns.	—	87	46	31.00	11.50	29.00	—	1.15

Deaths reported 1,755; under five years of age 452; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers and diarrheal diseases) 639, consumption 206, lung diseases 101, diarrheal diseases 529, diphtheria and cough 51, typhoid fever 16, malarial fever 17, whooping-cough 23, scarlet fever 15, measles nine, cerebro-spinal meningitis three, erysipelas two, puerperal fever one. From whooping-cough, New York 16, Brooklyn, Providence, and Lynn two each, Boston, Baltimore, Fall River, and Cambridge one each. From malarial fever, New York and Brooklyn seven each, Baltimore two, Nashville, one. From scarlet fever, Brooklyn six, Boston four, New York three, Charleston and Chelsea one each. From measles, New York three, Brooklyn

two, Boston, Baltimore, Providence, and Cambridge one each. From cerebro-spinal meningitis, New York two, Lawrence one. From erysipelas, Brooklyn and Baltimore one each. From puerperal fever, New Bedford one.

Cases reported in Boston: diphtheria 19, typhoid fever 16, scarlet fever 15, and measles five.

In 109 cities and towns of Massachusetts with an estimated population of 1,220,530 (estimated population of the State, 1,355,104), the total death-rate for the week was 23.27, against 23.38 and 23.83 for the two preceding weeks.

The meteorological record for the week ending August 8th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather, <sup>1</sup>			Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.		11.00 P. M.
Saturday, Aug. 8, 1885.																			
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration Hrs. & Mins.	Amount in Inches.
Sunday, ... 2	29.992	66.6	70.3	64.2	92	90	90	90.7	N.	E.	S.E.	12	11	7	F.	O.	O.	—	—
Monday, ... 3	30.000	67.4	70.4	63.0	76	76	93	84.0	E.	S.E.	S.E.	13	24	20	F.	O.	O.	—	—
Tuesday, ... 4	29.722	75.6	85.1	66.1	95	49	82	75.3	S.	W.	W.	21	13	12	R.	C.	C.	—	—
Wednesday, ... 5	29.857	72.7	84.4	65.3	66	55	85	68.7	N.W.	N.E.	N.W.	8	4	8	C.	C.	C.	—	—
Thursday, ... 6	30.040	63.9	69.5	61.1	78	66	82	75.3	N.	E.	S.E.	12	11	16	R.	C.	C.	—	—
Friday, ... 7	30.063	64.6	69.0	55.2	71	70	86	76.7	N.W.	E.	S.E.	5	11	5	H.	O.	O.	—	—
Saturday, ... 8	30.102	65.6	69.3	62.1	88	67	75	76.7	N.E.	E.	E.	5	9	3	C.	O.	C.	—	—
Mean, the Week.	29.972	69.5	74.0	62.5				78.1											

<sup>1</sup> L., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### DEATHS.

Died in Worcester, Mass., August 9, 1885, George Anson Bates, M.D., M.M.S.S.

Died in Lowell, Mass., August 11, 1885, James Joseph Sullivan, M.D., M.M.S.S., aged twenty-eight years.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 8, 1885, TO AUGUST 14, 1885.

AZFULL, THOMAS F., captain and assistant surgeon. Retired from active service August 10, 1885. S. O. 181, A. G. O., August 10, 1885.

CHAPIN, A. R., first lieutenant and assistant surgeon. Granted leave of absence for one month to take effect when services can be spared by the commanding general, of the Department of Missouri, with permission to apply for one month's extension. S. O. 179, A. G. O., August 6, 1885.

WALKER, PHILIP G., first lieutenant and assistant surgeon. (Fort Conner d'Alene, Idaho.) Ordered for temporary duty at Boise Barracks, Idaho. S. O. 130, Department of Colorado, August 1, 1885.

#### APPOINTMENT.

KENDALL, WILLIAM P., to be assistant surgeon, United States Army, with the rank of first lieutenant, to date from August 12, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 15, 1885.

BEVEL, H. G., passed assistant surgeon. To attend meeting of the "American Association for Advancement of Sciences," at Ann Arbor, Michigan, and at conclusion of meeting to resume duty at the Smithsonian Institute.

BOYD, JOHN C., passed assistant surgeon. From navy yard, Washington, D.C., to special duty at Bureau of Medicine and Surgery, Washington, Navy Department.

LIPPINCOTT, J. C., passed assistant surgeon. To navy yard, Washington, D.C., as relief of Passed Assistant Surgeon Boyd.

OWENS, THOMAS, assistant surgeon. From special duty at Bureau of Medicine and Surgery, Navy Department, and waiting orders.

SAYRE, J. S., assistant surgeon. From U. S. R. S. "Independence," to Naval Hospital, Mare Island, Cal.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDING AUGUST 15, 1885.

RAILHACHE, P. H., surgeon. To proceed to Delaware Breakwater Quarantine as inspector. August 15, 1885.

STONER, GEORGE W., surgeon. Granted leave of absence for thirty days. August 10, 1885.

#### BOOKS AND PAMPHLETS RECEIVED.

Voice in Singers. Read before the Ohio State Medical Society, June 7, 1885, by Carl H. von Klein, A.M., M.D., of Dayton, Ohio. Columbus, Ohio. 1885.

Essai sur la Chirurgie du Poumon dans les affections non traumatiques. Pneumectomie. Pneumotomie. Injections intrapulmonaires, par H. Truc. Paris. Ancienne Librairie Gernier Baillière et Cie. Felix Alcan, Editeur. 1885.

United States Consular Reports. Cholera in Europe in 1884. Reports from Consuls of the United States. Published by the Department of State according to Act of Congress. Washington. 1885.

Ietholum bei chronischem gelenk-rheumatismus. von Lorenz. Separatdruck aus der Deutschen Medicinischen Wochenschrift. No. 23. 1885.

Transactions of the Louisiana State Medical Society at its Seventh Annual Session. Held at New Orleans, La., April 21-23, 1885.

The Sixty-first Annual Report of the Officers of the Retreat for the Insane at Hartford, Conn. April, 1884.

## Original Articles.

## CONSANGUINEOUS MARRIAGES: THEIR EFFECT UPON OFFSPRING.

BY CHARLES F. WITHINGTON, M.D., OF Roxbury.

[Concluded.]

The first thirty-two cases are all from one isolated community on the north side of the island of Martha's Vineyard. They were kindly furnished me by Dr. L. H. Luce, a member of this Society, resident upon the island. The inhabitants are farmers and fishermen of average intelligence and good character, not addicted

to drunkenness. A lack of enterprise, associated doubtless with the nature of their occupations, seems to be the cause of their intermarrying. It will be noticed that all the instances of deaf-mutism occurring in the whole series of cases are to be found in this group representing one little town of Martha's Vineyard.

Cases 33 to 39 inclusive, are from another isolated community on Point Judith, in which was a marked inheritance of apoplexy and insanity. The remaining cases are scattered about, many of them in this vicinity. All are of American birth, and represent perhaps the better classes socially.

TABLE OF 108 CASES OF CONSANGUINEOUS MARRIAGE.

Cases marked \* are of Consecutive Consanguinity.

No. of Case.	Relationship.	Husband's occupation, etc.	Years Married.	No. of Children.	Healthy Children.	Deaf Mutes.	Insane.	Idiots.	Blind.	Died in Infancy.	Children's Children.	REMARKS.
1	1st cousin	son of No. 2	25+	9	8							8 dissolute; 1 nervous, bordering on insanity.
2	1st cousin		25+	8	3	5					(1st) deaf mute, had 2 sons, also d. m. (2d) had 1 son, healthy. 2 mar. relatives (see cases 3 and 4.) 3 unmar.	"All smart."
*3	1st cousin		25+	2	1							Both above the average in intelligence, 1 died at 30, of phthisis.
*4	uncle and niece		25+	2	2							Twins.
5	1st cousin		25+	3	2			1			See No. 6.	
*6	1st cousin		25+	3								2 children below par in intelligence. One child a hermaphrodite.
7	1st cousin		25+	5	3			2			See No. 8.	The idiots also had talipes varus.
*8	1st cousin		25+	4	4							Wife = daughter of No. 7. Children "rather smart."
9	1st cousin		25+	1	1							
10	1st cousin		25+	5	1	1					(1st) 3 children, of whom 13 myopic, others healthy. (2d) 3 chil. died in infancy. (1st) had several children, all healthy.	3 nervous (hysterical, neurasthenic).
11	1st cousin		25+	4	3							1 child died at 40 years, of phthisis.
12	1st cousin		25+	0								
13	1st cousin		25+	2	2							
14	1st cousin		25+	2	2						Daughter had 3 children, 1 d. of ovarian tumor.	
15	1st cousin		25+	6	3	3					(1st) deaf mute, had 4 chil. also d. m., and 3 or 4 who were not; one of the former = No. 16. 5 others all had chil. of average ability.	
*16	2d cousin		5	1				1				Wife = grandchild of 15, deaf mute.
17	2d cousin		25+	1	1						1 m. and had 2 deaf mutes.	
18	2d cousin		25+	3	2	1						The deaf mute also epileptic.
19	1st cousin		25+	1		1						
20	1st cousin		25+	4	4							
21	1st cousin		25+	2								(1st) d. of phthisis, aged 25. (2d) always an invalid.
22	1st cousin		25+	2	2						See No. 23.	
*23	1st cousin	son of No. 22	10	2	1							1 precocious, d. of cerebral meningitis.

Cases 1-32 inclusive, all farmers or fishermen.

TABLE OF 108 CASES OF CONSANGUINEOUS MARRIAGE. (Continued.)

No. of Case.	Relationship.	Husband's Occupation, etc.	Years Married.	No. of Child'n.	Healthy Child'n.	Deaf Mutes.	Insane.	Idiots.	Blind.	Died in Inf. cy.	Children's Children.	REMARKS.
24	1st cousin		25+	3					1			2 had internal strabismus.
25	2d cousin		25+	2						1		1 still-born; 1 d. at 3 yrs. of serofulous meningitis. Wife also had 1 miscarriage.
26	1st consin		25+	7	5	2					One, of average intelligence and health, m. and had 6 chil.; 3 d. in infancy, 1 d. of epilepsy; 1 is an ineliriate.	1 nervous.
27	1st consin		25+	5	4							
28	3d cousin		25+	2	1			1				
29	1st consin			1	1							1st wife.
30	1st consin		25+	6	5	1						Second wife of above.
31	1st consin		25+	2	2						Daughter had 8 chil.; some with scrofula. Two d. of phthisis.	
32	2d cousin		25+	3	3							One daughter d. of "softening of the brain" at the climacteric.
33	1st consin			5	2			1			(1st) See case No. 34. (2d) mar., childless. (3d) two chil., 1 healthy, the other erratic and partially blind.	Wife's brother insane; one of her parents, two sisters and a brother d. of apoplexy. Husband d. of apoplexy. One child deaf (not congenital) and somnambulist. The daughter has periodical insanity, attributed to disappointment in love. A son d. at 40, of phthisis.
*34	2d cousin	son of No. 33		0								Apoplexy and insanity in husband's antecedents; himself healthy.
35	1st consin			3	2			1 (at)			Children all unmarried.	Husband = brother of wife (in case No. 33). He d. of apoplexy at 60. Married consin, mother's side. His sister (No. 33) married consin, father's side.
36	1st consin				2						(1st) see case No. 37. (2d) unmarried.	Wife = sister of wife, cases 33 and 38, and of husband cases 33 and 39. 1st child blind of one eye (congenital). 2d " " of both eyes " "
*37	2d cousin			2	1			1				Wife blind of one eye = daughter of case 36. Idiotic son d. at 17 years; girl, intelligent, d. young.
38	1st consin			2	2						(1st) 3 healthy children. (2d) 4 " "	Wife = sister of husband of case No. 35. Died of apoplexy at 80.
39	1st consin			1	1						Child unmarried.	Husband = brother of wife in case No. 38, and of husband case 35.
40	1st consin	merchant	25+	6	6				1			Died of croup.
41	1st consin	farmer	18	2	2							
42	1st c., 1 re.	carpenter	15	2	2							
43	1st consin	fisherman	25	3	3							
44	2d cousin	merchant	31½	3	3							
45	1st consin		15	3	3							
46	1st consin	druggist	5	0								Wife had atresia vaguæ.
47	1st consin	professor	25+	7	7					1	(1st) 4 children. (2d) 3 " " 1 son and 1 dan. d. in infancy. 1 son threatened with chorea, did not have it. (3d) 4 child. 1 dan. was temporarily insane (religious causes); recovered. (4th) 5 child. (5th) 6 child. 1 eccentric. (6th) 4 " " 1 slightly lacking mentally. 3d generation = 42 from 17 m., 14 fertile, 3 non-fertile all of our family. 4th generation = 41 from 1 marriage.	Husband a man of note, 1 dan. a little "over developed" nervously (vivacity and tendency to exaggeration). Original marriage about 1800. 1st generation, 7 children. 2d " " 31 " " 3d " " 42 " " 4th " " 1 " Total in 1885 = 81 " All of these 81 persons healthy with the 2 exceptions noted and 1 grand-d. invalid from ovarian tumor. Family of unusual intellectual power. 4 Med. Mass. S. S.
48	2d cousin	professor	16	5	5							Deaf-mutism in wife's family, and deafness (not congenital) in husband's family on the side where there is no relationship.
49	1st consin			1	1						Married 5 years, no children.	

TABLE OF 108 CASES OF CONSANGUINEOUS MARRIAGE. (Continued.)

No. of Case.	Relationship.	Husband's occupation, etc.	Years Married.	No. of child. h.	Healthy child. h.	Deaf Mutes.	Insane.	Idiots.	Blind.	Died in Inf. cy.	Children's Children.	REMARKS.
50	1st cousin			5	5							
51	1st cousin	physician	8	1	1							
52	2d cousin	apothecary	25+	3	3					1	1 married 3 years; has one healthy, remarkably bright child.	1 child d. acute disease.
53	1st cousin	agent	7	4	4							"All as active, intelligent and healthy as the best of American children."
54	1st cousin		17	3	3							"Very bright."
55	1st cousin	druggist	25+	4	4					1	married. 3 children, all healthy. 1 died of diphtheria.	
56	1st cousin	merchant	10	4	4							1 died of scarlet fever.
57	1st cousin			1	1							Wife d. of anæmia soon after birth of child. Son now 21, "full, strong and healthy."
58	1st cousin	merchant	20?	3	3							Wife had 1 miscarriage.
59	1st cousin	farmer	25+	8	8						1st) 3 children. (2d) 3 " (3d) 4 " (4th) 4 " (5th) 2 "	Wife's brother died of "wasting palsy." Her family nervous; some of the daughters not very robust, but yet in good health.
60	2d cousin	merchant	11	3	3						Dau. m., no issue. Son m., " " In each of these cases there is uterine dis. in wife.	Son very bright, d. at 8½, of an acute disease. Other son M.M.S.S.
61	1st cousin	merchant	25	5	5							All unusually intelligent. Son, athlete in college; now M.M.S.S.
62	1st cousin	farmer	25+	2	1					1		1st son very precocious, great memory, lawyer. 2d son died at 6 weeks, peculiar shaped head.
63	1st cousin	merchant		2	2							
64	1st cousin	farmer	1?	1	1					1		Wife = sister of wife in case No. 62. Child probably died of acute disease.
65	bro. & sist.			1							Unmarried.	Intelligent, but peculiar owing to facts of parentage becoming known in the village. Died of phthisis at 25-30.
66	bro. & sist.			1	1						Had 1 son, perfectly well in every way, now a leading citizen.	The son very strong, blacksmith, intelligent, carried on business for himself, lived to great age.
67	1st cousin	physician		2								Husband d. of phthisis. Both children intelligent and perfect, d. of phthisis at about 20 years.
68	1st cousin	farmer		1	1						Unmarried.	Wife 15 years older than husband.
69	1st cousin	merchant	25+	8	3						(1st) married, no issue. (2d) 2 children. (3d) 1 or 2 children. (4th) 1 child. All of 3d generation healthy.	2 and probably 3 of husband's brothers forgers, defaulters, etc. Seemed to have no motive for dishonesty. (Two of these brothers had only one child each; one of latter died in infancy.) 1 son well, served in war, died at 46 of phthisis. 2 sons are well except that they stuttor, which has put them at disadvantage and interferes with their education. Neither can write a good business letter. 1 son an athlete in college, now not strong. 1 son in business but thought "rather wanting in smartness," died at about 35 of brain disease.
70	1st cousin	merchant	25+	3	2						1 married, no issue.	Husband's brother, chronic bronchitis and asthma many years; m., no issue. Another brother, invalid, unmarried. Wife, very deaf, has brother and sister each with issue. 1 son, well but not very enterprising. 1 daughter, deaf and nervous.
71	1st cousin	merchant	25+	2	1							Mothers of husband and wife—sisters; belonged to a family, consisting of 7 daus. and 2 sons, all of whom d. of phthisis. Wife had 1 sister and 1 brother, 3 of these have d. of phthisis. Dau. has narrow chest, subject to catarrh, colds and coughs, so that she "has to take care of" herself, but has had very little sickness, is very bright. Son, great eater, fat, dull and slow, supernumerary toe, myopia, tendency to pulmonary troubles.

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72	1st cousin	farmer	25+	8	8							1 dau. d. 1st pregnancy. All the children in this and foregoing case plain, though parents, especially wife (31) good looking. No relation between 71 and 72.
73	1st cousin	lawyer	25+	8	2			1		5	Daughter beautiful and accomplished, m. and had 1 imbecile child.	Hereditary unknown. Idiot d. at 18. 1 son precocious, d. 7 years, cause unknown. Cause of infants' death unknown.
74	1st cousin	farmer	25	7	4					1		Infant d. umbilical hemorrhage. 2 others rather dull, one has some "malformation of throat."
75	1st cousin	professor		1	1							Husband and wife "of opposite temperaments."
76	1st cousin	manufactur'r	15	1	1							
77	1st cousin			7	2			5		2		The 2 healthy ones d. in infancy. 4 idiots died; one now living at 45, has a conical head.
78	1st cousin			1	1							Son now 20, very bright.
79	1st cousin			1	1							
80	1st cousin			2								Both "deformed;" son a fine bass singer.
81	1st c., 1 r.			7	4		3				All unmarried.	Husband's father drank and died insane. Wife's father had apoplexy late in life and died insane. Wife's brother now insane from use of alcohol. 3 children showed signs of insanity at puberty. 2 have passed puberty and are healthy. 2 are under 16 years.
82	1st cousin	merchant	18	7	5					2		Husband inclined to phthisis; also his father. Wife's mother nervous. 2 children d. cholera morbus. 1 d. scarlet fever; 1 stupid, slightly deaf. 1 dau. very nervous, has just m. double first cousin.
83	1st cousin	none	20	4	2							All child. bright. 1 has weak eyes, 1 has had "fits," epilepsy (?) but carries on business with success.
84	1st c., 1 r.	Member of the Boston Tea Party.	25+	11	11					1	In 1st gen. 11, "2d " 23, from 7 marriages (5 fertile). In 3d gen. 64 from 15 marriages (10 fertile, 2 infertile, 3 no record; 4th gen. 10 from 3 mar. (all fertile). Total descendants 98 in about 100 years.	Family of much intellectual power, including 3 physicians of note, all college professors. In the oldest branch 5 males 6 ft. 3 in. and upward. (2=6 ft. 4 in.) Only defects=1 dipsomania (2d generation) who got alcoholic tendency from mother (of another family), and perhaps 1 insane (2d gen.)
*85	1st cousin			6	2					2	1 married twice, no issue.	Husband=grandson of 84. Wife=sister of dipsomania (see above).
86	1st cousin		25+									1 dau. at 45 a dwarf and rather deficient in mind but not an imbecile. 1 son d. at 21 of phthisis.
87	1st cousin	farmer	25+	9	9					3	(1st had 11 children. (2d) " 2 " (3d) " 14 " (4th) " 3 " (5th) " 7 "	Husband an early Mass. settler, born 1694. Children died (except 3 in infancy) at 81, 61, 87, 78, and 47. (1 not known.)
88	1st cousin	farmer	25+	11	11					2	(1st married a N. H. settler and was ancestress of well-known N. H. family. (2d) see case 89. (3d) " " 99. Records of descendants of others unknown.	Husband=nephew of 87 (born 1746), also brother of husband case 91. Wife=sister of wife case 91. Recorded ages of child, at death, 40, 61, 32, 69, 25, 65, 66.
*89	1st cousin		25+	7	7						All m. and had issue.	Husband, officer, killed war 1812=son of 88. Children died at 75, 38, 60, 47, 72, 41 and 55 years.
*90	1st cousin	U. S. Mars.	25+	8	8					2	3 married, not known if issue.	Husband=son of 88 and brother of 89. All children but 1 girls. All bright and pretty. Died at 28, 26, 32, 36, 15 and 19. No inherited disease.
*91	1st cousin	physician	25+	9	9					1	8 married, all had issue. (1st) 4 children. (2d) 10 " (3d) 2 " (4th) 6 " (5th) 5 " (6th) 6 " (7th) 8 " (8th) 9 "	Husband=brother of husband in case 88, was medical director of Continental army in Revolution. Child, d. at 65, 71, 78, 82, 78, 70, 80 (1 living at 77). The descendants of this family remarkable, comprising in 1st and 2d generations 2 U. S. presidents, 1 bank president, 2 Atty. Generals (State), 2 over-seers Harvard Univ., 3 state senators (1

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*91	<i>continued</i>								No diseases in 2d generation except 2 cases of phthisis (d. 46 & 38) both in 1 family. 6 of the 50 child. of this 2d generation are recorded as having d. in infancy. 1 child in 3d generation has epilepsy.	pres. of senate), 1 college professor and president, 1 judge, 1 supt. of schools, 2 clergymen, 2 lawyers, 5 successful phys. (1 ex. pres. M.M.S.), etc.
92	1st cousin	naval officer	25+	6	5				1 m., has 1 healthy child.	1 child d. young (18?), cause unknown. 1 dau. invalid, neuralgia. 2 sons, healthy, dissipated. 1 son (m'd d. scarlet fever.
93	2d cousin		15	3	1			1	Unmarried.	1 still-birth from neglected labor. 1 d. marasmus when a few hours old (born soon after a miscarriage). 1 dau. very intelligent and cultivated.
94	1st c., 1 r.		8	3	3				1st dau. m., childless. 2 next daus. married brothers, 1 without issue. 1 had 6 child. small in stature and some not robust. All very bright. Of these 1 m. and has issue.	Husband—brother of case 93. His mother had "weak lungs." The two older dau's were much worn by teaching before marriage, 1 of them (now aet. 70) said to have "weak lungs."
95	1st cousin	Cul. pioneer	1	1			1			Heredity not known. Child now 25 years, dwarf, cannot walk; brutish.
96	1st cousin	farmer	25+	3	1				1 m. (see case 97).	Husband's 2 brothers d. phthisis. 5 children of 3d brother d. phthisis. A sister had "weak lungs." 2 children d. phthisis at 24 or 25.
*97	1st cousin	merchant	25+	8	3			1	1 m., 2 healthy children.	Husband—son of 96. 1 child d. at 3, "scrofula." 2 d. phthisis, aged 23 and 25. 2 others not robust.
98	1st cousin			3						Heredity unknown. 1st child, deaf, myopia, night blindness (no opb. examina.), very bright. 2d not bright, talks indistinctly, 3d bright, feeble health.
99	1st cousin	none	25	2	2					
100	1st cousin	mas. paint'r	6	2	2			2		Both d. acute non-tuberculous infantile diseases.
101	1st cousin	merchant	18	3	3					
102	1st cousin	merchant	10?	5	1				(1st) phthisis, m., childless. (2d) 7 healthy children.	Husband d. "quick consump." at 31. Bro. = husband case 103. Wifed d. phthisis = sister of wife case 103. 1 child d. phthisis. 1 drowned. 2 d. unknown causes. All bright; no diseases except 1 case phthisis.
103	1st cousin	merchant	25+	16	16				1 son unm. 1 son m. (see case 104). 12 daus. all m., 1 had no child. The other 11 all had issue and most of them large families. All healthy. 1 (dau.—case 108).	Husband—bro. husband case 102. Wife = sister of wife case 102. 4 sons and 12 daus. all grew up. 2 sons drowned, unmarried. Oldest child now living at age of 80.
*104	1st cousin		25+	6	6				(1st) son, m. (see case 105). (2d) dau., 4 chn., (3d) son m., has issue. (4th son, 3 chn., all healthy. (5th) unm.	Husband—son of case 103. 1 child, killed by accident, unmarried.
*105	1st cousin	merchant		3				3		Husband—son of case 104, grandson of case 103. The children all perfectly formed but d. just after birth.
*106	1st cousin		2	0						Wife—grand-d. case 103. This her second marriage. By former husband had 3 chn.
*107	1st cousin	pay master United States Navy		4	4					Wife—grand-d. case 103 and sister of wife case 106.
*108	1st cousin		25+	10	9				7 chn. m., and all had issue (1 had 10 chn.), all healthy.	Wife—d. of case 103. 1 child d. phthisis, unmarried.

Do these facts warrant us in supposing that there is a specific degenerative effect caused *ipso facto* by consanguinity? Regarding first the rate of fertility; the offspring averaged 5 to each marriage of relations, 5.5 to each case of the children of relations marrying kinsmen, and 5.1 where the children of relations married strangers. Unfortunately we have no fixed standard with which to compare these figures. The article on population in the *Encyclopædia Britannica* gives 4.51 children as the average product per marriage in

England. We know, however, that social and economic considerations affect the number of births as much as do physiological factors. I think it will be generally admitted that the average fertility of these cases compares very favorably with that of most American families. As to the general health rate of the children, we are again without a normal standard of comparison. Each must judge for himself as to the significance of the figures. For one, however, I doubt if more than three-quarters of the general com-

munity are free of the major and minor defects and diseases for which the children of these consanguineous unions have been excluded from the category of the healthy. The ratio of those dying of phthisis is remarkably small, being only 3.6 per cent of the whole number born. Even if we add those "not robust," the proportion of consumptives remains well within the average bounds.

There are three defects only which attract attention as being more frequent than would be expected. These are deaf-mutism, in 2.9 per cent of all the children, insanity in 1.7 per cent, and idiocy in 3.1 per cent. Regarding the first of these, we notice that all twelve of the cases of deaf-mutism in the children of persons related, and the eight cases which occur in the children of those consanguineously descended but not marrying kin, were found in one locality, viz., the town of Chilmark on the island of Martha's Vineyard. Of the eight cases last mentioned, six were the children of deaf mutes. Dr. Luce, to whom I am indebted for these facts, and who is well acquainted throughout the island, informs me that there has never been to his knowledge a case of deaf-mutism anywhere on the island save in the town of Chilmark. To be sure, he adds, that so far as he knows there is no intermarrying in the other portions of the island, because the inhabitants are more enterprising and have freer intercourse with the main land. He also sends me, however, the particulars of two families in Chilmark, in neither of which was there any consanguinity among the ancestors. The bride in one case was from New Brunswick and in the other was a Portuguese. The former gave birth to one deaf mute, the latter to two. Moreover, other degenerative conditions appear to prevail in this same town, owing to some cause which is not consanguinity. For I learn on the same authority of a case of idiocy where none of the ancestors had ever married a relative. Again, in another family equally free from any consanguineous "taint," among five children there were three hermaphrodites.

The seven cases of insanity occurred in four families. Four of the individuals so affected had a marked inheritance of insanity, three of them deriving it from both the father's and the mother's side. The two families in which the remainder of the cases were found, were both from Chilmark, and nothing definite is reported as to the mental soundness of their ancestry.

The proportion of cases of idiocy, while very small compared with the figures given in some of those observations that have become the standard for the popular ideas on this subject, is yet in excess of the ratio of idiots to the community at large. How far this proportion is representative of the actual facts, and how far it is affected by imperfections in the data, I am not certain. Of the thirteen cases of idiocy among the four hundred and thirteen children, six are reported from the two isolated communities already mentioned. One of these had a mother and grandmother both deaf mutes. The other seven cases all came to me through non-professional sources, and particulars regarding the parentage are unfortunately wanting. The memorandum as to one family said to contain five "fools" was given me through a second person, and it has not been possible to obtain any further information. I have included the case for what it may be worth, but do not feel quite certain that the total figures for idiocy are not unduly augmented by some error in the one case that furnishes so large a part of them.

Taking into account the fact already alluded to, that some of my lay informants have sent me an unfair proportion of the *causes célèbres* of their vicinity, the total results, it seems to me, are not such as to show any special or conspicuous deterioration peculiar to the children of relations. Of course no one will deny that a union, consanguineous or otherwise, which brings together two individuals having any disease or morbid tendency in common, will involve a direct danger to the offspring. Is it not possible, then, to account by the ordinary laws of morbid inheritance for such untoward results as sometimes follows the marriages of kindred?

The first objection that is raised against this view is that the children of relations are sometimes diseased when the parents themselves seem to be quite healthy. In answer to this, we may say that a more careful examination would often show that the opinion entertained by a merely casual observer regarding the parents' health was ill-founded. Again, the well-known phenomenon of atavism will account for cases where diseases are absent, or rather latent, in both the persons marrying, which were yet present in their common ancestor or in some close collateral branch, and which are capable of transmission through the married kinsfolk to appear again with reinforcement in their offspring.

Another and stronger objection urged by those who believe in a specific evil effect produced by non-renewal of the blood, is furnished by one or two diseases which are sometimes difficult to account for on the ground even of atavistic heredity. Foremost of them in importance for this argument, though a very rare affection, is lamerolopia or retinitis pigmentosa. Some of the leading of ophthalmologists believe that the disease has a specific relation to consanguineous descent. Dr. Derby, for instance, who has kept a careful record of all such cases, informs me that in a total of 12,130 cases in his ophthalmic practice, he has met twenty-three cases of retinitis pigmentosa. In nine instances, the individuals were descended from relations, in six the parents being first cousins, in three being second cousins, and in one the grand-parents being first cousins. In one instance there was no information obtained on this point, and in thirteen there was no relationship in any of the ancestors. In none of these twenty-three cases was any other form of weakness or disease noted. Dr. Derby has also kindly placed at my disposal his collection of the recorded cases of other observers. These amount, including his own just referred to, to two hundred and ten cases; in seventy there was relationship, in one hundred and thirty-nine no relationship, in one no information.<sup>20</sup> The records of the ophthalmic service of the Carney Hospital of this city, which have been kept with especial care on this point, and which Dr. Standish has

<sup>20</sup> The statistics reported by other observers are as follows:

Pagenstecher reports eleven cases. Parents not related.  
 Liebreich, ninety-five cases. Parents first cousins in forty-three.  
 Mooren, thirty-four cases. Parents first cousins in nine; not related in the others.  
 Hoering, two cases. No relationship.  
 Stæger, one case. No relationship.  
 Hoefling, four cases. Parents first cousins in one.  
 Hutchinson, one case. No relationship.  
 Hase, one case. No relationship.  
 Monoyer, five cases. No relationship.  
 Jeffries, three cases. No relationship.  
 Smith, three cases. No relationship.  
 Wilder, one case. No relationship.  
 Swanzy, one case. No relationship.  
 Harlan, one case. No relationship.  
 Landolt, one case. No relationship.  
 Mooren, eight cases. Parents first cousins in three.  
 Hoefling, fifteen cases. Parents first cousins in five.

kindly gone over for me, shows in a total of 3,726 patients three cases of retinitis pigmentosa. In one there is no record as to consanguinity, in one there was no relationship, and in one the parents were first cousins.

Deaf-mutism is another defect that is often not transmitted directly from an identical form of disease in the ancestors, and it has therefore been ascribed to consanguinity of parents. But Rossa<sup>21</sup> states, that inasmuch as the disease is often due to inflammatory action, it is not likely to be transmitted as such by inheritance. He says that the causes of deaf-mutism are as numerous as those of deafness unaccompanied by mutism. The intra-uterine causes of the disease, operative perhaps in one-half the cases, are quite unknown. The proximate antecedents of hemeralopia are equally obscure. There is some reason to believe that transitory mental states, such as intoxication, may determine the procreation of an idiotic child. On the whole it seems likely, as has been pointed out by Dr. Child (*loc. cit.*), that all these diseases may stand in a relation, as yet unrecognized, to other neuroses present in the ancestors of the persons afflicted, as chorea is connected with rheumatism, or as the phenomenon of blue eyes in cats is associated with deafness.

If we were to accept the conclusions even of Chazeraim, who assigns 30 per cent of deaf mutes to consanguineous descent (a figure vastly in excess of anything that can be substantiated), and if we allow that a third of the cases of retinitis pigmentosa are in the offspring of relations; it yet remains true that a large majority of cases of these defects are due to causes independent of consanguinity. The hereditary taint under these circumstances is not always recognizable, but we know it is there. Why assume two specific causes to account for one effect, especially when the cause assumed for the minority of cases accounts for them no more intelligibly than would the other causes which is known to be operative in the majority of cases? Is it not more reasonable to suppose that those confessedly obscure nervous affections whose connection with any similar defects in the ancestors we are unable in some cases to trace, may yet, with growing knowledge of the pathogeny and relations of disease, be brought under those great laws whose effects upon heredity are so well established?

### A CASE OF GASTRIC ANEURISM.

E. PARADY GERRY, M.D., JAMAICA PLAIN, BOSTON.

**HISTORY.** About eight A.M., July 31st, I was called to see Mr. J. The summons was urgent as he was suffering great pain. On arrival I found that the patient had been vomiting and was somewhat relieved; his bowels were constipated.

Soon after rising, at about seven o'clock, and without any warning, he felt a sudden sharp pain in what he called his spine, midway between his shoulder blades. This pain was excruciating, and extended into his left shoulder and from here diagonally across the chest to the right side of the body, where it located itself over the stomach and gall-duet; it was also felt in the right shoulder. It was paroxysmal, resembling

colic. As the patient had been troubled with dyspepsia for a number of years, and as the pain was in the back between the shoulder-blades, I thought it to be gastralgia of a rather severe type. There was one symptom noticed which indicated more than an ordinary attack of colic, namely, coldness of the hands and feet, and although I felt apprehensive on account of its marked character, I tried to flatter myself that severe pain in the stomach and especially the bowels is often accompanied by coldness of the extremities. Moreover the patient was quite bright and comfortable, and although looking ill, being an invalid, his face did not indicate the serious nature of his disease. He did not vomit I think during my first visit. I ordered sulphate of morphine, one-eighth of a grain, every hour, till relieved.

About eleven A.M., I was again summoned. The nausea, pain and vomiting had returned, and the patient looked much sicker than at my first visit.

There appeared to be a quartet of symptoms, namely, the pain which came first and was of a spasmodic character, followed quickly by nausea, vomiting and some faintness. This last symptom attracted attention, but not as much as it would, had not the patient been in delicate health for some time, and had the faintness been continuous instead of coming as a sequel to pain. The pain was in about the same place as at first, but seemed to be fixed more over the stomach and gall-duet; there was also some tenderness at this point but of small area. Larger doses of morphine had to be given. Was again summoned at two o'clock; and found the symptoms worse, the pain being more frequent as well as more severe, and followed as before by nausea, vomiting and faintness. The extent of tenderness had increased and although it was confined mostly to the right side over the stomach and gall-duet, yet when asked where he felt the pain, the patient always said it commenced in the left shoulder and that it ran from this point across the body into the stomach and gall-duet. An enema was ordered, but was not given on account of the extreme weakness that came on.

As nausea and vomiting were present, and as the patient had the appearance of kidney disease, I requested Dr. H. C. Ernst who had been called in consultation to examine the urine. He reported parenchymatous nephritis.

An attempt was made to feed the patient with milk and stimulate him with brandy, but he was unable to keep even this on his stomach. After four o'clock he grew worse rapidly, symptoms of collapse coming on. At ten o'clock P.M., Dr. Charles B. Porter was called in consultation. He was unable to make a positive diagnosis, but thought there were gall-stones impacted in the gall-duet and probable perforation of duet. He advised the continuance of the morphine, which had been given every hour or two according to pain. From this time till five o'clock the next morning when he died, he had successive sinkings-spells.

The autopsy was made on August 1st, 1884, by Drs. Ernst and Whitcomb, ten hours after death. Body pale, somewhat emaciated. Rigor mortis marked. Head and thorax not opened.

Abdominal walls thin and the layer of fat less than usual. Section showed the intestines to be pushed forward by a large amount of blood, accumulated especially in the region behind the stomach and the spleen. The amount of blood was about three pints. It was fresh arterial and partly coagulated. The source of

<sup>21</sup> Practised Treatise on Diseases of the Ear. By D. D. St. John Brown, New York, 1866.

<sup>22</sup> Read before the Norfolk District Medical Society, March 21, 1886.



A CASE OF PUERPERAL PULMONARY EMBOLISM.—RECOVERY.<sup>1</sup>

BY SAMUEL A. FISK, A.M., M.D., OF DENVER, COLORADO.

Mrs. F., a native of Maine, thirty-two years of age, was confined with her second child on the 31st of January, 1885. Her first labor was eight years previous, the child died when four months old, and since then she has not been pregnant until this time.

In the present labor the pains did not come on until eighteen hours after the membranes had ruptured and the water had come away, and even then they seemed to have been excited by the administration of quinine. Ten grains of chloral hydrate were given in the first stage with the evident effect of hastening the dilatation of the os. The presentation was occiput, position O.L.A., and the second stage rapid. Some difficulty was experienced in the expression of the secundines (by Credé's method) as the uterus contracted firmly on the membranes, close to their origin in the placenta, which lay in the vagina, and they were removed intact by introducing the hand into the vagina, getting back of the placenta and then using gentle traction over the index finger. Inspection showed that the rupture of the membranes occurred at the placental origin on the right. The child, a girl, died three hours after birth. She was cyanotic and although she cried lustily, the respirations did not seem to aerate the blood, and finally even artificial respiration and the interrupted current proved ineffectual to keep her alive.

Despite the excitement and sorrow attendant upon the loss of her babe the mother made a good recovery up to the twelfth day. With the appearance of the milk the bowels were moved with castor oil and an enema. The temperature only went as high as 100° F., and the pulse was 88 per minute. There was an abundance of milk, the breasts being distended clear into the axillæ. I had them rubbed with whiskey and bandaged, regulated the bowels with Hunyadi Janos water, kept the patient on liquid diet and gave quinine in two grain doses, three times a day.

I saw the patient on the evening of the tenth day, found the temperature and pulse normal, tongue clear, breasts soft, the milk not troubling her, and in every way she was feeling well and had been bolstered up in bed, and I was asked to present my bill.

That night, thinking that the Hunyadi that she had been taking had not acted sufficiently upon her bowels she took, on her own responsibility, four of "Carter's liver pills," which produced a tremendous straining and gripping sufficient to form hemorrhoids, but not sufficient to produce an operation. The following afternoon she took three "Brandreth's" pills and an enema of oil and water, had a fainting spell, a feeling of hardness around the rectum, cramping in the abdomen and straining. Finally at midnight she had one operation. At eleven o'clock of the twelfth day she was taken with what she called a heavy "chill." I was out of my office and did not reach her until an hour and a half afterwards, and had not seen her since the evening of the tenth day.

I found her pulse, which at normal beats seventy-six per minute, thin, shreddy, and beating 150 per minute. Respirations short, jerky, labored, and 50 per minute. She was cyanosed. The lips and face were purple,

there were great dark rims under the eyes, and the finger-nails were purple. She was bright and clear intellectually, complained of pain in the knees and arms and across her chest, and of her inability to get air into her lungs, but spoke especially of the frightful "chill" she had had, and of the pain, which was so intense as to make the very tips of her fingers tingle. I found that her chest was resonant throughout and that air reached every portion of her lungs. The nurse had stimulated her with whiskey when she had the "chill." Examination showed a bunch of protruding hemorrhoids which were somewhat painful.

On consultation with Dr. L. E. Lemen we decided to give six drops of the tincture of digitalis every three hours and watch the case. In four hours the pulse fell to 130 per minute and the respiration to 36. Temperature normal. The following day the pulse came down to 120 and the respirations to 28 and the cyanosis had nearly disappeared. The temperature was still normal and the skin warm and moist. Digitalis was given three times a day but she still complained of some pain across the chest.

On the evening of the fourteenth day after her confinement or the second after the "chill" her pulse was 108, respiration 24, and temperature normal.

Third day after the chill pulse 96, respiration 21, temperature normal. Coughing a little and raising a slight amount of rusty sputa. Examination showed a slight harshness of respiration under the left nipple, the spot where she complained of, there being some pain. There was also a slight amount of dulness over the same spot, but so slight as to be questionable.

She continued to improve, her pulse and respirations returned to the normal, the cough and expectoration ceased in a couple of days, her breathing became full and deep, without pain; when on the eighteenth day after her confinement she complained of pain in her left leg. On examination I found it tender to the touch, along the course of the femoral vein and especially so at the saphenous opening. This tenderness extended, together with a very slight induration, into the calf of the left leg. The treatment for this consisted in poulticing and absolute rest, and at the same time iron was combined with the quinine that she was taking. The bowels were left constipated for five days. The pulse rate remained at from 76-88. Respirations normal, and the even temperature was never over 99° F. In fact there was no constitutional disturbance.

In one month from the time of her labor she was up and walking a little, but to-day, now nearly six weeks, she is troubled with swelling of the left leg and foot, probably due to a weakened condition of the femoral or saphenous vein, which condition is relieved by bandaging with rubber.

This case is of interest because of the unusual number of complications it presents, but chiefly as being a case of plugging of some portion of the pulmonary circulation, in which a recovery has taken place. That this plugging was embolic seems probable for the following reasons. There has never been any evidence of heart lesion or of roughening of the valves. The circulation has always been strong and regular. The intense rigor and frightful dyspnea came on suddenly and were not a gradual development. With them the pulse took a bound from 76 beats per minute up to 150 per minute, and intense cyanosis supervened. All of these symptoms followed a straining at stools, which was sufficient to either produce hemorrhoids of large

<sup>1</sup> Read before the Denver Medical Association, Tuesday evening, March 16, 1885.

size, or else to bring down some that had existed unbeknown to the patient.

Further, the appearance of cough, with rusty sputa, taken in connection with the limited area of dulness and harshness of respiration found in the left chest make it probable that a small spot of embolic infarction existed there. The appearance of the *phlegmasia dolens* subsequent to the attack spoken of, may shed further light upon the case as showing that there was either a uterine phlebitis,—which was improbable, as there were no corresponding constitutional symptoms, or that there was an impediment to the venous circulation on the left side due probably to an extension of a uterine thrombus.

My theory of the case is as follows:—that in the tremendous griping and straining at stool a uterine clot was dislodged, or partially dislodged, from some sinus and was left protruding into the course of the venous circulation. That, inasmuch as this was only on the twelfth day, and as has been shown by Playfair, softening of such thrombi is not apt to occur until the nineteenth day, it took about eleven hours for a portion of this thrombus to be separated from the main body, and then it was carried on, through the heart into some small branch of the pulmonary artery, causing a sudden upsetting of the normal equilibrium existing between the respiration and the pulmonary circulation. Subsequently to this, by an extension of the original thrombus the circulation in the left iliac vein was impeded and hence the production of *phlegmasia dolens* on that side.

That recovery ensued, I can only regard as due to the fact that, in all probability, only a small branch of the pulmonary artery was obstructed: but having witnessed the distress produced in this case, I can readily understand that an agonizing death must be the result when the main artery is occluded by either a thrombus or an embolus.

## REPORT ON RECENT PROGRESS IN THORACIC DISEASES.

BY FRED'K C. SHATTUCK, M.D.

### "SPIRAL AND CENTRAL THREADS" IN SPUTUM AND THEIR SIGNIFICANCE.

IN 1872, Leyden in writing of asthma called particular attention to peculiar sharp pointed crystals found by him in the sputum of some cases of asthma and apparently identical in nature with crystals already described by Charcot and Robin as occurring in a leucæmic spleen and since then detected in other situations; it was at one time supposed that these crystals stood in some causal relation with asthma, provoking spasm by the irritation produced by their very sharp angles. At the same time Leyden spoke of spiral bodies apparently consisting of coagulated mucus also seen by him in asthmatic sputum, but this observation seems to have attracted little attention until Curschmann in 1883 brought these bodies more prominently into notice; they are now figured in the more recent German hand and text-books. The latter observer considered the presence of these bodies pathognomonic of an affection of the mucous membrane of the finest bronchial tubes attended by an exudation on the surface of the membrane; he called the affection "bronchiolitis exudativa;" thought it to be nearly always chronic, sometimes hereditary, occasionally uncomplicated, but apt to be as-

sociated with other chronic changes in the larger bronchi or lungs, and clinically characterized by asthmatic attacks. These spiral threads have now been detected in the sputum of pneumonia by Vierordt, Jaksch, Vincenzo, and Pel.<sup>1</sup> as well as by Curschmann himself, and some controversy as to their nature and precise significance is now going on. Curschmann,<sup>2</sup> who up to the present writing, has the last word on the subject, still holds that the spiral threads with their peculiar central formation—which, by the way, does not represent a canal—indicate an entirely independent affection which must be sharply distinguished from simple fibrinous bronchitis, whether the latter be part of a pneumonic process, or uncomplicated by any changes in the alveoli. Pneumonia and acute exudative bronchiolitis may run their courses side by side and disappear together: pneumonia may befall a person the subject of chronic exudative bronchiolitis with spasmodic asthma: and lastly, the pneumonia complicating an acute bronchiolitis exudativa may recover, while the latter may develop into a chronic process and pave the way for asthmatic attacks by exciting bronchial spasm. In none of these cases of pneumonia were the Charcot-Leyden crystals seen in the spirals, a fact which leads Curschmann to think that they are found only when the exudation is retained a considerable time at its seat of formation, that is, in chronic cases. Fibrinous casts of the minute and smaller bronchi are found often enough in pneumonic sputum, but their appearance is certainly, and their composition probably quite different from that of the spirals under discussion. Curschmann denies that any intermediate forms are found. (The spiral formation is attributed to the rolling over and over to which the exudation is subjected while passing from its seat of origin outwards until expectorated: fibrinous casts of the bronchioles are subjected to the same conditions, and that they do not assume the same or similar forms is evidence that they differ in composition or some other important respect. Lewy<sup>3</sup> publishes a preliminary notice of his investigations, and promises an elaborate article later. He has found the spirals in cases of bronchitis, both acute and chronic, without the least asthmatic complication; and the crystals in acute bronchitis and phthisis. Further light is certainly desirable, and will doubtless be afforded.—*Rep.*)

### ASTHMA PRODUCED BY A LINSEED POULTICE AND BY THE SMELL OF COOKED HARE.

Dr. Kingsbury<sup>4</sup> reports the case of a patient with an ulcer of the leg, for which he ordered a linseed poultice. The patient objected, saying that for the last four years such an application had invariably been followed by an asthmatic attack, but the doctor insisted, and three hours later was summoned, finding his patient livid and gasping for breath. Dr. Seale, in commenting on this case in the *London Medical Record*, alludes to a case in which a linseed poultice is stated to have caused urticaria, "a fact interesting in connection with Sir Andrew Clark's statement at the Clinical Society, January 9, that he believed spasmodic asthma to be a sort of urticaria of the bronchial mucous membrane."

Warner<sup>5</sup> reports a case of urticaria during the continuance of which several attacks of asthma and severe

<sup>1</sup> Zeitschrift für Klin. Med., 1885, Bd. IX., p. 29.

<sup>2</sup> Deutsches Archiv. für Klin. Med., 1885, Bd. xxxv., p. 578.

<sup>3</sup> Centralblatt für Klin. Med., 1885, p. 255.

<sup>4</sup> British Medical Journal, 1885, i., p. 278.

<sup>5</sup> Ibid., 1885, i., 453.

vomiting occurred. On two occasions the eruption was noticed on the fauces, and the author considered the asthma and vomiting due to similar patches on the mucous membrane of the stomach and bronchial tubes.

(Asthma and urticaria are both sufficiently common affections, generally occur entirely independent of one another, and it seems highly fanciful to draw any inferences as to their connection from the fact that in a few instances the same individual suffers from them both simultaneously.—*Rep.*)

A patient of Dr. Thorowgood<sup>6</sup> has from boyhood been liable to attacks of spasmodic asthma, is now about forty, and finds that the presence in his room of a hare or its skin will bring on a severe attack: the smell of a roasted hare, however, acts as a still more speedily exciting cause.

(Medical literature contains many cases similar to the above in which asthma seems to be directly dependent on emanations from animals, feathers, etc.; and in many of these attacks never occur unless there is exposure to the special and peculiar irritant. It would seem that these cases must belong in a category altogether distinct from those in which Curschmann thinks the cause lies in exulterative bronchiolitis.—*Rep.*)

#### OBSTRUCTION OF ONE LUNG, WITH DISPLACEMENT OF THE HEART.<sup>7</sup>

At the closing meeting of the Islington Medical Society, on the 26th ult., Dr. Glover gave the particulars and showed the specimens of two very striking lesions in the case of a man aged sixty-three, whom he had known for several years as a dispensary patient and otherwise. The most noticeable peculiarity was the complete displacement of the heart. It occupied the right side, and beat between the fourth and fifth ribs. This fact had been observed thirty-five years ago by Mr. Jackson, one of the oldest members of the Society, and the patient had been examined by many physicians, amongst others by Dr. Austin Flint, who came to the conclusion that there was no transposition of organs—a conclusion verified by the post-mortem. But the autopsy revealed another lesion, which was as remarkable as the malposition of the heart. This was the almost complete absence of the right lung. It had to be long sought for ere it could be found, and was then discovered as a very hard shrivelled substance, in shape something like a sausage. On being cut into, it was found to consist almost entirely of thickened pleura, the pleura being at points half an inch thick. The lung substance was nearly destroyed, not with intersecting bands of fibrous tissue, but by this envelope of thick pleura. The left lung was correspondingly large. No history of pleurisy could be traced in the patient's life, and no history of consumption in that of his family. He had always been weak and slight. His mother always had noticed "a beating on the wrong side." He used to have severe bleedings at the nose. His chief troubles had been cough and rheumatism. He died in the Islington workhouse of broncho-pneumonia. It is common to say that a person has lost a lung, but here the statement was a literal expression of the fact, though the patient contrived to live without it, and with his heart on the wrong side, for sixty-three years.

#### FATAL HÆMOPHTYSIS.

The statistics of the Victoria Park Hospital for fifteen years bearing on this point, were reported to

the Medical and Surgical Society, by Dr. West.<sup>8</sup> The cases were twenty-six in number, the rupture of aneurisms other than those of branches of the pulmonary artery being excluded. In seventeen of the cases the cause was ascertained; in eleven it was aneurism: in six ulcerated vessel, the distinction between these lesions being probably only one of degree. Any cavity, whatever its origin or shape, might be the source of the bleeding, provided it were chronic; chronic phthisis was the predisposing condition of the lung, and that often when there were but few clinical evidences of the disease. The causes of non-fatal and of fatal hæmoptysis are probably the same, there being evidence to show that both pulmonary aneurisms and eroded vessels may heal spontaneously.

In discussing the paper, Dr. Percy Kidd said that he had made autopsies in thirty-five cases of fatal hæmoptysis. In thirty of these, death had been directly produced in a very short space of time; in the other five, the patients had survived for periods varying from one to twelve hours. In nine cases, where during life there had been no hæmoptysis, he had found aneurism of the pulmonary artery after death. The aneurisms, which varied in size from that of a hempeed to that of a small orange, were in his cases generally in the lower two thirds of the lung, and were not very uncommon even at the base. Some explanation of this might, he thought, be seen in the fact that this part of the lung moved most in relation with the diaphragm. He agreed with Dr. West so far as to believe that the cavity in which the aneurism formed was nearly always chronic; but not always, for he had met with three cases in which it was acute, and in all these it was at the base.

#### HÆMOPHTYSIS TREATED BY THE INDUCTION OF PNEUMOTHORAX SO AS TO COLLAPSE THE LUNG.

Dr. Cayley<sup>9</sup> reports the case of a man of twenty-one years, a porter, admitted into the Middlesex Hospital for hæmoptysis: for some time past he had suffered from a slight cough but his health was otherwise very good, and the blood-spitting began only two days before admission. The feeble respiration, râles, and other signs detected in the left lung were attributed to the clogging of the organ with blood: the temperature was usually normal or subnormal in the morning, and rose to about 100° at night. For about three weeks the hæmorrhage persisted, and as life was evidently threatened by the loss of blood, it was decided after consultation to induce pneumothorax so as to cause collapse of the left lung and thus prevent the bleeding, which came probably from a pulmonary aneurism or an ulcerated vessel. The operation was accordingly done and a tube was inserted: during the night following the operation the patient spat up blood twice, four ounces and two ounces, but there was no return of the hæmorrhage: the patient died suddenly, apparently from syncope, five days after the operation.

The autopsy showed that the case was one of acute military tuberculosis with one or two small cavities of older date, and the blood came from a branch of the pulmonary artery communicating with one of these cavities. The cavity containing the clot was smooth walled, and showed no signs of any aneurismal sac.

<sup>6</sup> British Medical Journal, 1885, I, p. 278.

<sup>7</sup> Lancet, 1885, I, p. 1019.

<sup>8</sup> British Medical Journal, 1885, I, p. 126.

<sup>9</sup> Ibid., 1885, I, p. 991.

The nature of the case was such that, as it turned out, recovery was hopeless under any treatment. When the operation was done there was no special reason for suspecting that the case was one of acute tuberculosis; and, as regards the operation itself, Dr. Cayley thinks life was not sufficiently prolonged to allow a decision as to the direct effect of the procedure on the hemorrhage.

#### SEROUS EXPECTORATION AFTER TAPPING THE PLEURAL CAVITY.

Scriba<sup>10</sup> reports the case of a very anæmic young woman admitted into the hospital for general œdema coming on gradually after the middle period of pregnancy: premature labor was induced, but the œdema and dyspœia increased rather than diminished, the patient was transferred to the medical wards, and a very large left pleural effusion was diagnosed. On the following day, 1,600 ccm. of slightly turbid serous fluid was slowly evacuated through a small trocar without the use of suction; but almost immediately after the instrument was withdrawn, severe cough came on with the expectoration of a frothy, light yellow fluid, which soon ran in a nearly steady stream out of the mouth, and surpassed a litre in amount: the rattling in the chest could be heard at a distance. Collapse appeared, the fluid diminished in quantity, and a few hours later the patient died.

The autopsy showed that the lung was in no way wounded by the operation, tuberculosis of the pleura and peritoneum with a few old cheesy nodules in the left lung, pulmonary œdema, and a fibrinous coagulum in the left primary bronchus filling its lumen and extending downwards into the second and third divisions.

The author then reviews other similar recorded cases, and the explanations of the mechanism of the fatal œdema which have been put forward. The only theory which he thinks explains all the facts is that of Leichtenstern, which is based upon experiments of Cohnheim, showing that the permeability of the walls of blood-vessels is increased, when for any reason the blood current has been prevented from flowing through the vessels for some time, a condition which is met by the pulmonary capillaries in cases of large pleuritic effusion. As soon as the fluid is withdrawn and the lung expands, abundant serous transudation may occur; and of this there is greater danger when, as in the case under consideration, the patient is very anæmic and the action of the heart is feeble.

If the above views are correct, they enjoin upon us to be very careful to avoid the rapid withdrawal of pleuritic fluid in every case; and, in cases of marked anæmia or weak heart, to take away only a small quantity at any one time.

#### ANTIPYRIN IN PHTHISIS.<sup>11</sup>

To quote the opening paragraph of Dr. Holmd's paper: "For some years now I have had many consumptive patients under my care, in fact living under the same roof with myself, and the treatment of the febrile state in these persons has been the source of daily thought, indeed, I might say of daily anxiety. Those placed in a similar position to myself must have noticed what has struck me forcibly, namely, for what trivial causes the consumptive's temperature will rise. A little extra exertion, a political discussion, an attack

of indigestion, a slight fall on the ice which has caused neither pain nor apparent injury, an attack of toothache—any of these things, which to a person in health might mean nothing, often tends in the sensitive phthisical patient to start a degree of fever which it is frequently difficult to suppress. Should the pyrexia continue for two or three days, we are almost certain to discover signs in the lungs of some fresh mischief; perhaps a little softening is detected over an area that had begun to dry up, or crepitation manifests itself in a part of the affected lung, where, after careful examination, it had not been noticed before. This form, then, is the first and earliest symptom of lung change, and must, in my opinion, be immediately attacked." He then goes on to say that after eight months' use of antipyrin he finds it more useful in combating the pyrexia of phthisis than quinine, the salicyl compounds, digitalis, aconite, kairin and Warburg's tincture all put together. He gives the drug in 15–20 grain doses every three or four hours at first, and diminishes the frequency as the temperature falls. The drug causes very little if any disturbance, and seems clearly to be of service in the cases which are reported.

(The systematic treatment of the pyrexia of phthisis is coming to the foreground, and is likely to receive impetus in this country from Jaccoud's work on the Curability and Treatment of Pulmonary Phthisis, recently published in translation by D. Appleton & Co. Jaccoud recommends quinine and the salicyl compounds against fever, the drugs being given hypodermically if the stomach is irritable: antipyrin had not been discovered when his book was written, and seems to possess the great advantage of being much better tolerated by the stomach than are the older antipyretics.—*Rep.*)

### Reports of Societies.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting June 18, 1885.

#### OBSERVATIONS ON THE OPERATION FOR LACERATED PERINEUM, WITH DEMONSTRATIONS AND CASES.

DR. H. W. MITCHELL read a paper on this subject. Having briefly reviewed the anatomy of the female perineum and the effects likely to result from its rupture, he expressed his doubts as to a satisfactory repair of the injury spontaneously, and went on to say that when the parts were torn, the proper thing to do was to restore them to their original integrity, and that this was possible by means of a simple operation, which could be performed by any physician of ordinary skill. He first spoke of the preparatory treatment, and then described the common operation of denuding the surfaces of the lacerated tissues and uniting them by means of deep silver wire sutures. Formerly he had been in the habit, according to the general custom among surgeons, of drawing the wires through by means of a silk loop; but more recently he had adopted the plan of threading the needle directly with the silver wire, and he considered this in every way preferable. He made it a point always to insert the finger into the rectum as a guide when passing the sutures. He thought it well to employ as few sutures as would answer the purpose desired. He employed a

<sup>10</sup> *Deutsch. Arch. für klin. Med.*, 1875, Band xxxv, p. 329.  
<sup>11</sup> *Practitioner*, May, 1885, p. 391.

curved needle, and inserted and brought out the sutures through the skin at some little distance from the edges of the wound. Having secured the deep wire sutures by twisting them together with moderate tightness, he passed one or more superficial silk sutures to approximate the edges of the skin. The urine was drawn with a flexible catheter before the patient left the table.

As to the matter of antiseptics, he thought perfect cleanliness was all that was required in this operation. In five out of forty cases in which he had operated during the past fifteen months he had used carbolic water as a dressing; but in the other thirty-five had used no antiseptic whatever. He said that all the operations had been attended with complete success, and that union by first intention had resulted in every instance. The after-treatment consisted in keeping the parts scrupulously clean and the bowels confined for the first six days; the patient in the meanwhile living upon a light diet. On the sixth or seventh day the sutures were removed. In case there was also a laceration of the cervix requiring treatment, he operated on that at the same time as the perineum; the cervical sutures being allowed to remain until the eighth or ninth day. When the sutures had been removed the patient was permitted to get up; when she first did this it was sometimes found that there was a slight paresis of the lower extremities resulting from the want of action on the part of the muscles during the time that she was confined to bed. This usually lasted but a few hours, but in exceptional cases might remain for several days.

In all the forty cases referred to, it was the second-ary operation that was performed, and in nearly one half of the entire number there was laceration of the cervix upon which he operated also. It was his practice to sew up the cervix with the patient in Sims' position, and then to have her turned on her back for the perineal operation. In two of the cases the rupture of the perineum was associated with complete *prolapsed uteri*; one of the patients being seventy-six years of age, and the other sixty-five. In the case of the older of the two, before operating on the perineum he amputated the whole neck of the uterus, according to the method of Dr. Isaac E. Taylor; and in both instances a perfect result was obtained. One of the other cases operated on was that of a lady six months pregnant, who insisted on having the operation performed on account of the great discomfort which she experienced in consequence of the ruptured condition of the perineum, and when the ether was given her, the fetus in utero was also anesthetized, the effect of the drug remaining for several hours. This patient then went on to full term, and the new perineum stood the strain of the labor perfectly well. The most common cause of laceration of the perineum, Dr. Mitchell thought, was the incompetence and carelessness of midwives, who attend so many women of the lower classes in their confinement.

#### DISCUSSION.

DR. ALFRED C. POST said he thought it was wiser to keep the bowels open regularly after the operation, as it rendered the patient more comfortable and assisted in the satisfactory performance of the functions of the body generally. It was decidedly objectionable to have an accumulation in the bowels, such as would result from keeping them confined for six or

seven days, and he believed it was now the practise of the best gynaecologists to see that after the operation the bowels were opened every day. As to the operation which Dr. Mitchell had employed, it certainly seemed to have been very successful in his hands; but for himself he preferred the plan, which he had described before the Academy a short time ago, of simple incisions (without denuding the mucous membrane), and then bringing the parts together by means of two flaps, one looking upwards and the other down toward the perineum.

DR. MALCOLM McLEAN said that he was surprised to hear the author of the paper say that he had discarded the silk loop. He believed it was much preferable to use the latter, and this procedure was almost universally adopted among gynaecologists. At the present day the curved needle was decidedly antiquated. It was impossible to guide it with accuracy, and the short straight needle was used almost altogether in place of it. By elevating the parts it could always be inserted with perfect precision. Another point: when the sutures are inserted through skin as well as mucous membrane, a very serious amount of pain was almost invariably caused. Yet Dr. Mitchell had expressly stated in almost every instance in narrating his cases that the patient was free from pain after the operation, and he would like to know how he explained this.

DR. BARUCH said that he fully agreed with Dr. Post as to the advisability of keeping the bowels open. The old method of keeping them confined had now to a great extent been given up, and for this step in advance the profession was indebted to a gentleman of this city, Dr. Hanks. He also had the same objection to the curved needle that Dr. McLean had, namely, that it was impossible to guide it accurately. The author of the paper, however, certainly deserved credit for his attempt to simplify the operation as he had done, since it was highly desirable that every practitioner should feel himself capable of performing it whenever the occasion might arise. He was also glad to see that he condemned the doctrine that the perineum was in any sense a support to the uterus. On this subject he believed that Emmet's views were entirely correct. As to passing the sutures through the skin, he thought that this must necessarily be followed by more or less pain. It was like the operation of hemorrhoids before Allingham's method was adopted, when it was always requisite to use opium freely in the after-treatment. In Emmet's new operation for ruptured perineum all the sutures were within the line of the muco-cutaneous fold of the vulva, and it was followed by no pain whatever. While, however, Emmet's operation was, he believed, the best in many respects that had yet been devised, it was a difficult one to describe satisfactorily, and he feared, therefore, that it would never be as widely understood and become as popular as it deserved to be. In the operation employed by Dr. Mitchell very little of the rectocele seemed to be taken in, and while it was, no doubt, an excellent operation in comparatively recent cases, this, he thought, was a serious objection to it in many older ones. Still, the results in his hands, according to the reports which had been read, were very creditable to him. As to the discarding of the use of the silk loop, he could see no satisfactory reason for doing this.

DR. MITCHELL said in reply, that with the plan

which he had adopted, no inconvenience whatever was experienced from keeping the bowels confined. The night before operating he always ordered some efficient laxative, and in the morning this was followed by an enema. As the food taken during the days succeeding the operation was always of a very light character, there was consequently but little accumulation of fecal matter in the bowels. As to the reason why there was so little pain after his operations he could not say, but such was the fact; and he thought it was a mistake to suppose that the passage of the sutures through the integument necessarily gave rise to pain. In surgical procedures in other parts of the body it was very common to pass sutures through the skin, and yet in many of them this was not followed by any special pain. In regard to the curved needle he said that with the finger in the rectum he had found that its direction could be guided perfectly and without any difficulty, and he thought it was decidedly preferable to the straight needle. There was no necessity whatever for lifting up the parts with the tenaculum. When the silk loop was used in connection with the wire suture, a larger needle was required, and altogether he thought this procedure complicated the operation and made it more difficult. One great objection to Emmet's operation was, that it was not sufficiently simple, and his experience had shown that by this simpler one described in the paper, a torn perineum could be perfectly restored; which was the particular object in view.

DR. JOSEPH A. ANDREWS read a paper on

CONTAGIOUS CONJUNCTIVITIS.—ITS CAUSE, PREVENTION, AND TREATMENT.

He gave the report of a case of successful inoculation, made by himself, of the conjunctiva with a pure gonococcus culture of the ninth generation. It was not, however, in a healthy eye, the patient suffering from pannus and other troubles. Three weeks previously he had inoculated the conjunctiva of the same individual with a pure culture of a coccus found in healthy saliva, but with an entirely negative result. After the gonococcus inoculation, however, the eye presented a perfect picture of gonorrhoeal conjunctivitis.

Having given a *résumé* of the results obtained by other observers in similar experiments, he went on to speak of ophthalmia neonatorum. While the infection was often received directly from the vagina of the mother at the time of birth, he believed that more frequently it was contracted somewhat later and through other channels. It had been ascertained that normal lochial discharge did not produce blennorrhoea. When a child was the subject of the disease, there was danger of its infecting the whole household, and it was necessary that great care should be taken to avoid this. In speaking of granular conjunctivitis, he said that Sattler claimed to have produced this affection by inoculation; but in this he believed that he was probably mistaken. Personally he had not been able to find cori of any kind in over fifteen hundred cases in which he had made careful search for them. The secretion was probably the carrier of the contagion, but it required special conditions, such as are liable to result from overcrowding, improper diet and bad hygienic surroundings generally, for its development.

As ophthalmia neonatorum was sometimes contracted directly from the vaginal secretions, it was advisable

that the parts of the mother should be very thoroughly cleansed before the birth of the child. When there was reason to fear infection, the eyes of the infant should be washed with a saturated solution of boric acid, and a two per cent solution of nitrate of silver also applied. Credé's method of prophylactic instillation had been followed with excellent results. In addition to the two per cent nitrate of silver solution, he used a solution of salicylic acid. Up to 1880, when he first began the practise, the disease attacked no less than ten per cent of all the infants at the Leipzig lying-in hospital; but since this plan had been adopted there had been only about one case a year, out of from three to four hundred children born. Dr. Garrigues for several months had had a two per cent nitrate of silver solution applied to the eyes of all new-born infants in the maternity hospital on Blackwell's Island, and out of 351 children, had not a single case of the disease. He did not state in his report, however, whether any of the mothers were infected. In Dr. Mundé's service at the same institution the two per cent solution was used upon eighty children, without a single case of the disease; while in Dr. Murray's service, in which a one per cent solution of nitrate of silver was employed, ten or twelve out of fifty infants were attacked. It was claimed by Credé and others that one per cent solution was not sufficiently strong to prevent the affection. Post-natal infection, as he had said, was in his opinion more common than infection at birth, and it was derived from the mother through the agency of sponges, towels, etc. In every case, therefore, when there was danger of infection it was best to keep the child entirely away from the mother except at the time of nursing. Ophthalmia neonatorum was a disease which prevailed principally among the poorer classes, and he believed that it was the duty of physicians to warn dispensary patients and others of its danger as they had the opportunity.

Dr. Andrews then spoke of the treatment of purulent conjunctivitis. The first thing to do was to wash away any infecting material, and the second to render the conjunctival surface as nearly as possible aseptic. Injections should be used for several minutes at a time, after which a two or four per cent nitrate of silver should be applied. If the latter strength was employed, it was advisable to follow it with a solution of chloride of sodium, to neutralize it. Boracic acid and vaseline made an excellent dressing, and iced cloths are to be kept applied to the eyes. If there was much swelling of the eye, the outer canthus should be cut. Dr. Andrews exhibited an eye speculum he had devised, which was made hollow, so that by attaching to it a fountain syringe, irrigation could be practised in a very satisfactory way by means of it. A three per cent solution of carbolic acid could be used in the case of adults. From four to twelve per cent solutions of nitrate of silver might be required according to the urgency of the case.

—The Criminal Law Amendment Bill has passed through the House of Commons with amendments, which will doubtless be accepted by the Lords. The important clauses raise the minimum age of "consent" for females to sixteen years. Copulation with a girl between thirteen to sixteen, even if with consent, is now a misdemeanor; below thirteen is a rape, punishable as felony.

## TRANSACTIONS OF THE CHICAGO GYNECOLOGICAL SOCIETY.

W. W. JAGGARD, EDITOR.

REGULAR Meeting, Friday Evening, 19th June, 1885. The President, DR. H. P. MERRIMAN, in the chair.

I. PROFESSOR J. H. ETHERIDGE read a report of a case of

## A FÆTUS ENCLOSED IN ITS SISTER'S PLACENTA.

(*Fætus Compressus. Fætus Papyraceus.*) With exhibition of the specimen.

On 26th September, 1882, Mrs. T. J. B., 22 years old, of a nervous sanguine temperament, healthy, was delivered of a mature female child, after a normal labor of four hours duration.

During the delivery of the placenta, some abnormality was detectable, which proved to be a *fætus papyraceus*.

## THE OUTER SURFACE OF THE PLACENTA.

The outer surface of the placenta at once arrests attention. A deep furrow separates the two placenta, which are united, on their amniotic surface, by a series of compact white bands, discoverable only by pressing through the furrow. The large placenta constitutes about two-thirds of the entire mass. The smaller placenta is thin, flat and compact, being about one-third as thick as the larger one.

The placenta of the living child is normal throughout its extent. Cotyledons are well marked, the tufts and villi presenting normal microscopical characters. The placenta of the *fætus compressus*, in about nine-tenths of its extent, is whitish-yellow, and very firm. The whole thickness of this portion of the placenta, excepting its amniotic surface, presents one unbroken mass of fatty degeneration. The remaining one-tenth of the placenta presents a carneous appearance, evidently a transition stage between normal placenta and complete fatty destruction. Its cotyledon are emmassed and its tufts and villi solidified and the whole is interspersed with initial fatty depositions.

## THE FETAL SURFACE OF PLACENTA.

The two segments were wholly different at time of birth. The placenta of the living child presented a normal appearance. The placenta of the *fætus papyraceus* presented the appearance of a closed bladder, which, upon examination, was found to be an unruptured amnion, containing amniotic fluid and a fetus. The development of the *fætus compressus* corresponded to the third month. The cord of the *fætus papyraceus* was ten cm. longer than that of its fellow, and much thinner. The cord was inserted into the margin of the placenta, near the fully developed organ.

*Pathology.*—Among the causes, producing the death of the fetus, the following may be mentioned:

- (1) Faulty insertion of the cord, at the margin of the placenta, adjoining its fellow. (Kieselhausen).
- (2) Faulty structure of the cord; thin, twisted, or deficient in the jelly of Wharton. (C. Braun).
- (3) Diseases of the placenta.
- (4) Traumatism.
- (5) The implanting of the umbilical vessels too closely together, and arterial anastomosis.

*Literature.*—*Fætus papyraceus* is of seldom occurrence. A search through the library of the Surgeon General's office at Washington resulted in finding only five references to reports of similar cases.

## DISCUSSION.

DR. PHILIP ADOLPHUS thought that such cases were of more frequent occurrence than the remarks of the author of the paper would lead one to believe. In twin pregnancy, the death of one fetus before parturition was not infrequent.

PROFESSOR W. W. JAGGARD agreed with Dr. Adolphus that while such cases were rare, a more extended research into the literature of the subject would have revealed a much larger number of cases. While it was true that American and English text-books usually merely mentioned the fact of occurrence, German, French and Italian treatises devote a chapter to the subject. The last edition of *Schroeder* contained an excellent *résumé* of the literature. The case, reported and exhibited by Professor Etheridge, resembled in many points the case in the Pathological Museum of the Jena Lying-in Hospital, fully described by B. S. Schultze. This specimen showed the placenta of a mature fetus, and adjoining it a second egg, corresponding to the sixth week of pregnancy, with its own decidua and unruptured amnion. Professor Etheridge's case was chiefly interesting, as bearing upon a subject of theoretical importance, that is, superfecundation and superfetation. On *à priori* grounds, it was possible that superfetation could occur as late as the twelfth week of pregnancy, — when *decidua vera* and *reflexa* became united. Up to this time, it was possible that egg and spermatozoid might come in contact. Superfetation was also possible in cases of double uteri. Up to the present time, however, no case has been recorded which does not admit of a simpler explanation. There exists a great weight of evidence in favor of superfecundation. Mares give birth simultaneously to horse and mule foals; bitches, running during the period of rut with different breeds of dogs, throw young of different, so-called bastard forms, corresponding to the breeds of the male progenitors; the same is true of cats. A woman may give birth to twins, one of which is white, one black. The latter fact, however, does not necessarily demand for its explanation intercourse at or near the same time with a white and a black man, since in crossing races, the offspring may resemble either father or mother, or one child may resemble the male, the other the female progenitor.

There could be no reasonable doubt as to the accuracy of Professor Etheridge's diagnosis.

DR. JOHN BARTLETT had seen one case of *fætus compressus* in the Chicago Woman's Hospital, about four years ago. One fetus was mature, the other corresponded in development to the fifth month of pregnancy.

PROFESSOR BARTLETT referred to the contribution of Snellie and Mauriceau upon the subject.

DR. EDWARD WARREN SAWYER referred to the fact that in ectopic pregnancy no compression of the fetus was observed. He alluded to a case, in which he performed laparotomy three and one-half years ago. The fetus weighed eight pounds. There could be no question about superfetation in Professor Etheridge's case. Fetation by inclusion, might be considered as explanatory of many of the monstrosities which are so commonly seen.

PROFESSOR DANIEL T. NELSON thought it would be interesting to know how much force was necessary to compress the fetus as in Professor Etheridge's

specimen. He referred to the experiments of Professor Park, of the Massachusetts Agricultural College, in the determination of the expansile force of growing squashes and pumpkins.

The president wished to know whether the death of the fetus occurred before compression, or whether it resulted from that factor. The marginal insertion of the cord doubtless was an important etiological agent. When the uterus was in the pelvic cavity, compression was greater.

He referred to the fact that in twin pregnancies, it was unusual to find both children equally developed, and frequently the birth of one preceded that of the other by minutes, hours, and even days.

II. DR. HENRY T. BYFORD read a report of a case of

#### LEIO-MYOM OF THE VAGINA AND UTERUS.

The patient was a widow, about thirty-five years old. Was married ten years without becoming pregnant. She had no decided symptoms of disease except an occasional back-ache, some leucorrhœa. She was treated for uterine inflammation three years before, and no tumor was discovered. Since that time she has menstruated every two weeks. Catamenia usually lasted five days, and were normal as to quantity.

Twelve years ago she noticed a tumor about the size of a hickory nut just within the vagina. This swelling had since that time grown steadily, until its protrusion from the vagina, about the 12th of January, 1885, caused great inconvenience. Even at that time, the pain was promptly relieved by an opiate, administered by Dr. Doering. Two or three days subsequently, the tumor became black, swollen, and emitted a gangrenous odor. Slight septicæmia followed canterization with nitric and carbolic acids. The tumor was attached to the anterior wall of the vagina.

The tumor was subsequently crushed off, and the patient recovered. Indagation revealed a protuberance, about the size of a goose egg, upon the right anterior surface of the uterus, which was apparently a leio-myon.

The following points of interest are to be noted in connection with the case:—

- (1) The occurrence of both tumors in the same person.
- (2) The slow growth of the vaginal as compared with the uterine tumor.
- (3) Sloughing of the capsule, immediately after protrusion from the vagina, without impairment of the vitality of the tumor, proper.
- (4) Entire absence of sensitiveness to strong acids.
- (5) The production of a pedicle by ligaturing the proximal ends with a fine wire.
- (6) Sterility, antedating the discovery of the uterine tumor.
- (7) The influence of ergot upon the uterine tumor.

#### DISCUSSION.

DR. EDWARD WARREN SAWYER thought that the locality of the vaginal tumor was interesting but not unusual.

PROFESSOR DANIEL T. NELSON inquired whether or no fibroid tumors occurred by preference in the anterior vaginal wall.

He thought, as regards the operation, an elliptical incision around the base, and enucleation of the tumor, would have fulfilled the indications equally well.

The Society then adjourned.

## Recent Literature.

*Endemic Goitre, or Thyreocercle being the Thesis for the Degree of Doctor of Medicine of the University of Durham, for which the Gold Medal of the Year 1884 was awarded, together with subsequently added Footnotes and Appendix.* By WILLIAM ROBINSON, M.D. M.S. London: J. & A. CHURCHILL, 1885.

Until quite recently the thyroid gland has been supposed to have no important influence on the bodily functions. Since, however, Professor Kocher of Berne pointed out that in many cases the total extirpation of this gland was followed by serious disturbance of nutrition, and that this condition was closely allied to myxoedema, the thyroid body has come to be regarded as occupying a most important place in the animal economy, and to be in intimate relation with the central nervous system. Within the past two years there is probably no portion of the human body that has received more attention both from practical surgeons (Kocher, Reverdin, Bruns, Baumgarten, etc.) and experimental physiologists (Zesas, Credé, Sanquirico, Canalis, Schiff, Horsley, etc.) than the thyroid gland. The way the matter stands at present seems to be about as follows: the condition described long ago by Sir William Gull under the name of "a cretinoid state supervening in adult life in women," the "myxoedema" of Ord, the "cachexia strumipriva" of Kocher, and "cretinism" are identical affections. Destruction of the functions of the thyroid gland by disease is a cause of cretinism, and after its complete removal man becomes a cretin. To quote Mr. Horsley, the gland consists of two distinct parts: one glandular, secreting mucus, the other lymphoid, and hematogenous in function. Its excision is followed by profound blood changes; an increase in the amount of mucus in the tissues; increased activity of the muciparous glands; and the secretion of mucus by glands which usually yield none. Nervous symptoms also occur, namely, muscular tremors, rigidity and paresis, imbecility, and ultimately coma followed by death.

The statement has been made that goitre is increasing in this country, and it will be interesting to hear from American surgeons, — who have so far remained silent — upon this important question of the effect of extirpating the thyroid gland on the general system.

Dr. Robinson's thesis is admirably printed and gotten up, and he presents the subject in a clear and most interesting manner.

F. H. H.

*A Treatise on Abdominal Palpation as applied to Obstetrics, and Version by External Manipulation.* By A. PINARD. Translated by L. E. NEALE, M.D. 8vo., pp. 101. New York: J. H. Vail & Co. 1885.

This monograph is a translation of that part of the Classic work of Pinard, which relates to abdominal palpation as applied to obstetrics. After a short introduction on the determination of pregnancy by external examination, the various presentations and positions of the fetus are considered seriatim, and the methods of diagnosis by palpation carefully described with the aid of frequent illustrations. The pages on the diagnosis of multiple pregnancy are especially valuable. The sensations afforded by palpation in cases of hydramnium, of death and maceration of the fetus, and of hydatiform mole, also receive considerable attention.

In the second part of his work the author describes

the means to fix and engage the fetal head during the latter period of gestation, and the definite transformation of the presentations of the shoulder and of the breech into presentations of the vertex during the same period. After considering the history of cephalic version by external manipulations, the author clearly describes the method of operating and of subsequently maintaining the changed position and presentation by means of a properly fitted abdominal support. The propriety of correcting presentations of the breech into those of the head has never been acknowledged by obstetricians of note, with a few exceptions. Pinard, however, the weight of whose authority must be universally admitted, thoroughly believes in the procedure, except in certain specified cases. Experience has taught him that in breech presentation, cephalic version is possible before the engagement of the pelvic extremity, and is moreover not dangerous to either mother or child. Whereas, as is well known, the fetal mortality in cases of breech presentation is about ten per cent.

The value of manipulative skill in the diagnosis of pregnancy and of fetal position and presentation by external examination is appreciated by all who have seen in large foreign hospitals the success with which it is practiced; and Dr. Neale has now made it possible for all English speaking medical men to be thoroughly acquainted with the methods to be pursued and the objects to be accomplished. The few typographical errors will doubtless be corrected in a second edition.

*The Ear; its Anatomy, Physiology and Diseases: a Practical Treatise for the Use of Medical Students and Practitioners.* By CHARLES H. BURNETT, A. M., M.D. Professor of Otolaryngology in the Philadelphia Polyclinic, etc. Second Edition, Revised and Rewritten. Phila.: Henry C. Lea's Son & Co. 1881. 8vo, pp. 585.

This second edition differs from the first chiefly in the chapters on abnormalities of the Auricle, Otitis, Otorrhea, the Treatment of Chronic Otorrhea, the Classification of Aural Polypi, the Diagnosis, Etiology and Treatment of Aural Vertigo, which have been entirely re-written and which are made very satisfactory. In other subjects, however, there has been added here a little and there a little, and this with the application of the pruning knife to certain dead branches has brought the work thoroughly down to time, and it is now one of the best arranged and scientific of the many treatises on the ear, prominent, however, as heretofore or its anatomy and physiology. It is a thoroughly safe guide to the practitioner. The only possible criticism is that in attempting to do full justice to the literature of some of his subjects the author has been possibly a little too encyclopaedic in his treatment for a practical treatise.

— Dr. Hermann v. Boeck, Professor of Pharmacology in Munich, has died at the age of forty-two. Also the death is announced, at the age of forty-six, of the well-known physician for children's diseases in Budapest, Dr. Faldus.

— Dr. Partington after reading of the wholesale withdrawal from the International Medical Congress, as at present governed, was heard to remark sententiously, that he feared the congress was likely to be merely a sexual one.

## Medical and Surgical Journal.

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### SURGERY OF THE LUNGS.

MORE than two years since (March 15th, 1883), the JOURNAL published a letter from Dr. G. L. Walton, written from Berlin, giving some details of experiments upon animals — rabbits, swine, dogs and cows — in resection of portions of lung. Dr. Black had previously read a paper before a meeting of the German Surgical Congress upon the subject, and when Dr. Walton met him he was exhibiting his results at Virchow's laboratory. These results upon animals had been quite successful, and though performed without very strict antiseptic precautions, and without resection of the ribs, had proved safe in most cases. The difference between such operations upon animals and upon man, upon healthy and upon diseased lungs, was dwelt upon by those present at Virchow's laboratory, but Dr. Black was very sanguine, and not long after operated upon the lung of a young woman, with a fatal result. The lung was found to have been healthy, a prosection was instituted, and the operator committed suicide.

We are reminded of these occurrences by the receipt of an essay in French on the "Surgery of the Lung in non-traumatic Affections," by Dr. N. True of Lyons, in which, by the way, the credit of Dr. Walton's communication is given to the *Edinburgh Medical Journal*. The writer considers his subject under the heads of pneumectomy (resection), pneumotomy (incision), and intra-pulmonary injections. He has gone over the literature of the subject pretty thoroughly on the ground that the advances in antiseptic surgery of recent years and the comparative impunity with which other greater cavities are opened and other important organs are handled, makes a revision of experience and teaching upon this question desirable.

The only reported instances of resection of lung, beside Black's ill-fated case already referred to, are two by Krölein of Zurich, upon tuberculous subjects, one of whom died nine days and the other a few hours after the operation; two by Ruggi, of Bologna, also upon tuberculous subjects, one apex in each case being affected, the first of which died on the ninth day of carbolic poisoning, and the second after thirty-six hours,

the lung in this case having been closely adherent to the plura; one case by Dr. Milton of Georgia, who, after resecting two carious ribs, removed two-thirds of one lobe of the right lung, for what affection is not stated, this patient lived four months; Krönlén and Weinleucht have each removed portions of lung involved in tumors of the chest wall, the former with a successful, the latter with a speedy fatal issue.

Bioudi gives the following *résumé* of his operations upon animals:

	Operations.	Success.
Extirpation of the right lung	23	12
" " left lung	34	18
" " both apices	3	3
" " middle lobe	1	1
" " lower lobe	1	1

Dr. True arrives at the judicious general conclusions in regard to pneumectomy that a partial or total resection, performed antiseptically, is generally supported by most animals and is compatible with life: that applied to man in the treatment of tuberculosis the operation has hitherto given deplorable results; that directed against secondary cancer, the affection of the lung being superficial and circumscribed it may be useful and less dangerous.

Pneumotomy, with and without drainage, a procedure of a very respectable antiquity, is considered as applied to (a) simple abscesses and bronchiectasies: (b) to tuberculous abscesses: (c) to pulmonary gangrenes: (d) to hydatid cysts: (e) to foreign bodies. A large number of observations are cited under these various heads, and the general conclusions are reached that incision of the lung, for well determined cases deserves a recognized place in surgical practise, and may be regarded as advantageous (a) in certain abscesses of various origin entailing grave phenomena and whose topography is well established: (b) in circumscribed gangrene producing general infection the situation of which can be made out: (c) in putrid bronchitis when severe and localized: (d) in rare forms of limited tuberculosis accompanied by exhausting septic infection: (e) in hydatid cysts of large volume without spontaneous cure and resisting other methods: (f) in cases of intra-pulmonary foreign bodies not amenable to the usual manipulations and giving rise to inflammatory disturbances.

Exploratory punctures, when made carefully, are harmless and often give valuable indications for pneumotomy: pleural adhesions are not always indispensable, but are a favorable condition, and their absence in certain cases should be a formal contra-indication to interference; the lancet may be used, but the thermocautery, which is less dangerous, should be generally preferred; resection of the ribs ought to be more generally practised, especially with large pulmonary cavities, drainage and antiseptic washing-out are always useful and often necessary.

In regard to intra-pulmonary injections, Dr. True concludes from his review of the literature of the subject, that antiseptic injections into cavities without pneumotomy do not promise well; injections into the pulmonary parenchyma are well borne both by man

and animals if carefully administered with but slightly irritating liquids in moderate doses; intra-parenchymatous injections in tuberculous subjects neither aggravate the local condition nor arrest the course of the pulmonary lesions, and in some cases seem to have produced a slight amelioration of the symptoms; various regions of the chest wall may be traversed, but the sub-clavicular and the axillary are the safest and handiest.

## THE ARGUMENT AS TO CONSANGUINEOUS MARRIAGES FROM THE LOWER ANIMALS.

THE important question which is the subject of a contribution on another page of the JOURNAL, is one which in the human subject must always be difficult of solution, on account of the many complicating circumstances which are present in every case of consanguineous marriage, and because of the impossibility of controlling the experiments. For this reason particular interest attaches to the study of the effects of inbreeding in animals. The objection against analogies so drawn, that animals coupled by breeders are selected for their freedom from defects and are therefore not fairly representative of what may be expected from human unions, is faulty for the reason that as bearing on the influence of consanguinity it is just those cases when all extraneous influences as those of morbid inheritance are shut out that give the best opportunity for judging fairly of the effect of consanguinity as a factor.

The opinion of Darwin is well known, that all beings, animal and vegetable, profit from an occasional cross with individuals not kindred in origin. There can be no doubt in any mind that when once taint or degeneration has begun to develop in an animal the only salvation for the offspring of such an individual lies in the obliteration or mitigation of the defect through the admixture of a blood free from any similar imperfections, such a result being attained with the greatest certainty in an individual having no kinship with the one affected. The chance in nature that animals and plants by continually uniting with individuals near, by propinquity and relationship, will fail to obliterate, and will in fact intensify any incipient abnormality, is so great that nature has provided, notably in the great order of orchids, for a system of cross fertilization by the mediation of insects. Yet in some variety of orchids and in many other plants self-fertilization is the rule. Incestuous unions among animals in a natural state are by no means uncommon.

When through the intelligent selection of the stock-breeders the animals brought together are both perfect specimens, even though closely related, the offspring is not only free from deterioration, but often presents an intensification of the good points of his progenitors. This was, in fact, the means by which Bates, Bakewell, the brothers Collings, and other famous English breeders developed some of the most remarkable breeds of cattle.

The criticism has been made by some writers that those various created breeds of animals are, after all, abnormalities — "perfect pathological specimens," as Mitchell puts it — not so useful to themselves as their less highly bred fellows. Of course various points may be selected for which to breed, for instance, either wool or flesh in sheep, draught or speed in horses. An excessive development of fat, as in a prize pig, may impair not only the physical symmetry, but the power of locomotion and of procreation. But that animals are necessarily deteriorated by being bred for some particular point is by no means true. The most eminent authorities agree that for endurance of work no horse can beat the thoroughbred.

There is, we are aware, still a dispute among cattle-raisers as to the desirability of long-continued in-and-in breeding, some claiming that such animals will sooner or later "run out" unless crossed. Into this controversy we do not propose to enter. We will simply state that it has been the custom of many breeders to mate animals which presented the desired qualities, irrespective of what is considered the accident of their relationship. Moreover, as importers often start with a single pair, the strain is procreated without any outside intermixture, as is done by Price in the case of his excellent breed of Herefords. This breeder did not go beyond his own herd for a bull or a cow for forty years. Of course, when any organ or function in the stock is becoming developed at the too great expense of the others, the in-and-in breeder, like any other, will find it necessary to reinforce the defective side, and a cross becomes necessary, simply because the desired variation can no longer be found in the same family.

The most important point to be borne in mind in considering the results of in-breeding in animals is that the closeness of the unions is out of all comparison with that attained, or by any possibility attainable, in the human subject. The long period of childhood in man, to say nothing of moral and social considerations, would prevent his ever being united in such closeness of consanguinity as that in which animals are constantly mated. The child of first cousins has 25 per cent of the blood of his parent's common ancestor. The child of brother and sister has 50 per cent. The man who commits incest with his own daughter can transmit to the child of such a union only 75 per cent of his blood. Yet the herd books are full of cases of animals having 50 to 75 per cent of the blood of progenitor. The great majority of the descendants of the noted Jersey bull, St. Helier, have more than 50 per cent of his blood, several have 75 per cent, and one has 87½ per cent. Huth records that the bull Bolingbroke was mated with his half-sister Phoenix and produced the bull Favorite. Favorite mated with his mother, sired the cow Phoenix (26). He was then put successively to his daughter, daughter's daughter, and daughter's daughter's daughter, he being the sire in each case. This gave a cow which had no less than 93¾ per cent

of Favorite's blood. She was put to a bull having 62 per cent of Favorite, and the offspring was Restless, an eminent breeding cow.

The history of the Jersey breed, formed on a small island no larger than a western farm, and kept rigidly from all foreign mixture, is well known to all. This in-breeding was directed to one end, namely the increase of the butter yield, and while a fair production from a good average cow is four pounds of butter per week, a Jersey cow has recently produced more than ten times that weight of butter in seven days. Of course such a forcing of one function is attended with risk, but who will say that as a whole the purest specimens of the Jersey breed are lacking in intelligence, health, or fertility?

Mr. Campbell Brown, recently writing in regard to the enormous proportion (some 40 per cent) of the class of 230 trotting horses which are directly descended from one horse, Rysdyk's Hambletonian, and speaking as a disbeliever in in-and-in breeding, says that the above horse was not himself highly in-bred, having but 25 per cent of the blood of another great stallion, and adds, that this is "a degree of in-breeding to which there can hardly be rational objection." This per cent is precisely that which first cousins transmit to their children of the blood of their common ancestor. Whether then we hold with the one, and that a large and growing school of stock-raisers, that the closest incestuous breeding of animals may be practised for many successive generations without evil results, or whether we adopt the entirely conservative view that at least the lower degrees of in-breeding, involving a duplication of blood to the extent only of 25 per cent, are to be safely practised, the inference from the analogy of the lower animals would seem to be that in the human species an occasional union between first or second cousins is likely, so far as concerns the single fact of consanguinity, to give rise to no deleterious results.

#### THE PRESENT STATE OF MEDICAL EDUCATION IN THE UNITED STATES.

MEDICAL education is so frequent a topic for discussion in medical journals, that one must feel sure that he has something worth saying if he expects to find a reader for anything he dares to inflict upon his medical brethren. But though discussed so often by medical men among themselves it is not often treated as a subject of general public interest in periodicals addressed to general readers. The last number of the *Popular Science Monthly* has an article on the present condition of Medical Education, which treats the subject rather from a general educational than from a strictly professional standpoint, and though the author, Dr. William Gilman Thompson, has little to say that is unknown to the profession, his method of presenting the subject is worthy of repetition and consideration. He considers that public sentiment and action are aroused in regard to all manner of sanitary and curative measures. Pop-

ular works abound upon every medical topic. The germ theory has given a great impetus to popular medicine. The germ appeals to the average mind; it is something tangible which may be hunted down, and held directly responsible for so much damage. Much of this popular medical talk is the result of an earnest desire to learn to alleviate the growing evils of heredity and environment, especially in over-crowded cities. There is a wide-spread popular interest in the training of nurses, in the establishment of diet kitchens, and instruction in "first aid to the injured."

All these activities, directed toward improving the public health and alleviating sickness and suffering, are most gratifying and commendable, and call for increasing thoroughness in methods of educating physicians, for, without the coöperation of the public with scientific men who devote their lives to the study of these subjects, much benevolent energy as well as time and expense are wasted or misapplied. Is it not clearly of vital moment that the public for its own protection should see to it, by legislation or other means, that the medical schools of this country are of the highest order? A dozen well-trained and properly qualified physicians will be of vastly more benefit anywhere than a hundred "M.D.'s" who have slipped through some of our so-called medical "colleges" in the easy manner that is still quite possible. It is disgraceful, and yet it happens constantly, that men are graduated by prominent medical schools or colleges in this country without ever having listened to an abnormal heart-sound, seen a case of measles, or been present at a confinement. "But," it is asked, "why should the general public take any interest in medical education? Why not let doctors manage their own 'shops,' as they always have done, unaided by public support?"

The answer is that, so long as a medical college is dependent entirely upon the fees of its students for support, the highest educational good cannot be attained. The question concerns endowment, and the statement of a few facts will demonstrate this need.

With our present population of fifty millions we have eighty-seven medical schools (the irregular schools are not included in this enumeration). Of these schools thirty-nine have been opened within fifteen years, and twenty-one within five years. With them are associated 1,300 instructors and over 10,000 students, and about 3,600 new doctors are annually "turned loose on the community."

Forty-six per cent of these schools offer only a two years' course, and practical work is for the most part optional. A little dissection, a thesis and examinations upon the lectures are all that is required in many colleges, before receiving a diploma. There are fortunately a few colleges where a much higher standing is required. The reason why so many of our students annually go abroad to Paris, Berlin and Vienna is that they can join small classes where they can practically demonstrate every fact for themselves under the guidance of an instructor.

But practical work means increased expense. There

needs to be laboratories for chemical, physiological, anatomical and pathological research, rooms for photography and for the reception and treatment of patients at clinics. Increased expenses mean higher charges with the risk of seeing students leave for cheaper and easier colleges. Thus lack of endowment is a check upon all growth.

General Eaton, the Commissioner of Education, strongly advises that every medical school or college, be required by law to procure forthwith an endowment of not less than \$300,000. A certain amount of endowment required by law would prevent the formation of new medical colleges without proper laboratories, apparatus, or facilities of any kind. To-day the value of income-bearing funds of the eighty-seven medical colleges does not exceed \$350,000, with an annual income of about \$20,000. The precarious footing on which these institutions stand is to be inferred from the fact that fifty-one medical schools and colleges have ceased to exist within a century.

It is a grave misfortune that so many medical colleges now exist, for it is a farce to attempt to educate medical students away from the hospitals and dispensaries which only the largest cities furnish in abundance. The tendency to-day in all branches of education, is more and more toward placing practical work and personal observation before tradition and theoretical instruction. Medical education should not be left behind in facilities.

The article is a timely one, and in most respects a wise one, but the difficulty is but partly told when the lack of endowments, or the need of State examinations, which our author also mentions, is specified.

There is a deeper reason in the wide-spread belief that so much study is superfluous. There is no longer any public opinion which compels a man to fit himself for any duty. The old time apprenticeship is not demanded for the artisan, and if men are too often only anxious to select that school which will allow them in the shortest time to earn their living as physicians, the public are only too ready to look with favor on the young man who by some trick has gained a diploma in a shorter time than even the short time required.

## Miscellany.

### THE DISSENSIONS IN AMERICA.

THE present medical situation in the United States has received less attention on this side the water than it deserves. But we may assure our American readers that all here who have mastered the question sympathize most deeply with them in the trouble that has befallen them. A disagreement like the present is, for many reasons, taken more to heart by our American kinsman than it would be in England, assuming for the moment such a schism to be possible here. The American temperament differs perceptibly from ours.

It is less insular and phlegmatic, more sensitive, we fancy, to the opinion of other countries, more concerned to make a good appearance before the world. Then the position of the medical profession in America is somewhat different from that which it holds in this country. Here we take a comparatively inferior place in the social hierarchy; we are over-shadowed by estates and professions of higher importance and prestige in the nation's estimate. Our organization too is more oligarchical; there is more reverence amongst us for authority. Our leaders do lead, and if they are unanimous in any undertaking, as in the case of the London Congress, being able to count on the support of Royalty, and the City, and South Kensington, and other depositories of power, they can afford to be indifferent to the support of the mere privates in their army. Even if the Editor of the *British Medical Journal* and all his Council had made up their minds to control the London Congress or to wreck it, they would only have made themselves ridiculous. But in the United States the position of the profession is entirely different. There is nothing to overshadow it there. It holds a position as important and honorable in the State as that of any other calling; so that an International Medical Congress in America may be expected to enjoy a higher dignity from a national point of view than it can claim in older countries; but, at the same time, it must depend far more largely for its ceremonial success on the harmonious co-operation of the medical profession itself. Now in the United States, the organization of the profession is purely democratic; there is no common link like that of our Royal Colleges, no recognized headship like that of our President of the College of Physicians, or our President of the College of Surgeons. According to the very political theory on which the State is founded, every man has as good a right to lead as any other, if he can only get that right admitted by his fellows, and for that purpose one vote is as good as another. Distinction in science and reputation abroad supply no reason to a practitioner in Texas or Colorado why he should follow a Wendell Holmes or a Weir Mitchell, in preference to a Shoemaker or a Beverly Cole. Hence a revolt of the "rump" in the United States threatens to prove a much more disastrous affair than it would be in England, and hence we especially ask our readers' sympathy for those well and widely known American practitioners, whose title to lead their profession is admitted everywhere except in the ruder and remoter States of their own country.

We have had an opportunity of seeing several letters from distinguished American practitioners, and they all concur in expressing the most bitter grief and disappointment at the pass to which their profession has been brought. In these letters we have met with scarcely one word of anger against the dissidents who have rudely torn up the first programme of the Congress. Indeed, if we may say so without impertinence, the spirit in which the "leaders" of the American profession, for we still venture to call them so, have met the recent crisis is one which reflects the highest possible credit upon them. We hardly know which to praise most, their patient suspension of action until the Chicago meeting had confirmed the spirit of the proceedings of the meeting at New Orleans, or their swift and unanimous protest and withdrawal from the Congress when definite action was at length called for. The only hope for the Congress — the only possibility

of maintaining the dignity of the profession — lay in such firm and united action on their part, and the effect of this action has been so favorable that there already appears to be a much more hopeful feeling in the States as to the prospects of a peace with honor. The organizers of the revolt are meanwhile making frantic efforts to prevent further resignations, and are even said to contemplate throwing over Dr. Shoemaker, on the score of his supposed unpopularity. But we may take it that no concessions on their part will be accepted short of unconditional surrender and full recognition of the authority and acts of the original Committee. These are the essential preliminaries to the holding of any International Congress at all, and every day increases the prospect of their general acceptance. The sooner they are accepted the better. There will then be still two years in which to bury the hatchet, two years in which to prepare a Congress which shall "whip creation." We had all made up our minds for that, and shall be disappointed with anything less — *The Medical Times and Gazette*.

#### GASTROSTOMY IN LEYDEN.

In the *Lancet*, (August 8th), we find an extract from notes of two interesting cases in which gastrostomy was performed by Professor van Iterson of Leyden. The first case was that of a gentleman, aged fifty, who had carcinoma of the œsophagus, and who had been unable to swallow any food for several days before the operation, and was consequently reduced to a state of great emaciation and debility. The abdominal wall was opened and the stomach fastened to it, arrangements being made for supporting life by means of nutrient enemata until it should be thought safe to open the stomach. Collapse, however, came on shortly after the operation, and death supervened. The Professor says that if he had another similar case he would open the stomach at a single operation. The second case was more satisfactory, and was that of a painter, aged fifty-seven, who suffered from a circumscribed tumor affecting the supra-scapular region, the neck, pharynx, œsophagus and larynx. When seen in July, 1884, he had had difficulty in swallowing for about a year, the last four months of which time he had been unable to take any solid food. A small bougie (No 27 Charrière) was with great difficulty passed through the stricture. The first part of the operation was performed on the 16th of July under an anæsthetic, with antiseptic, but without spray, and consisted in opening the abdominal wall, lifting aside the liver, seizing the wall of the stomach as high up as possible, and attaching it with ligatures very carefully to the abdominal wound. This was dressed with powdered iodoform and salicylic wool. The patient was supported by nutrient peptonised enemata for six days, when an opening was made in the stomach with the galvanocautery, sufficient to admit the end of a three-quarter centimetre India rubber tube; the other end of this was provided with a funnel. At first, liquid nourishment was administered through this; then solid food was chewed in the mouth and spat into the funnel, the India rubber tube being thus an artificial œsophagus. The patient expressed himself as well satisfied by this method of feeding. He left the hospital three months after the operation. Two months later (November) he re-

turned, complaining of dyspnoea from obstruction of the larynx. Tracheotomy was performed, and a month later it was noted that his daily nourishment consisted of five slices of bread, two eggs, one cup of soup, one beer-glass of port wine, one ounce of raw beefsteak with potatoes, greens, and rice, and one litre of milk. Two months later, or eight months after the operation, the malignant tumour increased considerably, and hæmorrhage occurred, which in a few days induced a fatal termination of the case. At the autopsy the stomach was found attached to the abdominal wall for about the size of the surface of a dollar. The fistula was 70 millimetres to the left of the cardia, 240 from the pylorus, and 40 from the insertion of the omentum. The mucous membrane was pale, but healthy; above, the stomach was found adherent to the diaphragm. Professor van Iterson remarks that few cases have lived eight months and a week after this operation. He agrees with the advice given by other surgeons that the opening into the stomach should be as far as possible from the pylorus. In both cases he was able by means of a sharp hook to bring the most suitable portion of the stomach to the wound.

## Correspondence.

### SPONDYLOLISTHETIC PELVIS.

BOSTON, AUG. 23, 1885.

MR. EDITOR,—In my article on "Spondylolisthetic Pelvis" published in the last number of the *Journal*, p. 172, seventh line from the foot of the column, "Parderbörner's case" should read "the Paderbörner case."

Since this paper was written, I have come across an extremely interesting and exhaustive article on the subject by Neugebauer.<sup>1</sup> In addition to the nine cases collected by Schroeder, Neugebauer reports twenty-two other cases, seven of which were confirmed by autopsy, the remaining fifteen resting on clinical observation. One of these occurred in San Francisco and was reported by Blaque.

As a result of his investigations Neugebauer states,<sup>2</sup> "Spondylolisthesis is to be looked upon as a surgical deformity which though occasionally developed where there has been a congenital anomaly in the ossification of one of the vertebrae "is almost always of traumatic origin."

Very truly yours,

F. H. LOMBARD, M.D.

### THE COUVEUSE AND GAVAGE.

MR. EDITOR,—If the French nation, in its frequent foreign wars and internal revolutions, has shown itself indifferent to the waste of human life, in its more pacific state, when its destructive passions are not aroused, it seems to manifest a remarkable interest in conserving it.

Attenuating circumstances serve as a plea for the mitigation of the death penalty in most of the capital cases, no matter how great the enormity of the crime, as though there was the greatest reluctance on the part of their fellow countrymen to put out of existence even its most worthless and dangerous members.

A recent exhibition before the Academy of Medicine in Paris of the successful results of certain experiments, made by one of its members, will perhaps serve to substantiate

this statement. In the French journal "*Le Temps*" of the 23rd of July an article under the head of "*Deux phénomènes*" is published, of which the following is a hasty translation.

"This is not the first time that success has attended the attempt to preserve the lives of infants born prematurely; but it must be acknowledged that M. Tarnier has made these attempts much more rational and efficacious by the employment of two new methods, the incubator [*couveuse*] and what he calls *gavage* or artificial feeding.

"The incubator takes the place of the thick covering of cotton batting in which it was usual to wrap the frail being too early brought to light. Although in this way the surface was warmly protected from the surrounding air, its too low temperature would frequently irritate its delicate lungs. The incubator is maintained at a uniform temperature of from 85° to 95° Fahr. The artificial nourishment is administered by means of a rubber tube provided with a glass vessel, into which the food is poured; the best is of course the mother's milk. This tube is passed through the œsophagus into the stomach. As soon as the liquid poured into the glass at the end of the tube has been delivered into the stomach the instrument must be immediately withdrawn.

"M. Tarnier exhibited to the members present two nurslings, born six weeks ago, and which, having begun to feed from the breast, may be considered as saved, or at least as having survived the most dangerous period of their growth.

"During the first three days, eight grammes of milk were given them every hour. On the fourth day they were fed every three hours with sixteen grammes. In this way the feeding has been continued, increasing gradually the amount of food and the intervals between its administration. These infants were born in all probability near the commencement of the sixth month or the end of the fifth. One weighed at birth 1,020 grammes; it fell off to 850; it now weighs 955 grammes. It was red, and its body transparent and extremely limp. The other, a little stronger, weighed 1,100 grammes; it now weighs 1,500 grammes. M. Tarnier, with a just pride, exhibits his nurslings to the Academy. Spite of their incredible diminutiveness (they may easily be held in the hollow of the two hands), they manifest their vitality by their movements and cries."

H. E. D.

Malaga, July 23, 1885.

### MEDICAL STUDY IN GERMANY.

VIENNA, July 17, 1885.

MR. EDITOR,—It is not a particularly grateful task to compare the advantages offered by Berlin and Vienna respectively to foreign students: yet it is of great importance for physicians who go abroad to study, to know where they can employ their time and money to the best advantage.

There is no little feeling in the two centres as to the relative merits of the respective schools, and it would not be too much to say that the Berliners, having acquired military and political supremacy in Germany and Europe, are disposed to take it for granted that scientific hegemony belongs to them also, and to slightly resent assumption of equality elsewhere.

Naturally enough this feeling does not tend to increase the comfort and equanimity of the professional world, and there is considerable acerbity of feeling discoverable, not only in Vienna, but in other German cities.

As Vienna is the only city, however, which as a whole can compare with Berlin as a medical centre, it is the only one which seems to inspire any jealousy, or which it is necessary to damn with faint praise. And so one hears frequently in Berlin that Vienna has lost ground, that their scientific and medical men do not work there hard enough, that they spend too much time in the cafes, that they only work for money and not for science, that living in Vienna is extremely dear, etc., etc.

The imperial government and the state and city are all doing their utmost to make Berlin the medical centre, not only of Germany, but of the world; money is really lav-

<sup>1</sup> *Zur Casuistik des sogenannten Spondylolisthetischen Beckens*, Archiv. für Gynäk. Bd. XXX, 1885.

<sup>2</sup> *Loc. cit.*

ished on the new hospitals, and the inner furnishing and arrangements are superb.

It is no secret that this extravagant (for Germany) support of medical institutions has its political reasons, nothing less than the desire and intention on the part of the authorities, to make Berlin the centre of intellectual and professional activity for all Germany, a centre to which all the youth desirous of the highest education shall be drawn, and where they shall learn to know and respect the power and majesty of the new Empire. And precisely because in medicine, if in nothing else, the superiority of the new Empire is not so evident as could be wished, the above extraordinary exertions are made to assist it. Need I say that the desires of the government are ably seconded by the profession? And as virtue is not always rewarded in this world it is satisfactory to know that a stream of patients seeking consultations and laden with fees comes from all Germany and even from America: much of this used to go to Vienna, much that would be welcome in Berlin yet goes to Vienna.—“*hinc ille lacryma.*”

Now in respect to the foreign physicians the case is something like this; while recognizing the great distinction of the Berlin teachers, and the fact that much can be got as a matter of courtesy there, which must be paid for in Vienna, yet they flock to the latter place. There they can concentrate their energy and work all day in one place, whereas in Berlin the hospitals lie so far apart that men get tired in moving from one to the other, and lose time by having to wait for hours with nothing in particular to do.

This is not only the case with those who are studying several specialties, and a little of everything, as most of the recent graduates do, taking up whatever they have not learned well at home; it is also largely true of those who are working on one subject, for the Berliners have not taken the pains so to arrange their special courses that they do not conflict as to time.

So that after a few weeks, or a couple of months in Berlin, most of the American physicians find their way to Vienna, and when they get settled and at work they stay as long as they can. And yet a course of study in Berlin is absolutely necessary to a complete study of almost any subject. Nowhere else can surgery be seen so thoroughly antiseptic, in principle and detail, and such facilities for observing not only the operations but all the dressings; for the latter are done not in the wards but in the operating room, or in a place arranged on purpose. It seems amusing at first, for instance to see Professor Hahn, at the new hospital at Friedrichshain, operating, or overseeing the dressing of wounds, with rubber boots on, while the tiled floor is always wet, being actually flushed off with a hose after each operation.

While speaking of Professor Hahn I will mention a series of cases to which I think not much attention has been called at home, and that is of cases of ulceration of the rectum, occurring usually, but not always, in women, not syphilitic, or tuberculous or cancerous, but yet progressive, incurable, and always fatal by marasmus, unless cured in the early stages by complete destruction of the diseased surfaces.

I saw Professor Hahn operate for such a case in a young woman, a prostitute, by thorough use of Papoulin's and the actual cautery. I also recently saw an autopsy on a similar case in Vienna.

The ulcers look like chancroids, but are not autoinfectious, and so far as is known after much experiment and reflection are supposed by Professor Hahn to be of gonorrhoeal origin, in which opinion he is held in Vienna to be correct.

Hahn has had some thirty or forty cases, as since his first article on the subject many have been sent to him; all modes of treatment have been tried and found equally useless, except as above mentioned; probably many cases considered as syphilitic disease of the rectum are really of this nature. In many of the cases it could not be shown, and in some it seemed hard to believe, that there was any introduction of the gonorrhoeal virus other than accidental, that is by secretions flowing down over the anus. In most, however, a direct infection was admitted.

In regard to the other disparagements of Vienna mentioned above, they are simply erroneous, at least as far as Americans are concerned.

I dare say that a roosting-place such as will satisfy some students, and a chance to live on certain kinds of food, can be found cheaper in Berlin than in Vienna, but for men who wish to live as well as they do at home, in good rooms and good beds, eating good food, and plenty of hot meat, Vienna is just as cheap. At least I found it so, and I could get more comfort for less money here than in Berlin.

In regard to the medical men, it would be fair to say that the assistants through much teaching neglect original investigation, and that when they teach they expect to be paid for it. Now this is quite natural; the demand for instruction has produced a supply of excellent teachers, who are hard workers, usually speak English and French, as well as German, and possibly one of the other languages. They make no claims to be investigators, in laboratories; they are clinical workers and clinical teachers. There are also investigators in Vienna, but the foreigners see little of them, and on the whole probably they do not get so much support and encouragement as in Berlin. But as an example of patient exhaustive scientific work I will mention Professor Kundrat's studies concerning congenital malformations and monstrosities, patient labor going on now for years, with most elaborate dissections, descriptions, drawings by himself, and publication. And so one who looks for it finds the original work, but most "care for none of these things."

In regard to fees for instruction, to me they seem eminently proper. To be sure, in the smaller German cities, in England, and largely in Berlin, also, a man who is polite and knows how to ask for and receive a courtesy can get a great deal of clinical instruction for nothing, and at first it is rather a shock to see that he is expected to pay for the same in Vienna. But where there are two or three hundred foreign physicians, all seeking clinical privileges, and many hardly willing to be civil in their manner of asking, patience soon ceases to be a virtue. The demand on the time of the assistants and docents is so great, that either they must close their doors to applicants, or make their clinical instruction a matter of business. As a matter of fact, Americans prefer to ask for what they want, get it promptly, and pay for it, rather than to be always asking for favors, receiving courtesies, and knowing that they are a source of inconvenience to the donor. That, however, also in Vienna a spirit of professional courtesy exists, and of kind instruction of foreigners, clinically, gratis, if they know the language and come at proper times, I cheerfully and gratefully bear witness.

The work of the German Imperial Health Office is too celebrated to need comment, except the wish that we could have such work done by such a body at home.

There is an idea prevalent in Berlin, perhaps not unnatural, that not much is known or taught about bacilli and micrococci, of any great value, outside of that city, and any divergence of opinion from that of the great Koch is simply rank heresy. There is, however, a decided scepticism in some quarters on the question of the comma bacillus as the efficient cause of cholera, of which I will say more in another communication, merely saying here that it is rumored that the late cholera commission in Rome, of which the proceedings are not yet published, was not as much disposed to accept Koch's views as had been expected. The short courses on cholera in the Health Office will no longer be held by Koch in person, I believe, as he has undertaken the duties of professor in the university, teaching bacteriology.

It was with some surprise that I found more opportunity to get courses and practical work on bacteria in Vienna than in Berlin. There are at least three laboratories and moreover two courses of lectures, without laboratory work, open to foreign students in Vienna, and there are some advantages in studying the subject there as a part of practical pathology.

The glory of the Vienna school has long been in the in-

timate relations between pathological anatomy and diagnosis, and under the present able management there is no danger that the school will lose its renown. The concentration of picked cases from the whole Empire in one vast hospital makes it easy for the physicians in charge, as well as for those studying here, to follow up every fatal case at the autopsy. Professor Kundrat, the successor of Rokitsky, has greatly enlarged the pathological institute, and with incredible labor has arranged, classified, and increased the pathological museum, so that it is now the finest in the world.

The autopsies can be seen by all, and ten foreigners can carry on practical microscopical work in an adjoining room, learning to harden, strain, and cut all sorts of morbid tissues. Upstairs, besides the chemical, histological, and other laboratories, and the museum and library, there is a bacteria room, where three or four can work, studying, breeding, and making preparations of the various micro-organisms.

Both of these rooms are under the able management of Drs. Kolisko and Paltauf, the efficient assistants of Professor Kundrat, and it adds greatly to the interest of the work to be able to follow up cases from the wards to the autopsy room, and thence to examine microscopically the pathological condition of the diseased organ, and in suitable cases to catch the bacteria in the act, so to speak, to breed them, isolate them, and prove their pathogenic power by inoculations on animals.

In this way all the phlegmonous inflammations, erysipelas, pyæmia, puerperal and typhoid fevers, pneumonia, etc., can be studied on the spot, as well as tubercle, gonococcus and syphilis.

In connection with the subject of bacteria, I will mention that spray does not seem to be used at all here, either in surgical operations or laparotomies, which are done in the amphitheatres before the classes. A pretty close observation shows that very few cases die of sepsis or infection, where it is conceivable that the use of the spray, or of the extraordinary precautions as to those present at operations, in vogue in Berlin, could have made any difference.

And yet occasionally a case occurs where a greater thoroughness in precaution might have made a difference. For example, I saw fifteen laparotomies done within twelve days by Carl Braun with only one death, and that where a great sarcomatous tumor of the ovary had been removed. Yet shortly before in a case where a uterine fibroid with a well-defined pedicle was simply removed per vaginam, by the use of the galvanocautic wire, the patient died, and in the uterine veins was pus containing staphylococci. Of course some one must have brought them there, and when I add that just before the operation the patient had been examined by twelve or fifteen persons, mostly students, it is not hard to guess how the cocci got into the wound.

Some one had not used the nailbrush enough, some one had lied as to his handling of pathological specimens, and when the ——— cocci were once lodged well up in the uterine cavity the irrigator did not wash them out, and the iodoform did not chase them into the tissues.

There is a considerable difference of opinion here concerning the safety of the use of iodoform. Braun uses it in powder very freely, blowing twenty to fifty grains on to the surface of a wound, or into the cavity of the uterus, and using also uterine suppositories containing two to three drachms each. Braun claims that this is quite safe, and at any rate must be employed, as the risk of intoxication is minimal compared with that of sepsis.

Billroth is afraid of iodoform, never uses it in powder, and seldom in pencils, but uses it in the form of iodoform-gauze, which is stuffed into the wound or cavity. His theory is that in this way there is little danger of intoxication, as very little of the drug comes in contact with the absorbing surface, while on the other hand, all the secretions are absorbed by the gauze and kept aseptic.

This is the only way in which iodoform is used in Billroth's wards and it is supposed to be perfectly safe and entirely efficacious.

Yours respectfully,  
E. W. Cushing.

# BOOKS AND PAMPHLETS RECEIVED.

Observations on some of the Coloring Matters of Bile and Urine with especial Reference to their Origin; and on an Easy Way of Precipitating Hamatin from Blood. By C. A. MacLennan, M.A., M.D. From the Journal of Physiology, Vol. vi. Nos. 1 and 2.

Lectures on the Diagnosis of Diseases of the Brain, Delivered at University College Hospital by W. R. Gowers, M.D., F.R.C.P. Philadelphia: P. Blakiston, Son & Co. 1885.

Diseases of the Tongue. By Henry T. Butlin, F.R.C.S., Assistant Surgeon and Demonstrator of Practical Surgery and Diseases of the Larynx, St. Bartholomew's Hospital, etc. Illustrated with chromo-lithographs and engravings. Philadelphia: Lea, Brothers & Co. 1885.

A Practical Treatise on Diseases of the Kidneys and Urinary Derangements. By Charles Henry Raffle, M.A., M.D. (Cantab.) Fellow of the Royal College of Physicians, London, Assistant Physician to the London Hospital. With illustrations. Philadelphia: P. Blakiston & Co. 1885.

Ueber Kniegelenkstuberculose. Von Dr. W. Willemer. Separat-Abdruck aus der Deutschen Zeitschrift für Chirurgie XXII Bd.

The Annual Announcement of the Department of Medicine and Surgery of the University of Michigan, for 1885-86.

Announcement for 1885-86 of the Medical and Dental Departments of National University, 1004 and 1005 E Street, N. W., Washington, D.C.

An Address on Cholera Infantum. By William Perry Watson, A.M., M.D., Jersey City, N.Y. Assistant to the Chair of Diseases of Children in the New York Polyclinic. (Reprinted from the Archives of Pediatrics.)

## OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 22, 1885.

DRENNAN, M. C., surgeon. To temporary duty at Annapolis, Md., as member of Board for physical examination of candidates for admission to Naval Academy.

SMITH, WM. J., surgeon. To temporary duty at Annapolis, Md., as member of Board for physical examination of candidates for admission to Naval Academy.

## OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 15, 1885, TO AUGUST 21, 1885.

CAMPBELL, JOHN, colonel and surgeon. Granted leave of absence for one month.

IVES, FRANCIS J., first lieutenant and assistant surgeon. (Recently appointed.) Ordered for duty in the Department of the Platte. S. O. 184, A. G. O., August 13, 1885.

WOLYKTON, W. D., major and surgeon. Granted leave of absence for twenty days. (Washington Barracks, D.C.) S. O. 171, Department of the East, August 14, 1885.

MAUS, L. M., captain and assistant surgeon. In addition to his other duties, assigned to duty as attending surgeon of the Department Rifle Camp. S. O. 83, Department of Dakota, August 3, 1885.

BLACK, C. S., first lieutenant and assistant surgeon. Upon return of troops F. and L. 31 cavalry, to Fort Davis, Texas, to rejoin his proper station, Fort Clark, Texas. S. O. 98, Department of Texas, August 13, 1885.

MCCAW, W. D., first lieutenant and assistant surgeon. Having reported back at these headquarters, from detached service, ordered to rejoin his proper station, Fort Lyon, Colorado. S. O. 122, Department of the Missouri, August 17, 1885.

## OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDING AUGUST 22, 1885.

BALACHE, P. H., surgeon. Granted thirty days leave of absence, August 15, 1885. Chairman of Board to examine candidates for appointment as Cadet, in the Revenue-Marine Service. August 19, 1885.

BOWEN, FAIRBANK, passed assistant surgeon. Recorder of Board, August 19, 1885.

## Lecture.

## CHANGES IN THE BLOOD-SUPPLY OF THE BRAIN.

BEING THE SUBSTANCE OF LECTURES DELIVERED AT THE HARVARD MEDICAL SCHOOL, AND A CHAPTER FROM A BOOK NOW IN PRESS.

BY S. G. WEBBER, M.D.

*Instructor in Diseases of the Nervous System, Harvard University.*

## CEREBRAL ANEMIA.

AMONG the conditions of the brain most difficult for diagnosis are those in which there is irregular blood-supply. There are several reasons for this: 1. An over-worked brain is an exhausted brain; not only are the proper cerebral nervous elements exhausted, producing irregular action, but the vaso-motor nervous supply also may have become irregular from exhaustion of the vaso-motor nerves. 2. Another cause for mistake is that a badly nourished brain is irritable. Hence many of the symptoms of exhaustion and of malnutrition resemble those found in congestion or stimulation from excess of blood. 3. Poor blood, that which is not suitable for nourishment, may be sent in large amount to the brain, and there will still be practically anemia; the nervous structures may have lost their power of absorbing the nutrient materials from the blood, and the same results follow.

Under anemia it is intended to comprise all those conditions wherein there is insufficient nutrition of the brain, owing to defect in quantity or quality of the blood.

## ETIOLOGY.

When there is general anemia or chlorosis, the brain usually suffers more or less from an insufficient supply of healthy blood. Those conditions, then, are causes of cerebral anemia which give rise to general anemia, as hemorrhages, deficient supply of food, bad hygienic surroundings, exhausting discharges, whatever causes a poor appetite or poor digestion, etc.

A hindrance to the flow of blood to the brain, as pressure on the arteries, obstruction of their caliber by atheroma, arteritis, spasm, embolism, thrombosis, may give rise to a deficiency of blood-supply in the brain as a whole, or their influence may be local, and limited to a small area. The same result follows a weakening of the heart's action, so that the blood is not sent with sufficient force to fill the cerebral vessels.

Deficient oxidation, absorption of poisons, over-heating by sun or artificial heat, hyperpyrexia in fevers, etc., cause a defect in the quality of the blood, rendering it unfit for the healthy nutrition of the brain.

Though not immediately acting upon the supply of blood nor its quality, it is necessary to consider the conditions under which the patient has lived. Not only do anxiety and worry, but overwork, mentally or bodily, and loss of sleep, by exhausting the nervous system, have a tendency to give rise to an irritability of the brain, which causes it to show the effects of deficient blood-supply more quickly.

There are very few cases where diminished blood-supply alone is the cause of the symptoms. It is only in the acute cases following sudden hemorrhage that this is true, and even in these there is subsequently deficient quality of blood. Generally, changes in quality concur in causing the symptoms. Some of the diseases in which the symptoms of cerebral anemia may be

found, caused by changes in the nutrition of the blood, are dysentery, diarrhoea, gastric catarrh, phthisis, suppurative diseases, syphilis, typhoid and other fevers, and malarial poisoning.

## PATHOLOGICAL ANATOMY.

There is simply paleness of both white and gray substance, comparative emptiness of the blood-vessels, and, excepting there be compression from some cause, moisture of the cut surface. The lymph-spaces are filled with serum or lymph to compensate for the diminished fullness of the blood-vessels. In chronic cases there is, undoubtedly, change of nutrition; but our means of examination do not enable us to recognize such change.

In local anemia from obstruction of blood-vessels, changes occur which will be more properly considered elsewhere.

## SYMPTOMS.

The symptoms vary according as the anemia is acute or has come on gradually. If the patient has been exhausted by previous disease, the symptoms will be less violent than if he has been in vigorous health. Whether the brain has been overworked and excited must also be taken into consideration.

When a rapid hemorrhage causes cerebral anemia, the attack is acute, there is a loss of mental power, vertigo, dimness of sight and of hearing, tinnitus, sensation becomes blunted, the pupils are contracted, then dilated, the skin is cool, consciousness is lost, and convulsions occur. Respiration is accelerated, then slow; pulse small, frequent, and of diminished tension. This combination of symptoms may be seen not only in severe hemorrhages, as in surgical and obstetrical practice, but less completely developed where a patient greatly exhausted rises from the bed too suddenly; also in ordinary fainting from whatever cause.

The description of more chronic forms of cerebral anemia is rendered difficult by the fact that very few cases are uncomplicated. Nervous exhaustion, from anxiety, worry, fatigue, or overwork of brain, serves to intensify or change the symptoms; also the symptoms of anemia and hyperemia of the brain are very similar—so similar that it is oftentimes impossible to decide which condition is present without regard to preceding circumstances. Again, an irritable brain, anemic as a whole, may be locally congested, or may receive temporarily an increased supply of blood, though a supply below that appropriate for health, and, owing to its abnormal irritability, be excited, as if hyperemic.

In chronic anemia, thought is an effort, sustained mental exertion is impossible, memory is uncertain, the patient is drowsy; occasionally after rest there may be flashes of brilliancy, but they are brief. If effort is absolutely necessary, the patient may have learned that a very small amount of wine or spirit is a temporary aid. Headache is one of the most annoying symptoms, and is very persistent, and may incapacitate for the ordinary duties of life. After lying down long and being quiet, the headache may be relieved, but recurs on attempting to go about. Perhaps, in part owing to the headache, in part owing to the malnutrition of the nerve-centres, there is likely to be a change of disposition; irritability of temper, fretfulness, and peevishness are seen. Sometimes there is dizziness; more frequently there are noises in the head, tinnitus aurium, also various disturbances of vision, muce-

volitantes, dimness, even amaurosis, though the latter is rare. Respiration may not be much changed, but there may be a feeling of discomfort, as if not air enough were inspired, and so there is sighing. The pulse usually varies only slightly from the normal, unless there is present some disease to account for an increased rapidity, as phthisis. The same is true of the temperature; it is usually about normal or a little below, but may be elevated if any febrile affection exists. General weakness is almost always seen, but rarely complete paralysis. Convulsions are not seen in cases of chronic anæmia.

When the anæmia is very great, there may occur delirium; if the anæmia has come on with moderate rapidity in a rather vigorous person, without previous disease, the delirium is usually active, the patient may even be maniacal, and may have hallucinations, hearing voices, and holding conversations with imaginary persons; he may not recognize his friends, or may desire to escape. This feature of cerebral anæmia has so much the appearance of excitement from hyperæmia that many refer it to such a condition, supposing that there is local congestion; but the active delirium is seen only when the affection has been developed rather rapidly, and is probably owing to the state of irritable weakness, to which reference has already been made. When the anæmia occurs during the course of an exhausting disease, either as a result of the disease or of insufficient feeding, the delirium is more likely to have a quiet character. Finally, the mental powers may be entirely lost.

#### DIAGNOSIS.

In forming a diagnosis of this affection, it is necessary to take into consideration the previous circumstances of the patient. The diagnosis from hyperæmia may be very difficult, and, as the treatment would be quite different, it is important to be as nearly correct as possible. If there is a history of long-continued privation, with worry and anxiety, or of hard work, physical or mental, and loss of appetite, or exhausting discharges, it is probable that the condition is anæmic, although there may be much excitement. It is sometimes more difficult to decide, where there is active delirium, whether it is insanity or anæmia. Here, also, the previous history will be of assistance; but, as anæmia may lead to change of structure in the nerve-cells, it may pass over into insanity, and without mania it may pass into melancholia. In insanity induced by cerebral anæmia there is not a long-continued period of excitement; the condition is rather one of depression, with occasional attacks of irritability.

To recognize that delirium in febrile diseases is owing to cerebral anæmia is all important. Especially in children with gastro-intestinal affections the symptoms resemble those of serious organic brain disease; the previous history must not be overlooked; it would be disastrous to treat a child with anæmia for meningitis. During typhoid fever in adults there may be a similar mistake. It would seem that care in watching the patient—not only the fever, but also the feeding of the patient—might prevent such an error. Excessively high temperatures may give rise to symptoms similar to those of anæmia; a careful use of the thermometer will guard against this mistake.

#### PROGNOSIS.

If there is no serious complications, as cardiac or Bright's disease the prognosis is favorable, provided

sources of exhaustion can be removed. The prognosis in the case of other disease may be favorable for the anæmia, though unfavorable for the primary disease.

#### TREATMENT.

If the case is one of acute anæmia, or of extreme weakness after protracted disease or exhausting discharges, it will be very important to keep the head low; perhaps the foot of the bed should be raised; the body should be kept warm, by artificial means if necessary; stimulants may be necessary; food in a form easily digested, in small amounts, frequently repeated.

The chronic form needs methodical rest and feeding. As many of the symptoms are due to exhaustion of the nervous system, the effort should be made to withdraw the patient from all such influences as tend to exhaust him. In many cases the course of treatment recommended by Weir Mitchell in "Fat and Blood" will give excellent results. In every case the best tonic is food. The food must be easily assimilated, not in too great quantities, and should be taken at short intervals. Milk is one of the best to begin with; not only is it easily digested and contains all the constituents of the body, but is largely composed of water. Fothergill's remarks about water in anæmia are deserving attention.<sup>1</sup> Among drugs, arsenic, iron, and quinine are valuable.

When there is restlessness, sleeplessness delirium, it may be necessary to give chloral and bromide of potassium, or paraldehyde. Small doses of these are worse than useless; even if frequently repeated, they are not efficacious; less than twenty grains of each is not sure of giving rest; in many cases it may be necessary to give thirty or even forty grains at one dose. Yet chloral should be given with caution, and not administered every time a patient does not sleep; it is often given injudiciously. Spirit will sometimes aid sleep. Opium is a valuable agent, and may often be given to advantage in small doses—a tenth or twelfth of a grain—the object being rather to obtain its stimulating effects. Sleep may sometimes be produced by a grain or two of quinine at bedtime, or by a dose of phosphoric acid, or by a light lunch just before retiring. A cup of bee-tea during the night may overcome the habit of lying awake.

#### CEREBRAL HYPERÆMIA.

When the arteries are distended; or there is an increased flow of blood through them, there is active hyperæmia; when the veins are over-distended, it is passive. The latter condition may, in reality, be one of anæmia, so far as concerns the state of the circulation in the brain.

Some authors deny the existence of cerebral congestion.

#### CAUSES.

Probably a predisposition to cerebral hyperæmia is constitutional with some persons, just as some blush more easily than others; the predisposition may be acquired. Whatever has a tendency to cause a fullness of the cerebral arteries, and keep the blood flowing rapidly through the brain, may give rise finally to a predisposition to cerebral hyperæmia. Excessive and often-repeated emotional disturbances, excessive and protracted brain-work, are among these agents. But it must be kept in mind that these also produce ex-

<sup>1</sup> "Handbook of Treatment," pp. 51, 52.

haustion, and so irritability, which may lead the brain to respond unhealthily to the normal amount of blood, or to be excessively excited by less than the normal amount.

Among other influences may be mentioned a low temperature: thus, most cases are said to occur in winter. A very high temperature is also said to cause congestion, and especially if the sun shines directly upon the head; but the symptoms following such exposure are rather due to elevation of temperature and change in the quality of the blood.

Increased activity of the heart is also said to be a cause of cerebral congestion; hence violent exertions may give rise to it.

Certain drugs may cause cerebral hyperæmia, as nitrite of amyl. Opium and belladonna have been thought to do so; but this is not certain. Alcohol may act as a cause, but only acutely; chronic alcoholism acts rather by producing changes in the quality of the blood, and so changes in the nerve-structures.

Malarial poison may excite congestion of the brain; indeed, probably every attack of chills and fever is attended with cerebral hyperæmia, and this may be one cause of danger in severe malarial diseases.

Passive congestion may be caused by any interference with the return of the blood from the brain.

#### PATHOLOGY.

In acute cases very little change may be expected; much or most of the blood drains off post-mortem. Yet even then, and with rather more frequency in cases of long standing, the smaller vessels in the cerebral substance show with unusual distinctness upon section. The surface of the section is thickly sprinkled with bloody points, the gray substance is darker, and the white substance may have a decided pinkish color, from the fullness of the minutest vessels. In chronic cases the constant dilatation of the vessels may lead to changes around them; the perivascular sheaths may contain granules of blood pigment. There are seen, also, cavities in the brain containing the transverse section of a vessel. These are thought by some to be caused by dilated perivascular sheaths, by others to be dependent upon dilatation of the vessels. The latter may act as one agent in their production, another may be shrinking of the cerebral substance, a slight atrophy which causes a dilation of the perivascular sheaths.

Constant and repeated hyperæmia must interfere with the nutrition of the nervous structures; the high blood-pressure is unfavorable for the interchange of elements. The changes thus resulting occur slowly, but finally may be very serious and may lead to insanity. These changes will also explain why it often requires so long a time for recovery from symptoms which seem insignificant. In this connection it must be remembered that not only do the proper structures of the brain suffer, but also the walls of the blood-vessels and their vaso-motor nerves undergo changes—at least functional changes, and probably slight organic changes.

#### SYMPTOMS.

Many of the symptoms of cerebral hyperæmia are the same as are found in cerebral anæmia, and many of these are usually ascribed to hyperæmia are quite as dependent upon exhaustion from overwork, anxiety, etc. It is impossible to entirely separate the two classes of symptoms in giving an account of the affection.

If not severe, there may be a sense of heaviness, or pain in the head, with tinnitus (though this is more common in anæmia), dizziness, sleeplessness, more or less agitation, perhaps at times a tingling sensation in the fingers or feet, as if they were "asleep." These symptoms at first recur only occasionally, but may become more permanent.

There may be more serious symptoms: the temperament may be changed and the patient be fretful and irritable, the mental power diminished, and there may be absolute inability to apply the mind in certain directions. When an intense application of the mind to one class of questions has brought on the affection, there is inability to apply the mind in that direction. A teacher cannot teach; the effort to do so may cause such confusion that he will have no command over his speech; or a lawyer may be unable to try a case before a jury, the attempt to do so being preceded by sleepless nights, and accompanied by such distress, or even semi-delirium, as to make it impossible. It would seem as though in these cases there is a local irritability of the nerve-centres relating to such pursuits, which, when an attempt is made to use these centres gives rise to an increased flow of blood not only to them, but to other parts of the brain also. It is interesting to note that the use of other centres has not this effect: thus, the lawyer who cannot try a case in court may be able to attend to other business (though it is not by any means safe to allow it); the merchant may not be able to keep the run of his goods, but he can attend to his garden and care for his country residence without distress.

Memory is affected: there is confusion, dullness, wrong words are used in talking; there may be delirium, or the excitement may run into mania. At times there may be weakness of the limbs, twitching of muscles, especially of the face; paralyzes almost never occur; convulsions belong rather to anæmia or epilepsy; and also disturbances of sight and hearing are more frequent in anæmia; vomiting is rare. Respiration is little affected; the pulse is usually full and resistant, perhaps rapid, possibly moderate. The face is usually flushed or ruddy, is rarely pale, and the conjunctivæ may be injected.

Many authors describe a form of this affection attended with convulsions, which, however, Trousseau refers to epilepsy, and this explanation is now generally accepted.

There is a condition which I have met a few times which seems to be dependent on congestion rather than anæmia. I have only seen it in women run down nervously; so nervous exhaustion is one element in causing it. The patient, after some emotion or shock, only slightly more severe than usual, or after some exertion, as ascending stairs, feels weak, is unable to stand or sit, has distress in the head, then loses all power of motion and speech; lies as if in a faint, but the face is flushed; the heart beats vigorously, perhaps not more so than normal; respiration is little, if at all affected. If the attack is not severe, the patient may lie utterly helpless, unable even to move an eyelid, yet know all that is said and done. In severer cases, consciousness is lost. I have known such an attack to last two or three hours. There is no spasmodic action. Recovery is gradual, then respiration may be sighing; subsequently there is great distress in the head and confusion of thought for several hours.

These attacks may occur during the night, either in

consequence of a dream or from the previous day's exhaustion and the recumbent position. One gentleman told me that, after learning that his wife had these, the peculiar respiration, in her case noisy, aroused him. These attacks differ from epilepsy in that a definite cause can be so frequently traced that it is reasonable to think such a cause always exists; they recur as irregularly as the causes which give rise to them.

#### DIAGNOSIS.

It is not always easy to distinguish congestion from anæmia or from simple nervous exhaustion. Sometimes it is necessary to suspend judgment for a while to watch the course of the symptoms. A superficial examination of the patient will be as likely to lead to an error in diagnosis as to give correct results.

Some physicians recognize hyperæmia in almost every obscure morbid functional state of the brain; others disbelieve in it entirely.

The previous history of the patient will assist materially in diagnosis. Has the patient been well fed, or poorly? been happily situated, or miserably? had prosperity or poverty? have there been exhausting drains upon the system, frequent small hemorrhages, or severer hemorrhages? Is the patient full-blooded or generally anæmic? Is the face ruddy, flushed, or pale? Did the attack come on as the result of excitement, or during the strain of some intense mental effort, or during a violent physical exertion? All these inquiries will assist in forming a correct diagnosis when the symptoms are uncertain.

A diagnosis depending upon the symptoms may be made in many cases with some degree of probability. In anæmia, the symptoms are those of excitement only in rare cases, and then the excitement is not of long duration; as a rule, in the more chronic cases there is depression. In hyperæmia, excitement and exaltation predominate, and there is apparent depression only when the brain is overpowered by the severity of the attack, or the congestion is passive. The headache is more acute in anæmia; more of a feeling of painful fullness in hyperæmia. The pulse is fuller and more bounding in hyperæmia. These peculiarities, with attention to the whole group of symptoms as described above under both these affections, will, in most cases, lead to a correct diagnosis. It would be easy to pick out typical cases of both these conditions from actual practice and describe them, but such cases are not easily mistaken, and, unfortunately, form only a small proportion of the cases we see. As in many other diseases, a careful examination and consideration of all the circumstances are necessary to a correct diagnosis.

Other affections which must be separated from cerebral congestion are cerebral hemorrhage, cerebral embolism and thrombosis. These will be better considered under these affections. Vertigo from disease of the ear and from derangement of the digestive organs also needs to be distinguished.

The most important affection, next to anæmia, to correctly recognize is epilepsy. Some forms of epilepsy are so obscure, especially in the commencement of that affection, that it is no uncommon circumstance to have it overlooked, and the patient, his friends, and perhaps the physicians, consider the attack is a mere passing rush of blood to the head. This will be more intelligently considered under epilepsy.

A reasonable cure in the examination of the urine

will suffice to distinguish Bright's disease, which may give rise to symptoms closely resembling those caused by disturbance of the cerebral circulation. The urine should be examined more than once if the diagnosis is doubtful.

#### PROGNOSIS.

The danger from an attack of cerebral congestion depends upon the severity of the attack and its suddenness. The brain may be completely overpowered by the sudden influx of blood, consciousness may be lost, and, if the medulla is also affected, life may be extinguished at once or very soon. Walter Moxon, however, finds no satisfactory post-mortem evidence that acute congestion is ever a cause of death.

But generally the patients do not die at once, and in chronic cases there seems to be no immediate danger to life. Recovery, however, is tedious. Almost always there have been various circumstances in the patient's history acting as predisposing causes, and this is one reason for the slow recovery. Where there is no complication, a recovery may be expected in time, provided the patient will submit to proper treatment.

Among other complications, the most unfavorable is organic change in the nervous elements of the brain. This may give rise to insanity.

#### TREATMENT.

Congestion of the brain may be accompanied with so severe symptoms, with such immediate danger to life, with unnatural fullness of the arteries, with such strong action of the heart, that general bleeding is indicated. These cases are, however, rare, and such bleeding would not be advisable in any except a robust and plethoric patient. Local bleeding by cups or leeches would be beneficial in a larger number of cases. In the severer forms, when it is not desirable to withdraw blood, means may be taken to increase the flow of blood to distant parts of the body, as by hot foot-baths or mustard foot-baths; or to diminish the amount of blood by acting on the bowels, saline cathartics, croton-oil, etc.; or by promoting copious sweating by hot-air baths, steam-baths, hot-water baths, keeping ice on the head. *Jaborandi* acts especially on the skin; but as it frequently gives rise to violent vomiting, it would be hardly safe, lest the straining in vomiting should increase the congestion.

Cold applications to the head—ice, a rubber tube coiled up, with cold water running through it, evaporating lotions—may give relief; but to be of much benefit, the application must be continuous.

When there is violent delirium, mania as one of the most marked symptoms, it will be frequently found that there have been circumstances tending to render the brain excitable. The measures already mentioned may be employed; sometimes a wet cap to the back of the neck taking a few ounces of blood aids in giving relief; sometimes a dry cup gives equal relief. Bromide of potassium and chloral, in doses sufficient to produce sleep, are especially indicated; from thirty to sixty grains of each. Small doses of chloral repeated hourly have no effect, but rather aggravate the symptoms, and the combination of the two drugs is more efficacious than either alone. Hyoscyamus will often procure sleep and quiet if given in large doses. In cases of mania from cerebral hyperæmia, opium should not be given, but during delirium from anæmia it may be beneficial.

Where the hyperæmia is chronic and has been produced by excessive mental application, or by constant emotional excitement, the first indication is to remove the cause. The patient should drop his studies, his business, whatever has intensely occupied him, and withdraw from all associations which give rise to emotional disturbance. A quiet, regular, systematic life, with easily digested, mild food, is the most favorable. Bromide of potassium, without chloral, fifteen or twenty grains, three times a day. Bromide of sodium, lithium, calcium, or ammonium, have been used instead, and are more agreeable to some patients. Ergot, either as fluid extract, half a drachm to a drachm, or ergotin, three to five grains, three times a day. Ice to the back of the neck will sometimes relieve the discomfort in the head better than when applied to the head directly.

Most cases of chronic cerebral hyperæmia are also complicated with nervous exhaustion, and it may be desirable to give tonics to counteract the exhaustion. The vaso-motor nervous system is at fault, and requires not only a temporary stimulant to cause the arteries to contract, but it needs also to be permanently strengthened. A systematic course of hydrotherapy may be of value in this direction; also the ordinary tonics.

The chief object of these remedies is to restore the normal action of the arteries and the vaso-motor nerves. To do this, iron, strychnia, arsenic, quinine, zinc, nutritious but unstimulating food, are the most valuable agents. Spirituous liquors are to be avoided; tea and coffee taken only in moderation, if at all; tobacco should be forbidden. It is scarcely necessary to mention that the digestive and other functions should be kept in a normal condition.

Those who have had attacks, or who seem liable to attacks of cerebral congestion, should avoid public gatherings, where the air is liable to become impure and heated, and where there is more or less excitement, as theatres, concerts, balls, etc. They should be quiet in all their movements, avoiding exertions which would cause an increase of blood-pressure in the brain, as running, lifting weights, straining at stool, and venereal indulgence. They should sleep in cool, well-ventilated rooms; better on a hair mattress, with head elevated. They should take exercise in the open air, but avoid being chilled in cold weather. All intellectual efforts which produce the least discomfort in the head should be avoided. As one cannot stay at home surrounded by familiar objects, without the mind running more or less in its old ruts, and being recalled by old associations into old trains of thought, it is especially important to break up all such associations in cases of chronic hyperæmia, and, where the patient's health permits, travelling or a sojourn away from home is very desirable. Often it is the method whereby quickest relief can be obtained.

— A penetrating pistol shot wound of the abdomen, successfully treated by laparotomy and suture of the intestines, is reported by Dr. John B. Hamilton, Supervising Surgeon General of the Marine Hospital Service, in the *Journal of the American Medical Association*. Eleven wounds requiring suture were found in the small intestine and two in the ascending colon.

## Original Articles.

### SUCCESSFUL CASE OF LAPAROTOMY FOR INTES- TINAL OBSTRUCTION.

BY JOSEPH B. REARD, M.D., WESTFORD, MASS.

On Tuesday evening, July 21st, 1885, J. H., aged twenty-five, farmer, of Irish parentage, a man of excellent habits, came to my office with the following history: On the Saturday previous he had fallen from a load of hay, catching one foot in the reins as he fell, and striking the ground on his hands. By considerable muscular effort he raised himself and freed his foot. He had no pain directly following the accident, and attended a ball, dancing ten or twelve times in the evening. Sunday he was conscious of not feeling quite as well as usual, but there was nothing distinctive, and he attributed his feelings to the wrench received in his fall. His bowels moved so slightly Sunday, that he took a tablespoonful of Epsom Salts, thinking to relieve the feeling of distress and uneasiness in the abdomen. Monday the cathartic had not moved the bowels, and he repeated the dose. The pain and distress were very severe during the forenoon; but about noon he became easier, and worked in the hayfield some in the afternoon. In the morning he passed a small amount of feces with considerable effort and straining. Tuesday the pain was worse again, and in the afternoon he vomited three or four times. Monday and Tuesday he had no appetite for food, but took small quantities of gruel, milk, toast, and eggs. He referred his pain to the hypogastric region, three inches to the right of the median line, and two and a half inches below the umbilicus. Its area was not more than two inches in diameter. I gave him three cath. pills, and directed him to repeat the dose in six or eight hours if needed, and also gave him some morphine pills one-eighth grain, to be used every four hours if in pain.

Wednesday morning at four o'clock, I was called to see him. As he had slept fairly well until midnight, and the pain was not severe, he had not used any of the morphine, but had taken three more comp. cath. pills at one o'clock. Had tried repeatedly to get an evacuation of the bowels, there being a continual desire to strain and force a passage. About two o'clock, the vomiting returned, and until I saw him at four o'clock he had vomited every fifteen or twenty minutes. There was severe pain in the spot above referred to, and I found marked tenderness on pressure at that point. Could discover no tumor. The abdomen was considerably distended by gas, but not tender to pressure; he had passed no gas from the bowels, nor had they responded to the cathartic pills. From the history of the case, the steady localization of the pain, and its limited area, I decided upon intestinal obstruction from some cause. I then gave hypodermically morph. sulph. 1-4 grain, atrop. sulph. 1-50 grain, and tried large enemata of warm water, but with no effect; the water was passed with no discoloration from feces. I kept the patient for the next twenty-four hours thoroughly under the influence of morphine and atropia, 1-8 grain of former and 1-200 grain of the latter every four to six hours as needed. Wednesday evening, he having been ten hours without voiding urine, I used the catheter, and was obliged to resort to it every eight or ten hours for the following five days.

Thursday a.m. Patient looking badly, eyes sunken, countenance anxious, breathing thoracic, body covered

with cold sweat, bowels not moved, and no escape of gas, stomach unable to retain anything whatever, pain and tenderness in the spot already mentioned still present, and tenderness over a somewhat increased area three or four inches in diameter, temperature  $98^{\circ}$  pulse 110-120. The patient echoed my own conviction when he said "Doctor, I can't stand it much longer." I explained to him and his family my opinion of the case, that he had occlusion of the bowels, that from appearances the end seemed near, and I suggested an operation as his only chance of recovery. They consented, and I immediately called Dr. John C. Irish, of Lowell, who concurred in my diagnosis, and at noon on Thursday the 24th, he performed laparotomy in the presence of Drs. Bradt and Hoar of Lowell, and myself.

The patient being under ether the abdomen was opened in the median line by an incision seven inches long, reaching from the umbilicus to the pubes. Owing to the tense condition of the recti muscles, the incision was extended an inch above the umbilicus, and the left rectus muscle was divided at the left of the umbilicus.

We could learn nothing from inspection with the bowels *in situ*, on account of the extreme distension of the intestines from accumulated gas; nor could anything be ascertained by sense of touch with the hand in the abdominal cavity. Therefore the intestines were rapidly but carefully drawn out until about fifteen feet of them lay upon the abdomen, when sharp resistance was felt and the increased congestion of the intestines showed the constriction was reached. Dr. Irish then passed his hand into the abdominal cavity and withdrew the invaginated portion and relieved the obstruction.

At the location of the intussusception, which was ileo-cæcal, the bowel was intensely congested and somewhat darkened in hue. The invaginated portion, about three inches in length, was thickly studded with deposits of lymph. The congestion extended up the ileum only a few inches above the obstruction. The remainder of the small intestine appeared to be free from any inflammatory action. It was, however, greatly distended with gas, and in the lower portion of the ileum near the site of the invagination the distension had become very great. The colon was free from congestion and flaccid.

Up to this time the bowels outside the abdomen had lain perfectly quiet and dormant; but when the constriction was relieved, there was a sudden rush of gas and the peristaltic action of the intestines started up, and gas escaped from the anus together with a large, thin, feculent, discharge. The intestines were replaced with comparative ease, and the incision closed with silk sutures and adhesive straps. There was profound shock during the manipulation of the bowels, though the time of exposure was not more than five minutes. Our hands were washed in a five per cent solution of carbolic acid, and the instruments and sponges were immersed in a solution of the same strength.

Patient rallied well and quickly from the operation, and was given a hypodermic injection of morphine, one sixth grain every five or six hours for three days, and rectal injections of three ounces milk and half ounce brandy, every three hours. Gas was passed freely, and the bowels moved spontaneously on the fourth day. Temperature on evening of third day was  $101^{\circ}$ , at no other time did it rise above  $100^{\circ}$ . After the third day the injections of milk and brandy were discontinued and he was fed by the mouth, with milk, beef-ten, custards, and eggs. The wound healed

throughout by primary union. Stitches were removed on eighth and ninth days, and patient sat up on fourteenth day.

In this case the following points are of interest:—

(1) The persistent and localized pain at the seat of obstruction, and the absence of any tumor at that point.

(2) The length of the incision. Some authors advise an incision only two or three inches in length. When we consider that shock is the most formidable factor in these cases, and that it begins the moment the manipulations of the bowel commence, and continues until the intestines are replaced, it seems to me that the long incision is far preferable to a short one. With the former you have the additional room to work in, and the reposition of bowels is much more easily effected.

(3) The agitation and peristaltic action of the intestines as they lay upon the abdomen, and the evacuation of the bowels and escape of gas immediately following the relief of the constriction.

I am indebted to Dr. Irish for the following summary of cases reported, where the operation was deliberately undertaken for occlusion of the bowels by invagination, volvulus, or constricting bands:—

Whole number of cases . . . . .	17
Adults . . . . .	10
Deaths . . . . .	6
Recoveries . . . . .	4
Children . . . . .	5
Deaths . . . . .	2
Recoveries . . . . .	3

Two cases not stated whether adults or children—deaths.

This table would indicate that the operation is more favorable in children than adults, probably from the fact that the obstruction in children is more likely to be of a very acute character, is more promptly diagnosed, and the operation made in a short time after very grave symptoms have declared themselves. The detailed reports of several of the above cases of adults, show that the operation was deferred until it was indeed an operation of last resort of very desperate character.

Recoveries are distributed geographically, as follows:—

Adults—France 1, England 2, Scotland 1.

Children—America 1, England 2.

Cause of death, in five cases, shock, a few hours after the operation.

The above summary is as complete as the resources within our reach allowed us to make. It would appear from this that the case I have described is the first successful case of laparotomy for intestinal obstruction in an adult, that has been reported in this country.

#### TREATMENT OF ABORTION, WITH CASES.<sup>1</sup>

BY J. L. SULLIVAN, M.D., OF MALDEN.

THE proper treatment of abortion, or, strictly speaking, of some of the conditions which attend abortion, is still an open question. That the existing antagonism of opinion and method is fostered by no dearth of interest in the subject, or of ability enlisted in its discussions, a glance at current medical literature will confirm. Nor is the disagreement occasioned by any scarcity of clinical opportunities. We live in a period of prevalent feticide.

<sup>1</sup> Read at the Obstetrical Section of the Suffolk District Medical Society, March 18, 1885.

Rather is it due, I believe, to the unavoidable circumstance that the field of obstetric practice in this direction is broad and stretches beyond the horizon of individual experience. *Ars longa, vita brevis.*

According to recent estimates the proportion of abortions and miscarriages to deliveries at term is not less than one to three; in other words, of all impregnated ova in the human female at least twenty-five per cent perish in immaturity, compelling, on the part of the woman concerned, no small sacrifice of health and sometimes of life.

Where interests of such magnitude and importance are involved, the settlement of any doubtful or controverted point is a desideratum, and any observations which tend to this result will be regarded, I trust, as not unworthy of attention.

In the condition known as incomplete abortion, three distinct methods of treatment have been adopted:—

(1) *The radical method*, championed by distinguished obstetricians, that is, the immediate evacuation of the contents of the uterine cavity.

(2) *The expectant method*, pursued by perhaps the majority of physicians, that is, the plan of patient waiting for nature to effect the expulsion of the product of conception, the physician interfering only when the patient's life or health is threatened, or when the natural powers seem inadequate to their task.

(3) *Nihilism*, or the let-alone, or do-absolutely-nothing plan, which differs from the expectant method in this, it forbears to invade the uterine cavity. The physician, who chooses this method, while combating symptoms as they arise, so far leaves the case to itself, that he relies for the extrusion of the ovum or decidua on the unassisted powers of the female economy. Probably few physicians take this course to-day, but the list would include some able men.

It is of the last, or let-alone plan, that I shall speak to-night.

How widely a belief in absolute non-interference with the cavity of the aborting uterus prevails amongst physicians in this State, and how consistently in the emergencies of actual practice the plan is carried out by those who advocate it on theoretical grounds, I have no means of determining. I presume, however, that during the period which preceded the discovery of anaesthesia, the birth of modern gynaecology and the use of antiseptics, the let-alone method was much more frequently employed than it now is. That it is no mere relic of fossilized conservatism, or, if you please, no mere fragment of adipocere from some long-defunct corpus medicum, will appear from the fact that only two years ago my attention was strongly directed to the subject in consequence of a statement made by a distinguished Fellow of this Society at one of its District Meetings, where the treatment of abortion and miscarriage formed the topic of discussion. The gentleman to whom I refer, said that on reviewing his forty years' experience in midwifery he could recall no case of incomplete abortion, or of premature labor, which had required any operative procedure for the delivery of the secundines, etc. Retention of a dead ovum or a portion of placenta had occurred as frequently in his practice as in that of his neighbors, and for the evacuation of the contents of the womb he had uniformly relied upon the unaided efforts of nature, and his patients had invariably recovered. This testimony to the triumph of the conservative principle in the management of these cases, emanating, as it did,

from an experienced and thoroughly trustworthy source, struck me as entitled to serious consideration, and I asked myself the question, how shall we interpret the extraordinary success of this method, exemplified, as it is, not in the favorable termination of a single critical case, but in an unbroken series of cases extending through many years. Shall we regard this result as an instance of unparalleled good fortune, or as an expression of an important truth not hitherto fully recognized, that aborting women, so far as the extrusion of the uterine contents is concerned, if left to the kindly offices of nature, do well. Ought not this protracted experience to serve as a lesson and a rebuke to those amongst us whose treatment in similar cases is more or less heroic?

Finding myself unable to answer this inquiry from any data at my command, I resolved to test the let-alone treatment of incomplete abortion in my own practice, as far as this could be done without compromising the health or lives of the patients. What follows, then, is the record of a conscientious effort to determine the practical value, or otherwise, in certain critical obstetric conditions, of the *vis medicatrix naturæ*. Six aborting women became, in turn, the unwitting subjects of this quasi-therapeutical experiment, which ended with the sixth case, my object being then accomplished. The interest lent these cases not otherwise remarkable in themselves (with perhaps one exception) by the special investigations to which they were made to contribute, is my apology for asking the attention of the Section to the salient points of each.

CASE I. Mrs. S., aged forty-two years, American, multipara, aborted for the third time October 13, 1883, being then three months and a half advanced in her seventh pregnancy. On my arrival I found the fetus already expelled, the placenta retained and partially attached, the closed condition of the os and cervix uteri precluding the possibility of its extraction without the previous use of tents. The woman was steadily losing blood in quantity not immediately alarming but too profuse to go on unchecked. I therefore plugged the os and tamponed the vagina thoroughly, à la Simpson, with strips of cotton cloth. The plug and tampon remained in situ twenty-four hours and were then replaced by others which were left for the same length of time. Meanwhile considerable sero-sanguineous discharge oozed through the cloth and the patient grew sensibly weaker. Failing in a third and last attempt to fully control the bleeding by means of the tampon, I yielded to the patient's entreaties, dilated the cervix with sponge tents, and extracted the contents of the uterus, under ether. Mrs. S. made a good though tedious recovery, the debility and anaemia consequent on the abortion, and aggravated, perhaps, by delay in resorting to radical treatment, persisted for several months.

CASE II. Mrs. M., American, aged twenty-four years, a perfectly healthy married woman in good circumstances, when four and one-half months pregnant with her second child, was taken January 2, 1884, with slight flowing, unattended with pain. On discovering her situation the lady sent for me. On my arrival she was ordered to take the bed. The usual measures for the prevention of abortion were tried but proved unavailing. Four days later travail pains began, and she soon gave birth to the fetus. Thereupon the womb contracted firmly on the undetached placenta and all hemorrhage ceased. No ergot was given.

During the succeeding four days the situation continued unchanged. There was no pain and absolutely no vaginal discharge. Her napkins were removed unsoiled and no trace of blood appeared on the examining finger. Meanwhile the umbilical cord separated from its placental attachment and came away but the womb remained closed. The morning of the fifth day was ushered in with pains, which caused the womb to dilate. The afterbirth could now be felt, lying high up and firmly attached—throughout its whole extent—to the uterine wall. A slight sanguineous discharge, less than occurs in scanty menstruation, now set in. Five days afterwards, the *status quo* continuing, and the lady's husband refusing to sanction any further dalliance with the case, I etherized the patient and with some difficulty removed the still firmly adherent placenta. No unpleasant symptoms followed, and Mrs. M. rapidly regained her usual excellent health.

CASE III. Mrs. W., aged thirty years, multipara, a healthy, hard-worked American female, wife of a respectable and well-to-do mechanic, determined to cut short her third pregnancy. By means unknown to the writer the ovum perished at two and a half months. Notwithstanding a constant, fetid vaginal discharge, Mrs. W. attended to her household duties and exercised more than usual out of doors. When this state of affairs had lasted a fortnight a sudden rush of blood from the vagina caused Mrs. W. to fall swooning on the kitchen floor. On reaching the spot on the evening of August 3, 1884, I found the woman in a condition of partial unconsciousness and well-nigh fatal exhaustion. A pool of coagulating blood marked the place where she had fallen; the bed to which she had been conveyed was swimming in blood, blood was still streaming from the vulva as fast as the failing circulation would allow. Not a moment was to be lost. Baring my arm and hastily thrusting it into the vagina, which was relaxed, I succeeded in removing a putrid mass from the cavity of the womb, when fortunately for both patient and physician the flaccid organ contracted and the bleeding ceased. Mrs. W. slowly rallied, but she is still feeble and an anemic to a sad degree. The value of this experiment is not lessened by the fact that it was tried by the patient herself.

CASE IV. Mrs. E., multipara, aged thirty-two years, a healthy, hard-working Irish woman, four and one half months advanced in her fifth pregnancy, aborted for the second time on the morning of September 9, 1884. I was not present at the delivery, but the attending physician on leaving the house, to use the patient's words, pronounced her "all right." There were several by-standers, none of whom had seen the afterbirth, and I was sent for to ascertain if the delivery had been completed. Examination disclosed a state of tetanic uterine contraction, and I learned that ergot had been given. Feeling confident that the cavity of the enlarged and globular womb contained a portion of the product of conception, I enjoined absolute rest in bed, and explained to the patient the necessity of obedience. A week later Mrs. E. was assailed with sudden and copious flooding, which ceased only on her becoming faint. On four succeeding occasions, at intervals of several days the bleeding returned. The patient daily grew weaker, and presented a striking picture of progressive anemia. Convinced of the uselessness, if not wickedness, of

longer delay, I dilated the still strongly contracted cervix with several successive tents, and October 12, 1884, removed from the left corner of the womb a portion of placenta. A sharp attack of metro-peritonitis, ushered in by rigors, high temperature and rapid pulse kept the patient's life in jeopardy for several weeks. Her health is still poor.

CASE V. Mrs. K., a young, newly-married American girl, wife of a well-to-do mechanic, for the first time pregnant, succeeded in causing the death of the ovum at two and a half months. I saw her April 4, 1884; she was about doing house work, but complained of feeling ill, and of an offensive vaginal discharge. Ascertaining that the womb contained a putrescent ovum, and that the cervix was elongated and brawny, I sent the patient to bed where she remained for two weeks without any marked change in the symptoms. A severe chill followed by abdominal tenderness and fever caused her to summon me for the second visit on the 18th. Dilatation of the cervix by a succession of tents was finally accomplished, and the uterine contents extracted on the 25th. A long and severe attack of pelvic-peritonitis, from which Mrs. K. has not yet fully recovered, completes the outline of the case.

CASE VI. Miss A., aged twenty-two, American, unmarried, a mill-operative, with whose previous history I am unacquainted, began to menstruate as usual on September 20, 1884. On the 9th of October she had sexual intercourse. The catamenia due October 18th, failing to appear, she consulted a doctor, who prescribed some pills, but according to her account, did nothing more. November 19th she was taken with pains and flowing, and passed per vaginam several small coagula and fragments of a mutilated ovum, which were preserved for my inspection. On the next day I was sent for and found her in bed, free from pains and flowing, womb enlarged, os slightly patulous and soft. Enjoining rest in bed until abortion terminated, and giving suitable directions concerning diet, etc., I left with the understanding that I was to be sent for when any new symptoms appeared. The subsequent history is as follows: patient kept her bed one week, then wearying of the confinement and feeling quite well, she got up, went about the house and ventured out of doors for several short walks. Thursday, December 18th, having decided to go "down East" next day, she spent several hours in packing her trunk. Just as the work was finished she was seized with excruciating pains in the hypogastrium, became collapsed and died within an hour. She was breathing her last when I reached the bedside. No autopsy was permitted, but a careful examination of the abdomen and pelvic cavity by conjoined manipulations satisfied me that death had been caused by internal hemorrhage. Not a drop of blood escaped from the os uteri. With the fatal termination of this case I abandoned the conservative treatment of incomplete abortion.

The foregoing history leads to the conclusion that an early resort to radical measures was indicated in each case and might possibly have saved a life.

The contrast between the outcome of these abortions and the success achieved by our colleague emphasizes again the familiar, but ever instructive lesson, namely: Of the great circle of collective medical experience how small an arc is that which the practice of any one man subtends!

## REPORT ON OBSTETRICS.

BY C. M. GREEN, M.D.

## THE RELATIVE WEIGHTS OF NEWBORN CHILDREN.

Wolf,<sup>1</sup> in his inaugural dissertation, Munich, 1883, has given the results of his industrious examination of the statistics of the Lying-in Hospital in Basel with reference to the relative weights of newborn infants. His inquiry covers the period from 1873 to 1882 inclusive, and embraces the statistics of 2,032 children. The analysis of his numerous tables leads him to the following conclusions:—

(1) Full-term children, the offspring of multiparæ, and boys weigh more at birth than the prematurely born, the offspring of primiparæ, and girls. The difference between the weights of infants of primiparæ and multiparæ is less when the children are prematurely born.

(2) The majority of infants lose weight in the first hours of life: in nine per cent, however, there is a gain in weight.

(3) The loss in weight of children of both sexes ends in the first three days. Infants of multiparæ and full-term children complete their loss more quickly, in the average, than the newborn of primiparæ and premature infants.

(4) The normal amount of loss in weight reaches from 3.5 to 11.5 ounces: sex and development of the children are without influence.

(5) In the same given period of time, a greater number of boys re-attain their initial weight than girls, and boys of multiparæ in greater numbers than those of primiparæ.

(6) At the end of seven days half of all newborn infants have re-attained their initial weight, and it is to be considered an exception for an infant to be below its initial weight after the fifteenth day.

(7) More boys and children of multiparæ re-attain their initial weight in the first week than do girls and children of primiparæ.

(8) During the usual stay in hospital more boys than girls show an increase over their initial weight, especially so the children of multiparæ and those fully developed.

(9) The usual daily increase in weight amounts to 0.35 ounce. Full-term children, boys, and infants of multiparæ make relatively larger daily gains.

## THE DIAGNOSTIC VALUE OF THE FETAL HEART-BEATS.

Bolzoni,<sup>2</sup> of the University of Padua, has made a careful clinical study of this subject, and come to the conclusion that the number of heart-beats is a more constant guide to the development than to the sex of the child. A record was kept of the fetal heart-beats in all cases admitted to the obstetric clinic in 1883–4. The count being made three times in each case, always at the same hour, and an average of the three counts was taken. At the birth of the child its sex, weight, length and bi-parietal diameter were carefully noted and compared with the previously determined heart-beats. In drawing his conclusions Bolzoni selected one hundred women, whose labor had been normal and in whom the fetal heart had been counted between the eighth and ninth solar months. He found that the number of

heart-beats bears no necessary relation to the sex of the child, but does bear a constant and proportional relation to the weight, length, and bi-parietal diameter, in other words, to the size of the body. The smaller number of heart-beats more frequently corresponds to the male sex only because boys, as a rule, weigh more than girls at birth. The two most frequent rates observed were 128 and 144: with the first rate, more boys than girls corresponded, and with the second, more girls than boys. With 128 heart-beats the weight of the child, whether boy or girl, was over 6.4 pounds: with 144, the weight was always less than this.

## HYDROCHLORATE OF COCAINE IN THE VOMITING OF PREGNANCY.

Weiss,<sup>3</sup> of Prague, has used this remedy successfully in a case of vomiting of pregnancy which had resisted all previous attempts at relief. The patient was weak and anæmic, of a nervous disposition, and had suffered in three previous pregnancies with persistent vomiting: in the present pregnancy her condition was serious. Weiss prescribed:

R Hydrochlorate of Cocaine . . . . .	gr. ii.
Alcohol, enough to dissolve . . . . .	
Water . . . . .	℥ v.
S. One teaspoonful every half-hour. . . . .	

After the sixth dose three table-spoonfuls of milk were well borne: after the eighth, a cup of broth with egg, without vomiting. After the sixteenth dose the patient ate with relish chicken broth, slices of white chicken meat, and drank a glass of wine, without vomiting. The drug was then withdrawn for a time, owing to an increased frequency of pulse and respiration; but hourly doses were subsequently given with the result of entirely checking the vomiting and enabling the patient to regain her former strength.

## PUERPERAL ECLAMPSIA.

In concluding an interesting paper<sup>4</sup> on this subject, Dr. Robert A. Murray considers two very important questions, namely, whether pregnancy causes Bright's disease, and whether we are warranted in advising that a future pregnancy will be safe and successful in its issue when the patient has once suffered with eclampsia. From his examination of the statistics of the Registrar-General, and supported by the opinions of Roberts and Dickinson, Dr. Murray concludes that there can be no doubt that the puerperal state is a prolific cause of Bright's disease.

Regarding the second question, the author has seen a good many cases of persistent albuminuria with characteristic symptoms, which had begun in a first, and had become intensified in succeeding, pregnancies. From his clinical experience, therefore, the author concludes:

"(1) That subsequent pregnancies in patients who have had convulsions are to be avoided for a long period, so that the kidneys may have their functions completely restored."

"(2) That on the occurrence of pregnancy, the urine should be frequently examined, and an endeavor made by prophylaxis to guard against the uræmic condition."

"(3) That abortion, or premature labor, should be promptly induced, when uræmic symptoms present, when in previous pregnancies severe eclampsia has occurred."

<sup>1</sup> Centralblatt für Gynäkologie, 1885, No. 1.

<sup>2</sup> London Medical Record, February 16, 1886.

<sup>3</sup> Prager Medicinische Wochenschrift, Dec. 17, 1881. Therapeutische Gazette, March 16, 1885.

<sup>4</sup> New York Medical Journal, May 16, 1885.

THE INFLUENCE ON SECOND LABORS OF THE LENGTH OF INTERVAL SINCE THE FIRST LABOR.

It is well known that a woman pregnant for the second time, when a long interval has passed since her first pregnancy, approaches her labor with greater anxiety, both for herself and her offspring, than the secundigravida whose first labor has occurred within a few years. It is also known, that if the first labor has left behind no considerable injuries, the marks of it can sometimes so far disappear and the cervix, after a long interval, so far regain its original appearance that it is often scarcely possible to tell, in the absence of a definite history, whether a given patient is a primigravida, or whether she has given birth to a child some years previously. These two facts give rise to the conjecture that a second labor after a long interval may differ materially from ordinary second labors, and may perhaps resemble first labors. Since no attempt has hitherto been made to determine whether or not this conjecture is well grounded, Kleinwächter<sup>5</sup> has set himself to find out whether, and in what way, long intervals between the first and second pregnancies exercise an influence on the second gestation, the second labor, and the second puerperium.

The material on which the author based his observations embraced 397 secundigravida, of which number 395 gave birth: of this number, 94 bore their second child after an interval of from six to sixteen years. From the tabulated statistics of these 395 cases, Kleinwächter has made the following interesting deductions:

(1) Secundigravida, with a long interval (six to sixteen years) since their first pregnancy, suffer during gestation both with accidental complications and with those dependent on the pregnant state much more frequently than those pregnant for a second time after a short interval (one to five years). The reverse appears to be the case with ante-partum hemorrhages.

(2) A relative and absolute increase in the amount of liquor amnii is observed after a long interval much more frequently than after a short one: especially is this true after an interval of ten years or more.

(3) The duration of second labors in general is in the average about 10.5 hours, and the relative length of the several stages to one another is about the same as with multipara generally. But secundipara after a long interval have a longer first stage than after a short interval, the other two stages remaining about the same. If, however, the interval is ten years or more, all three stages are considerably lengthened, and the labor lasts about as long as that of primipara: in fact, the third stage in such cases appears to be even longer than in first labors. In other words, after a long interval, the pains are more frequently weak and ineffectual than after a short interval.

(4) Operative interference with second labors after a long interval is necessary twice as often as after a short interval, and tears of the perineum occur more frequently. Adherent placenta and post-partum hemorrhage are more frequently observed after a long interval.

(5) Affections of the kidneys occur more frequently after long, than after short, intervals. Especially noticeable is the increased frequency of oedema of the lower extremities without albuminuria, particularly after an interval of ten years or more.

(6) The likelihood of mastitis diminishes with the length of the interval: so also does the probability that the mother will be able to suckle.

(7) The morbidity and mortality per cent of puerperal disease rises considerably with the increase of interval, and is especially high after an interval of ten years or more. There appears, however, to be no inclination to puerperal mania after a long interval.

(8) The longer the interval, the more frequent the premature, spontaneous interruption of the pregnancy, especially when the interval is ten years or more. The probability of twin pregnancy increases with the length of interval, and so does the frequency of the birth of monstrosities.

(9) The relative number of girls born of secundipara increases progressively with the length of interval; and the longer the interval, the heavier and longer is the infant.

(10) With the increase of interval there is a progressively increasing mortality of children,—the loss of fetal life embracing not only the stillborn, but those who die within the first eight days.

In other words, it may be stated that with an increase of interval between the first and second labors, the second pregnancy will be more frequently attended with sickness and the ailments incidental to that condition, and premature labor will more frequently occur; the labor will be longer; instrumental interference will therefore be more frequently necessary, the perineum will oftener be torn, hemorrhage will more frequently follow, and the puerpera will more frequently sicken and die. Further, the longer the interval, the more frequently will twins be born, the greater will be the fetal weight and length, and the greater will be the number of stillborn children and of those who perish within the first eight days. On the other hand, with an increased interval is a decreased frequency of ante-partum hemorrhage and of marked diminution in the amount of liquor amnii; a diminished functional activity of the mammary glands, a diminished tendency to puerperal mania, and finally a decreased number of male offspring.

If these conclusions are compared with a previous article of Kleinwächter's on *The Influence of Age on the Labor of Primipara*,<sup>6</sup> it will be seen that with few exceptions, of secondary importance, the secundigravida with an interval of ten years or more finds herself under about the same relatively unfavorable circumstances as the old primipara; and the explanation of this fact, according to the author, is to be found in the increased age of the former; that is, that the consequences and influences of the first labor may disappear after a long period of years, and that the woman who then becomes pregnant for a second time is virtually an old primipara.

— It has been proposed to establish a temperance hospital in Melbourne in which patients may be treated "without the use of alcohol except as a drug." The *Australasian Medical Gazette* in editorial comments on the proposed hospital, expresses the opinion that all patients are in a better position to be cured when under the care of practitioners having no strongly marked prejudices either for or against alcohol, than in a hospital the very principle of whose existence is a prejudice of its officers against a valuable, though often abused means of cure.

<sup>5</sup> *Zeitschrift für Geburtshilfe und Gynäkologie*, Band XI, Heft 1.

<sup>6</sup> See Report on Obstetrics, Vol. xst., No. 3, p. 50 of this Journal.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

MARCH 18, 1885. The meeting was called to order at 7.45 o'clock, Dr. J. R. CHADWICK in the chair. fifty-two members being present.

Dr. JOHN L. SULLIVAN, of Malden, read a paper entitled

#### TREATMENT OF ABORTION, WITH CASES.<sup>1</sup>

Dr. SINCLAIR said that his plan of treatment, when called to a woman aborting previous to the fourth month, was to arrest the hemorrhage if present to any extent. The percentage of cases of abortion, once started up, that are checked, is extremely small. Dr. Sinclair always examines the woman to learn the condition of the os uteri, whether patulous or not. If the cervix is dilating he gives opium to stop it. He has used the fluid extract of viburnum, but not with good results. If the pain is allayed by opium, good results may be obtained; but generally the miscarriage is not checked. If there is much hemorrhage, the vagina should be tamponed thoroughly, packing firmly from the cul-de-sac downward. The tampon induces pain, and, if removed in twelve hours, in all probability the tetens will be found upon it. Sometimes it is necessary to tampon again and again.

Another and a troublesome class of cases is that in which the fetus comes away, the os closing behind it. The secundines left in the uterus will come away, unless they are adherent. When they do come, however, they are sure to be accompanied by hemorrhage. If the uterine contents are within reach, they should be removed at once. This is best accomplished by pressure upon the fundus uteri with the left hand, and the insertion of the right forefinger into the uterus. Unless the uterine contents are low down, Dr. Sinclair believes in letting them alone. One bad result from a piece of decidua being left in the uterus is that the woman is likely to bleed a great deal and may become moribund. A very small piece of secundines thus retained may be the cause of death, as in a case referred to.

Dr. MINOT remarked that the chances of arresting the process of abortion, after it has once begun, are small. Abortion, however, can sometimes be prevented in patients who have previously been unable to carry a fetus to term. In his own experience this has several times been accomplished by placing a small soft rubber ring pessary in the vagina, the upper part lying behind the cervix, which seems to serve as an elastic support to the uterus, shielding it from sudden movements, etc., on the part of the patient,—a great improvement on the old method of keeping the patient in bed for several months. The treatment of abortion is simple. If there be much hemorrhage, this should be arrested by the tampon until the ovum be expelled. It sometimes happens that a considerable mass of placenta remains behind, which may be retained for an indefinite length of time, giving rise to often-recurring hemorrhage. It should therefore be artificially removed after a reasonable delay, if the womb seems unable to expel it. The patient should be etherized and placed on her left side, close to the edge of the bed, with the

knees well drawn up. The operator introduces his right hand into the vagina, the forefinger entering the womb. The fundus of the latter being steadied, and, if necessary, depressed by the left hand applied above the pubes, externally, the interior of the uterus can be easily and safely explored, and anything adhering to its walls removed. He had never met with a case in which it was necessary to dilate the os or canal of the cervix. Of course, the operation should be done with antiseptic precautions.

Dr. FIFIELD stated that it is very rare that a physician is called to prevent an abortion, and often would not be allowed to do so, if he proposed it. It is sometimes possible to check or delay an abortion already started, and the woman may even go on carrying some part of the ovum to full term. Dr. Sullivan's experience in the use of sponge tents is strong testimony of the fact by him stated, namely, that any physician's experience subtends a small area of the truth. Dr. FIFIELD believes largely in the expectant treatment, and with him it has been rare that he has had to remove the secundines. If it becomes necessary to empty the uterus, the uterine scoop, invented by Dr. Benjamin Cushing, of Dorchester, fulfils every indication. Dr. MILLER, of Dorchester, used to pass a gum elastic catheter, with the stilette removed, into the uterus and leave it there, when there were any remains of an abortion present, and generally got expulsion of the contents. In the very early months, vaginal injections of hot water are best. In the later, the catheter does well. Hemorrhage after the supposed expulsion of the ovum does not always indicate that secundines are left in the uterus. Hemorrhage may occur without such contents being present. He had a case of this kind, where the hemorrhage continued for some time. He dilated the cervix and explored the uterus, but found nothing. He applied diluted tincture of iodine to the interior of the uterus with complete success; but septicæmia followed the use of the sponge tents. He had had bad results from the use of the latter. He believes firmly in the expectant treatment. He urged that a sponge-tent should not remain in situ more than twelve hours, and he strongly deprecated the repeated use of tents. One may be perhaps safely used; but two or three are infinitely dangerous.

Dr. BOARDMAN said that the scope of this paper appeared to limit the discussion to the treatment of an abortion, which has become inevitable. In such cases it was his custom to follow both the expectant method and the radical one of an immediate, forcible removal of the contents of the uterus. Ordinarily nature carries the patient through, with the complete and safe removal of the products of conception; and his practice is to wait a reasonable time, in order to allow nature to accomplish her work; in the mean time, however, keeping a close watch over the patient with a view of meeting important symptoms as they arise, and among these, the most usual and important is hemorrhage. For the arrest of this he does not believe in the old method of tamponing the vagina, but in plugging the cervix with the finger. By this method we obtain all the benefits, including the arrest of hemorrhage and the promotion of the expulsion of the fetus, while the finger is insinuated within the cervical canal, after the manner so ably defended in certain cases by Dr. Sinclair. Then, with the finger or fingers, and the various forceps and curettes now at our disposal, it is an easy, expeditious and safe method to

<sup>1</sup> See page 222.

empty the uterus. He contended that, *when the abortion is inevitable*, it is not such a difficult matter as many assert to obtain entrance for the finger or curette into the uterus, especially when hæmorrhage is going on. He had found that wherever there is abnormal hæmorrhage, it is always an easy matter to introduce say, a Thomas' curette, even into a multiparous uterus. In private, and especially in hospital practice, he was repeatedly consulted by patients suffering with the ills incident to the retention of some remains of an abortion, which occurred weeks and months before, and where the purely expectant, or rather, the do-nothing method had been followed.

In a few words he would advise a thorough examination of each case, and not to place any confidence in the statement of friends or bystanders, or indeed of many physicians, as to what has already escaped from the uterus; that having satisfied ourselves that the uterus contains a fetus, and that abortion is unavoidable, we should wait perhaps a few days for nature to complete her work, and then or before, if urgent symptoms arise, we are under obligations to empty the uterus completely and as expeditiously as possible, consistent of course, with safety to the mother from unwarrantable violence.

Dr. Adams said the question wanting solution was, "shall we, in every case of incomplete abortion, proceed at once to dilate and remove the uterine contents?" Is it more dangerous to leave the case to Nature than to interfere? If statistical evidence were at hand, it might help us to solve this difficult question. Kastner has collated 429 cases of early forcible removal of the placenta with 69 deaths; that is, about 16 per cent. But such figures are fallacious.

If active interference is called for by frequent small hæmorrhages, which threaten septicaemia occurring at the end of two or three weeks, we must then proceed to empty the womb; but if the os uteri has closed, and there is neither hæmorrhage nor pain, or other symptoms, we had better wait. The evidence of writers on the subject seemed to show that the danger of sudden fatal hæmorrhage in abortion was not great, while the danger of septic infection was the greatest of all.

Shall we then dilate and forcibly remove the contents of the uterus in every case of incomplete abortion? The answer to this should be, "no." Dr. Adams cited a case where an abortion occurred at 3 months, the secundines not coming away until the following day; and 4 months after, the woman gave birth to a 7 months' child, which is now living.

The condition is probably more or less pathological in abortion. There may exist cancer or other disease, especially fibroids of the uterus; or the more frequent case of wounds or injuries caused by criminal interference and forcible dilation, scraping, scratching, or other efforts to clear out the womb, may do more harm than good. In fact, we are working in the dark.

No mention has been made of the method of preventing the "abortion habit," discovered by Sir James Y. Simpson. He would like to ask the experience of the gentlemen present in the use of chlorate of potash as a remedy. Dr. Adams had himself tried it in one case with a successful result.

Dr. Reynolds had in several instances used the remedy mentioned by Dr. Adams in large doses, 30 grains, three times daily, and had continued it for many months during the latter half of pregnancy; for example,

after failure in repeated pregnancies to go to full term after the birth of a putrid child or one imperfectly developed. In every instance he had expressly stated to the patient that he has no sufficient reason to promise good from the medicine; but he must admit that he has heard with surprise the conviction of its value which the families in question entertained. There is an impression among practitioners that large doses of chlorate of potash, long administered, risk the integrity of the structure of the kidney. On this account, the urine should be watched. The speaker had not been able to find evidence of such injury. If at his wit's end for means of treatment in cases like those mentioned, and if compelled to employ some remedy, he would again resort to chlorate of potash; but he can only offer conjecture as to its possible usefulness.

Dr. Reynolds, after rapidly reviewing the discussion of this question during the last five or six years, recalling the efforts of Dr. H. R. Storer and of Dr. Mathews Duncan to rouse attention to it more than twenty years ago, and mentioning the valuable paper lately read in Edinburgh by Dr. Angus McDonald, and the debate upon the subject in the New York Academy, said that to these widely accepted views as general statements of the character and results of the accident, and of the indications for treatment, little exception can be taken. Thus the dangers recounted: 1st, Exhaustion from loss of blood; 2d, Septicæmia; 3d, Morbid adherence of bits of the ovum and their subsequent polypoid growth; 4th, Subinvolution, and an unhealthy state of the membrane of the uterine cavity, may fairly be recognized as genuine. As to treatment, it is declared that the only satisfactory procedure is the immediate emptying of the uterus; that at least there ought to be no delay other than that required for a sufficient dilatation of the os.

The criminal character of do-nothing treatment in early abortion, is, on all hands, most emphatically laid down. It is, indeed, hardly possible, in view of the harm daily done to subsequent health, and not infrequently to life, by this brutal neglect, to use words strong enough in denouncing it.

But admitting this much, this manner of putting the treatment is far too absolute, and is, in fact, more than all other influences likely to bring about the very evils of which complaint is so justly made. Certain reservations must also surely be claimed before we accept as facts the foregoing enumeration of the dangers which the accident involves.

In hospitals and in dispensary districts, neglected cases undoubtedly present, at times, all these unhappy results. In hospitals, and in large centres, acquired skill and daily-renewed experience, make radical measures of treatment in early miscarriage, as a rule, both easy and safe. But in our time, nothing can so surely lead the average practitioner to do nothing in abortion as the dictum, that only emptying the uterus will serve the patient's purpose; to attempt that, he is either too unskilled or too timid. Again, whatever the truth in regard to miscarriage in general, the risk, in that proportion of cases occurring in private practice, in which from the outset, judicious care and watchful nursing are in force, merits quite a different description; especially is it necessary to strongly emphasize the great contrast in the frequency and the gravity of the several dangers. There is, in fact, for such cases, only a single risk worthy of notice; and in managing them, attention to that symptom dominates every other indication. In

a carefully-watched case, as in all others, no remedy is to be even named in comparison with the prompt and thorough removal of the ovum; but when for any reason that is not done, the one all-important step is, the preventing of any bleeding that can occasion even a beginning of exhaustion. It is seldom difficult under such conditions, to thoroughly stop any noteworthy loss of blood. The tendency to hemorrhage, if controlled from the outset, will very rarely indeed continue beyond thirty-six hours, provided there has been no unskillful meddling with the uterine contents. Such restraint of hemorrhage will, except in instances where the accident has occurred in the presence of extreme preexisting debility, reduce the possibility of septicaemia to about one thousandth of one per cent. As to the likelihood of imperfect uterine involution, wise care during the after period will greatly tell on the result; and Nature will seldom, where there has been no bungling, keep in the cavity "placental arreste."

Dr. Angus McDonald loudly condemns the tampon. Dr. Macan congratulates himself, in an annual report, that in a considerable series of cases plugging has not once been done in his hospital. Plugging, with these writers, evidently means a long and tiresome process. In two minutes any medical man can introduce with the greatest ease one of the soft, pliable, India-rubber colpeurynters of French or American pattern, can inflate it, can in all but every instance, guarantee the patient against any appreciable farther bleeding. Not infrequently the distended bag, pressing the pelvic floor like a fetal head, sets up the desired uterine expulsive effort. Any attendant, nurse, sister, husband, of even moderate intelligence, may, with a little instruction, be taught to withdraw the appliance, to re-introduce it, to inflate it. For the do-nothing practitioner, this simple, inexpensive contrivance will bring wonderful, and yet utterly justifiable, peace of conscience, and it will prove itself to his patient of value inestimable.

A colpeurynter, when first fully inflated, causes pain; that soon gives place, with average women, to a mere sense of uncomfortable stretching. In rare instances, a slight opiate may be a wise addition to the treatment. It is essential that the bag be entered well past the inlet of the vagina. A badly retroflected uterus, containing a four months ovum, may make the use of this instrument impracticable. It may fail to be retained in a multipara whose vagina has been repeatedly stretched in often recurring births. A stiff, inflexible colpeurynter, like some of those seen in Vienna, is of little value.

#### NEW INSTRUMENTS.

Dr. ROBERT B. DIXON exhibited a head perforator for craniotomy, made of a trephine with its teeth completely covered by a movable bell-shaped cup to prevent injury to the vaginal soft parts during insertion. The trephine is connected with the handle by a spindle seven inches in length, around which is a spiral spring to regulate the pressure upon the cup. The advantages of this instrument are that it is considerably less expensive than other perforators; the pelvic curve in the instrument is avoided; it is very easily cleansed; having a small spindle allows plenty of room in the vagina for the operator's fingers; and it can be used with two hands, while those instruments which have a pelvic curve require three.

Dr. DIXON showed a decapitating hook, which he designed to obviate the difficulty of inserting, as in the old operation, two instruments, first the blunt hook to

break the neck, and then the cutting hook to sever the head from the body. This instrument is a conjunction of the blunt and sharp hooks. It is to be inserted into the vagina, and about the child's neck. Traction and a twist of the handle is sufficient to break the neck, then, without removing the instrument, but by turning a thumb-screw a concealed knife is drawn out one-fourth of an inch on the inner side of the blunt hook, and by traction, accompanied by a simple up and down movement of the handle, the point of the instrument being protected by the left fore-finger, the head is separated from the body.

Dr. DIXON also exhibited a douche tube, designed for use in vaginal injections. It is of hard rubber, and at its inner end, which is double the size of the spindle, are large lateral apertures through which the water can run in an abundant but slow current, which answers all the purposes of cleanliness. At the same time all danger of fetid material or air being forced into the uterus is avoided.

Dr. JAMES R. CHADWICK reported:—

#### TEN CASES OF PREGNANCY AND LABOR COMPLICATED WITH FIBROIDS.<sup>2</sup>

Dr. F. BERLIN reported the following case:—

Mrs. K., thirty-five years old, primipara, presented herself at the New England Hospital for women and children, Dec. 1st, 1884, wishing to be admitted to the maternity department. She stated that she always enjoyed good health; first menstruated at twelve years of age, always flowed regularly and moderately. She had been married a few months, and menstruated for the last time the 13th of May. In July she noticed she was getting larger, and discovered a tumor in the right hypochondrium. The first of October she first felt motion. When admitted to the Hospital, the uterus was found enlarged, as in an eight months pregnancy. At the upper right corner of the abdomen was a tumor the size of an orange. Lower down in the hypochondrium on this side was another tumor about the same size as the other one, but not as movable. On auscultation, fetal pulsations at the rate of 136 per minute could be distinctly heard to the left and below the umbilicus. An examination *per vaginam* revealed a mass above the brim of the pelvis, nearly filling out the whole inlet, and pushing the cervix uteri up close to the symphysis pubis. The mass was quite immovable, and an attempt to push it up, while the patient was in the knees-chest position, proved futile. It was decided to wait until the end of pregnancy, and she was sent home to return in January. She came back the 15th of January, no change having taken place in her condition, except that the tumor felt through the vagina had descended still lower, and the cervix uteri was barely within reach of the finger.

Dr. John H. Adams saw the case at the hospital at this time, and also thought it would be best to wait for nature to take its course. Owing to lack of room at the hospital, she was sent home, the 23d of January, with the understanding that at the slightest approach of pains she was to return to the hospital.

That very night she commenced to have pains, which, although at times of a very severe nature, she thought were nothing but colic. But they persisted the following day and evening, and she was brought to the hospital at 10.30 p.m., January 24th.

The pains were occurring every ten minutes. When

<sup>2</sup> See Journal of July 30, page 97.

examined, a perfect revolution of affairs seemed to have taken place. The lower tumor in the right side had entirely disappeared, and its place was occupied by the upper one. In the left side was a prominent mass which had not been felt before. Internally, the mass which had been felt the day previous had disappeared, and the lower segment of the uterus was found in its normal place. The cervix was soft, dilatable, and easily admitted the end of the index finger. A presenting part was felt, which gave the impression of being the breech. As the woman was very nervous and excited she was given a warm bath and ten grains of bromide of potash. The pains during the night gradually subsided, and she slept a good deal. The next day and the days following she was up and about, feeling perfectly well, having occasional slight pains.

February 5th, at 8 P.M., decided labor pains set in. Dr. Whitney, the resident physician, who watched and completed the labor, gives the following account:—

"During each of the pains the tumors grew harder and stood out more prominently, the one on the right side so much that it seemed as if it would burst through the abdominal walls. At 2 P.M., dilatation was complete, and at 2.30 A.M., the membranes ruptured and the right foot came down into the vagina. The woman seemed very much exhausted, pulse 120. After waiting half an hour and no progress being noticed, labor was assisted, and the body extracted up to the head, which latter was found extended and could not be brought down. After futile attempts to flex the head, forceps were put on and the head extracted. The child did not breathe; but the heart impulse was still felt. All efforts to resuscitate it proved in vain. There was no hemorrhage to speak of. The uterus contracted well, but remained large, reaching to the umbilicus. On its surface five separate tumors, varying from the size of an orange to that of a pigeon's egg, could be distinctly felt. The patient's convalescence went on uninterruptedly. She left the Hospital the 26th of February. The uterus was then three fingers' width below the umbilicus. Outlines of fundus of irregular shape, on its right side was a tumor the size of a large fist, freely movable and apparently connected with the uterus by a long pedicle. On the anterior surface of the uterus were two other tumors, considerably smaller. On the left side of the uterus another mass was to be felt, of an irregular, oblong shape, also quite movable. This mass seems to me to have been the same one which was felt through the vagina descending into the pelvis, at the two times the patient was first examined, as it was not felt outside at those times, and in all probability it was drawn out of the pelvis by the powerful contractions of the uterus, while the pelvis became occupied by the breech. Internally the body of the uterus was found anteverted, movable, and its connection with the tumors outside easily ascertained through bimanual examination.

Dr. JONN HOMANS remarked that women with fibroids are generally sterile. After labor these tumors frequently atrophy and disappear. The case mentioned by Dr. Berlin is of great interest. A hard mass filled the vagina and pelvic outlet, and it was almost impossible to get one finger by it and feel the os behind the pubes. In this case Dr. Homans advised waiting till labor commenced, because nature often gets us out of tight places. He thought that it might possibly be necessary to do Porro's operation. When, however, the preparatory pains of labor came on, the tumor had

entirely disappeared, and the os was found in its normal position. Nature did it much better than it could have been done by us under ether. Expectation is the best way to treat these complications.

Dr. HOMANS reported a case occurring in the practice of Dr. C. D. Homans. A lady with a fibroid originating by a broad pedicle from the posterior lip of the uterus was confined the first time at the age of thirty. The tumor of the size of an elongated fist filled the vagina; the labor was tedious and was finished by forceps. There was a dent in the child's temple, caused apparently by the violent pressure against the pubic or iliac bones, by the tumor squeezing the head. The dent is still plainly visible at the age of fourteen.

At the second, third and fourth confinements, the tumor was of about the same size as at the first, delivery in each case was instrumental and difficult. There has never been serious menorrhagia. Unfortunately the patient has never allowed any examination to be made except during the process of delivery.

Another case in which a fibroid the size of a small orange had caused excessive anæmia from almost constant menorrhagia, was cured by marriage and pregnancy, the tumor entirely disappearing after confinement.

Dr. REYNOLDS asked if the color of the vulva was pathognomonic of pregnancy, and if it varied in different women.

Dr. CHADWICK replied that he thought it was pathognomonic when distinct. Among several hundred cases, he had made a mistake but once. He said that it was most marked in those women who had had several children. He considered it an important factor in making a diagnosis.

#### THE AMERICAN DERMATOLOGICAL ASSOCIATION.

The Ninth Annual Meeting of the American Dermatological Association was held at the Indian Harbor Hotel, Greenwich, Conn., August 26th, 27th, and 28th, 1885.

#### WEDNESDAY MORNING SESSION.

The meeting was called to order at ten o'clock by the President, Dr. W. A. HARDAWAY, of St. Louis.

#### A CASE OF TUBERCULO-ULCERATIVE SYPHILIDE OF HEREDITARY ORIGIN.

By Dr. J. E. GRAHAM, of Toronto, Canada.

The patient is a girl twenty years of age. The skin of the right arm from the wrist to the elbow is little but cicatricial tissue. It presents elevations and depressions, and in places is covered with thin scales. The hand is not involved and the affection does not extend deeper than the sub-cutaneous areolar tissue. For three or four inches above the elbow, the arm is atrophied and covered with cicatricial tissue. At the upper border of the cicatricial tissue, there is an ulcer three-fourths of an inch wide, which encircles the arm. Above this there is sound tissue, no nodules are present. The left clavicle presents, about its middle, a swelling and ulceration about the size of a silver dollar. This was the result of a blow. There is no copper-colored appearance. The heart and lungs are healthy and the urine normal. Investigation of the family history showed that the mother was apparently healthy. Three of the patient's sisters, all younger than herself,

were healthy. The father died from pneumonia when the patient was eighteen months old; it was subsequently learned that he had also had syphilitic ulceration of the throat.

The treatment consisted in the local application of a mild mercurial ointment and the internal use of bi-chloride of mercury and iodide of potassium. The condition steadily improved, and, in the course of six or eight weeks, the ulceration had healed. The patient at that time passed from observation.

The speaker referred to the difficulties of diagnosis in this case, as there was a complete absence of specific history, the facts in regard to the father not being learned for some time after the case had been under treatment. There was no history of any previous evidence of hereditary syphilis, but taking all the facts into consideration, the doctor thought that there could be no doubt as to the correctness of the diagnosis.

Photographs showing the condition were exhibited.

#### DISCUSSION.

DR. R. W. TAYLOR, of New York. — There are a number of important points brought up by this paper. First, as regards the family history. The mother had no syphilis, but the father had syphilis. It is now generally conceded that syphilis can be communicated to the child without infection of the mother, and I believe that I was the first one in America to call attention to this fact. I have seen this a number of times, and this has been in cases where a most careful examination of the mother has been made, and where the observations have been continued over a series of years. The doctor states that he could obtain no history of early manifestations of hereditary syphilis. This is not uncommon, but I believe that there is usually some indication of specific taint, but this may be so slight as not to excite notice, or its exact import is not recognized. These may pass away, and, in the course of six months or a year, the ulcerative lesions appear, but it is not uncommon for the child to go to the age of from six to eighteen years without exhibiting this condition. I have reported a case of a girl whose mother had syphilis who had exhibited signs of hereditary disease during her early years. When about fifteen years of age, she had, following a cold bath, the development of ulcerative gummatous tumors all over the body. Another point is the rôle of traumatism. I have frequently noted these conditions following traumatism.

DR. C. HEITZMAN, of New York. — Every one has seen cases similar to the one reported. I have seen cases in which I was unable to determine at first sight the nature of the affection. The diagnosis lies between syphilis and scrofula. A man, aged twenty, came to me with a condition similar to that described by Dr. GRAHAM, affecting the right groin. The ulcer was ten inches in diameter. I was unable at first to make the diagnosis.

DR. GREENOUGH, of Boston. — I should like to refer to the practical point to which Dr. Taylor has called attention, and that is the possibility of the father infecting his progeny without the mother showing any signs of syphilis. Within the past two months, I have seen a woman who has lost three children in succession from hereditary syphilis, yet she is strong and apparently perfectly healthy, and has never shown any signs of syphilis. This woman has been under observation for six or seven years.

DR. J. C. WHITE, of Boston. — I think that in many of these cases it is impossible to make the diagnosis at once.

DR. L. A. DURING, of Philadelphia. — There are certain cases in which it is almost impossible to express a positive diagnosis at first. The result of treatment in causing a rapid cure in the case described would certainly incline me to the opinion that this was a case of syphilitic disease. I have, however, never seen a case recover so quickly.

DR. J. N. HYDE, of Chicago. — As regards the remarks of Dr. Taylor, I will say that I have seen cases which have convinced me that whilst it is not the rule, still occasionally syphilitic children are born where, so far as observation can be made, no evidence of syphilis in the mother can be detected. As far as the general health is concerned, I cannot say that I have seen vigorous healthy women the mothers of syphilitic children. The women are usually pallid and weak, although there may be no symptoms which can be ascribed to syphilis.

I see inherited syphilis in infants constantly, but I have never seen inherited syphilis manifesting itself in advanced years, or if I have, I have failed to make the proper diagnosis. The more I see of syphilis, the more am I satisfied that in its origin, heredity does not amount to very much. The accidental cases of syphilis are very common. I have seen the initial lesion of syphilis on the head of a penis where it was unquestionably due to inoculation from the finger of the surgeon in catheterization. I have no doubt that the case described was one of syphilitic trouble, and, as Dr. Duhring has said, the result of treatment unquestionably points in that direction. There are no cases which yield so readily as old cases of untreated syphilis. As to pronouncing it a case of hereditary syphilis, my experience would not permit me to do so.

DR. W. A. HARDAWAY, of St. Louis. — I think that it is unwise to base our diagnosis on the results of internal treatment. That a case gets well under anti-syphilitic treatment is not proof that the affection is specific in its nature. Local treatment is often all that is necessary.

DR. R. W. TAYLOR, of New York. — Dr. Hyde has made the statement that these women, apparently un-syphilitic, who have borne syphilitic children, have, in his experience, been pallid and weak. I entirely disagree with him on that point. I find such persons in robust health.

The next paper was entitled

#### CLINICAL NOTES ON PSORIASIS.

By DR. F. B. GREENOUGH, of Boston.

The paper was founded on the records of 394 cases of psoriasis. This number occurred in about 15,000 cases of skin disease examined, and represented about two and one-half per cent. 205 cases occurred in males and 188 in females. Several tables of statistics were presented, showing when the cases first came under observation and the age at which the attack was first observed. A large proportion of the cases was first attacked with psoriasis between the ages of ten and forty years, but the fact that one-seventh of the cases showed symptoms of psoriasis before the age of ten years was not in accordance with previous observations. In 97 cases, the speaker had been able to get reliable evidence in regard to the family history. In 31 cases, psoriasis had existed in a near relative, but

in 66 cases, the patients felt sure that the disease had existed in no other member of the family.

The amount of pruritus complained of in psoriasis varies, but it is rarely a prominent symptom, although in exceptional cases, it is very severe. He had never seen any eruption on the hands or feet resembling psoriasis, with the exception of eczema, which was not syphilitic.

In regard to treatment, some cases do well, while others do not. There is no specific. What will benefit one case, may make another worse. In his experience, tarry preparations, especially the oil of cade, have been most efficacious. Great comfort may be afforded by the use of emollients, cod-liver oil is one of the best applications. Cod-liver oil and oil of cade (equal parts) is a common prescription. Chrysarobin is a powerful remedy, but has the disadvantage of destroying the clothing. On the face and scalp it is apt to produce dermatitis. The internal administration of arsenic in some cases is of benefit. Even after apparent recovery, there is great danger of relapse. (This paper will appear in full in the next number of the JOURNAL.)

DR. HYDE.—Did any of these cases have the eruption on the palms of the hands?

DR. GREENOUGH.—None of these cases presented that condition.

DR. HYDE.—I think it would be well to drop the idea that psoriasis occurs on the palms of the hands, at any rate exclusively. In all the cases in which such appeared to be the case, I have been able to make some other diagnosis.

I have observed one or two cases of psoriasis of the head in individuals bald on the top of the head, and in these instances, the eruption confined itself to the portions covered with hair.

DR. L. A. DURING.—The reader of the paper in referring to the diagnosis did not allude to the difficulty sometimes experienced in diagnosing scorrhoea capitis from psoriasis. I have found considerable trouble in the diagnosis, particularly in young girls. In these cases the eruption was confined to the scalp.

DR. A. R. ROBINSON.—In regard to the diagnosis of favus and psoriasis, there is usually no difficulty. I do not agree with the author in regard to one of his points of diagnosis. In the early stage, you do not find moisture when the crust is removed. There is a shiny appearance. It is only in advanced stages that ulceration is present.

I agree with the speaker that psoriasis always occurs in small spots, at first not covered with scales. I consider it primarily an affection of the rete. While it is true that psoriasis often disappears without producing pigmentation, yet there may be discoloration found on the lower extremities, particularly where there is a varicose condition of the veins. In some cases where there are only a few patches of psoriasis limited to the lower extremities, it is often difficult to make the diagnosis, unless there is involvement of other parts of the body, or you have the history. There are other cases of acute psoriasis which closely resemble acute eczema. In reference to the palms of the hands, whilst we do not see cases of psoriasis limited to this situation, yet I am sure that cases have been shown in which the palms of the hands have been affected in connection with other portions of the body.

DR. J. C. WHITE, Boston.—I agree with the previous speakers in regard to the difficulty of diagnosing

between psoriasis of the scalp and seborrhoea. In some cases the diagnosis cannot be made for months. In all parts of the body, pigmentation may follow psoriasis, but never over large areas. In diagnosis, I do not lay much stress on the location of the eruption. When the eruption is sparse, it is more apt to affect the extensor surfaces.

I should like to call attention to one termination which I have seen in three cases, and that is a degeneration into epithelioma.

DR. R. H. MORISON, Baltimore.—I see a great many cases of psoriasis, and in our dispensaries we have many negroes under treatment, but I can recall only one or two cases of psoriasis in the negro. In such cases, there is a loss of pigment.

DR. G. H. FOX, New York.—Too much stress is, I think, laid on the general rule that psoriasis occurs most frequently on the extensor surfaces, the knees and elbows. It is a notable fact that in general psoriasis, the vicinity of the knee and elbow escapes. Many cases of psoriasis occur in weakly subjects, while on the other hand, many cases of eczema may appear in robust persons. In every individual case, the better the patient's health, the less likely is he to suffer from a recurrence of the affection.

I have been very successful in the treatment of psoriasis and in its management, I adopt the teaching of the late Tilbury Fox. He laid stress on the point that in psoriasis, as in other inflammatory affections of the skin, and also in lupus, the first thing to do is to lessen the congestion of the skin. I do not do this by adopting the alkaline treatment, but by restricting the diet. I do not devote special attention to the starchy and saccharine elements of the food, but cut off the meat and order a diet of fruits and vegetables in the summer, and in the winter, give a carefully restricted diet. Tea, coffee, tobacco and stimulants of all kinds are to be cut off. By so doing more will be accomplished than is obtained by using arsenic and local applications at the start.

In regard to local remedies, I never use tar in the treatment of psoriasis. With the application of chrysarobin made at the proper time, there is no necessity for the use of tar. I have seen many cases, in which this drug did no good, but this was because the application was made when the patches of psoriasis were in a congested condition. If the acute congestion is lessened, chrysarobin will produce beneficial results.

DR. C. HEITZMAN, New York.—One of the most important points after making the diagnosis, is to decide as to the acuteness or chronicity of the affection. If it is acute, local applications are to be avoided. If the case is chronic, chrysarobin may be used with advantage, at least temporarily. It is not a cure. I agree with Dr. Fox that restriction of the diet is important for the purpose of lessening the congestion. Tar cannot be dispensed with. Chrysarobin remedies the disease for a time, but in a few months it returns. There is nothing like tar to prevent the recurrence. No mention has been made of pyro-gallic acid, which does good in some cases. There are, however, some cases which cannot be treated successfully with any remedies. The disease will steadily grow worse.

DR. W. A. HARBADAY.—I believe that in psoriasis, we have a disease situated in the skin itself. It is frequently hereditary. The same sort of skin may be transmitted just as a certain color of the hair or of the eye may be transmitted and then any exciting cause

may develop the psoriasis. Traumatism is frequently the exciting cause. I have seen psoriasis follow eczema. It is not unlikely that in seborrhoea of the scalp, there may be the development of psoriasis. Internal causes may produce it. I have seen the excessive use of oatmeal produce typical psoriasis. In the treatment of psoriasis it is important to regulate the diet. I cut off meats and aid digestion in all possible ways. As a local application, I believe that chrysarobin with salicylic acid is very useful in chronic cases. Arsenic is useful on account of its action on the skin. I have employed chrysarobin in liquor gutta-percha, and in gelatine paste. This treatment may be followed up by the application of sulphur ointment. In psoriasis of the scalp, sulphur is quite an efficient remedy.

Dr. GREENOUGH.—I did not intend to cover the entire ground of psoriasis in my paper. The omission of a consideration of seborrhoea was an oversight. In regard to pigmentation, I referred especially to those cases of psoriasis of the trunk which were most apt to be confounded with syphilides.

#### CASES OF ANGIOMA PIGMENTOSUM ET ATROPHICUM.

By Dr. J. C. WHITE, of Boston.

Two cases were reported. The first patient was a young man seventeen years old, and a Russian Pole by birth. Freckles appeared on his face before he was two years of age. These increased in number until the age of six. When the telangiectatic condition first appeared is not noted. When seen, the patient was well developed and apparently in good health. He has, however, grown slowly, and is now no larger than a boy of twelve. The hair of the head is abundant and intensely black. The eyes are also black.

Present condition. Melanosis. The forehead and lower portion of the face are of a dark brown color, and on close inspection small spots of a darker color are seen. The whole trunk is as dark as the skin of a dark Spaniard. The scrotum is very black and the penis and glans present dark spots. The arms and hands are thickly spattered. The legs are also affected. On the right thigh there is one spot of dark color, covered with rather long hair. The mucous membrane of the mouth and pharynx is free from melanosis.

The atrophic condition. On the right side of the face occupying one-half the surface, is a sharply defined area of white cicatricial looking skin. Similar areas are seen on the other cheek, forehead and about the mouth. A few white spots are seen on other portions of the body. The sensibility of the affected areas is decidedly lessened.

Telangiectasis. Over parts of the face there are bright red spots, varying in size from a pin's head to a pea. These are most noticeable in the atrophied portions. Within the lids, there are two angiomatous new growths. Several vascular twigs are also seen on the face. A few red points are found on the general surface.

The second case is a brother of case 1, aged three years, born in New York. When eighteen months old, little colored freckles were noticed on the face. Since then the condition has been developing. His hair is dark brown and his eyes are black. The face is covered with numerous dark brown freckles. The spots are so close together that at a little distance, the skin has a uniform color. In some places, the spots are slightly elevated. The backs of the hands are covered with dark brown spots, elsewhere the skin is

clear. There are no leucodermic spots and no angiomatous condition.

From a study of these cases, I conclude that in the beginning, the development of these spots cannot be distinguished from ordinary freckles. Gradually the spots multiply until they involve a considerable portion of the skin. It is probable that several years may advance without other manifestation of the disease. The telangiectatic condition is probably secondary. In the first case it is most developed in the atrophic portion. It is probable that in this case there will be hypertrophy of the epithelium and final transformation into epithelioma. This has been the result in the thirty-three cases which have been reported.

#### DISCUSSION.

Dr. TAYLOR.—I think that there is a direct relation between the red spots and the macules. The history of the cases which I have seen, have been, first a rash, then the red spots and then the macules. In one case the telangiectasis followed exposure to heat.

Dr. WHITE.—I recognize a great difference in this disease as described by various writers, but I must insist on the correctness of my own observation. The younger child has exhibited none of the precedent hyperemia which has been noted in some cases. The patient has been observed after exertion and when exposed to intense heat, but there has been no hyperemia. The same is true of the first case as far as is known. In the second case, which is still developing, there is no enlargement of the vessels.

#### WEDNESDAY.—EVENING SESSION.

#### RELATIONS OF LUPUS VULGARIS TO TUBERCULOSIS.

By Dr. J. N. HYDE, Chicago.

The speaker began with a detailed statement of all the cases of lupus reported to the statistical committee of the American Dermatological Association, during the last seven years, and compared the frequency of the disease in this country with that reported in the Vienna hospitals. He then gave details of twenty consecutive cases observed by him in Chicago.

The clinical deductions from these records were then added, showing, according to the author, that there was a remarkable absence of pulmonary tuberculosis, scrofula, and allied diseases in the family histories of the last twenty cases reported.

The teachings of the two schools, represented in the past by prominent German and French authors were then referred to, and finally, the later investigations, demonstrating that lupus vulgaris was the result of bacillus infection, not to be differentiated in external appearance of the parasite from the bacillus tuberculosis.

The following clinical facts were then cited in support of the later teaching of this subject as bearing on the vital point in the author's argument, that is, that lupus vulgaris was not the result, as had long been taught, of tuberculosis or other systemic diathesis, but was the product of a local infection by bacilli, entirely unassociated with any constitutional evidence of diathesis or predisposition.

(1) The unimpeachable character of the family record in by far the larger number of cases of lupus vulgaris.

(2) The fact that the disease is in its inception a disorder of the period of childhood, when for the most part, the habits of the child are favorable to infection.

(3) The several seats of predilection are those most favorable to such infection.

(4) The failure of the disease to spread by inheritance.

(5) The remarkable tendency of lupus vulgaris to cutaneous limitation.

#### THE TREATMENT OF LUPUS BY PARASITICIDES.

DR. J. C. WHITE. — reviewed the evidence in favor of the parasitic nature of the affection. All previous plans of treatment which had proven most successful were those which would have the effect of destroying any parasite which might be present.

A number of cases were then reported in which the local use of corrosive sublimate in the strength of two grains to the ounce of water or unguent had been used with beneficial results. The ointment was especially recommended. It had been rarely necessary to prolong treatment over two months. As regards the permanency of the cure the author was unable to speak, as the experiments had been continued for only eighteen months.

DR. SHERWELL. — I would express my profound disbelief in the parasitic nature of the disease, and I do not know that the theories of Koch have been entirely proved. It seems to me that lupus and the scrofulous diathesis represents some form of syphilitic hereditary influence.

DR. WIGGLESWORTH. — I would suggest that the oleates might be more efficient than ointments, on account of their penetrating power.

DR. HYDE. — At the last meeting of the Association, Dr. Taylor suggested the use of a solution of corrosive sublimate in tincture of benzoin. I have used this in cases of lupus and in cases of infecting chancre. It makes an excellent application. In regard to the syphilitic origin of this affection, I would say that I recognize the fact that inherited syphilis is inherited syphilis, and has no relation to this or other diseases.

The next paper was by the president, Dr. W. A. HARDAWAY, of St. Louis, on

#### THE TREATMENT OF PORT-WINE MARK BY ELECTROLYSIS.

In the treatment of this affection, the object is to excite sufficient inflammation to cause occlusion of the vessels. Electrolysis seems to be the most convenient way of doing this. At first the speaker had used a bundle of needles, but he now employed only the single needle. It is important to allow a period of some weeks to elapse between the applications. The histories of three cases were given in which this method had been employed.

#### DISCUSSION.

DR. WHITE. — I have used this method in one case, and have produced considerable improvement.

DR. WIGGLESWORTH. — I have seen good results from cutting the vessel in two places and using a preparation of iron, thus closing up the dilated vessels. The worst case that I have ever seen was that of a lady whose face was so red that it was very noticeable. I treated her for three or four years, and when I got through she was quite a handsome woman.

DR. FOX. — We all admit that the so-called spider cancers and telangiectases are amenable to treatment of different kinds, but when we come to the port-wine

marks we find a difference. I think that better results can be obtained by electrolysis than by other measures, but it does not remove the trouble entirely.

I have used the treatment with puncture and carbolic acid with fair results. I have sometimes passed the electrolytic needle deeply, endeavoring to strike the artery of supply, and sometimes have produced a decided effect.

DR. DENSLOW. — I recently saw a case of port-wine mark on the labia majora of an infant. This had ulcerated when the child was brought to me; as a temporary measure I applied the liquor gutta-percha. In two days, without other treatment, the whole mark sloughed out, leaving nothing but a simple ulcer which completely healed in the course of three weeks.

DR. HARDAWAY. — The advantage of the electrolysis is that it is manageable. A practical point might be referred to, and that is, if after the operation, the part should be frequently mopped with hot water, the inflammatory disturbance will be greatly lessened.

#### REMARKS ON A MOOT POINT IN THE ETIOLOGY OF PSORIASIS.

By DR. S. SHERWELL, of Brooklyn.

The speaker had been struck by the great diversity of opinion in regard to the general health of those affected with psoriasis, and in order to arrive at something like a consensus of opinion on the subject, he had referred to the writings of most of the authorities in dermatological matters. Brief extracts from various writers were then given. The evidence thus obtained strengthened the doctor's opinion that the patients with psoriasis were generally in good health.

He thought that the theory of Pilard, who believes that the rheumatic diathesis is a great exciting cause of psoriasis was the most rational theory that had been advanced.

#### THURSDAY. — MORNING SESSION.

At the business meeting officers were elected as follows: —

*President:* Dr. E. Wigglesworth, of Boston, Mass.

*Vice-Presidents:* Dr. I. E. Atkinson, of Baltimore, Md., and Dr. A. R. Robinson, of New York, N.Y.

*Secretary:* Dr. G. H. Tilden, of Boston, Mass.

*Treasurer:* H. W. Stedwagon, of Philadelphia, Pa. Dr. E. B. Bronson, of New York, was elected to membership.

The next meeting will be held, beginning the last Wednesday of August, 1886, at Greenwich, Conn.

Dr. G. H. Fox gave a brief description of two cases of

#### DYSIDROSIS.

The first case, for want of a better term, he classed under this heading. The patient was twenty-nine years of age and had always perspired freely. Four years ago, the eruption began on the palms of the hands and had persisted. The soles of the feet had also been affected at one time. The skin of the hands was decidedly thick, and had a dark hue and was dotted with numerous elevations of epidermis, averaging in size that of a hempseed. The patient had never seen any moisture in connection with this. There had been no itching. The skin never peeled off. Punctures with a needle revealed no serum or fluid of any kind.

The second case was that of a woman, aged forty-five years, a cook, whose general health was good.

The present trouble began five years ago. The eruption is on the face and consists of numerous large and small vesicles containing clear fluid.

Dr. ROBINSON, — These latter cases are not infrequent, and may persist for months and years. They consist in obstruction of the sweat duct in the corium. They never cause inflammation around them, although sometimes they may be surrounded by a little areola as the result of pressure. The symptoms which they present do not at all correspond to those of dysidrosis as described by Hutchinson and Tilbury Fox, as belonging to dysidrosis of the palms.

[To be continued.]

## Recent Literature.

*The Microscope in Botany. A Guide for the Microscopical Investigations of Vegetable Substances.* From the German of DR. JULIUS WILHELM BEHRENS. Translated and Edited by REV. A. B. HERVEY, A.M., Assisted by R. H. WARD, M.D., F.R.M.S. 8vo. pp. 466. Boston: Cassino, 1885.

This book, issued in an expensive and handsome manner by the publishers is an excellent translation of a good German manual. We think, indeed, that less luxury of paper and press-work might have so essentially lowered the price as to give the book a wider usefulness. After all, for a work intended for frequent consultation the German custom of printing on light, but fine paper, has some advantage, which those who lift Dr. Hervey's heavy volume will think of enviously.

The translation is very smooth and sufficiently accurate; the idea has apparently been to express well the ideas and meaning of the original, rather than to achieve a painful literal exactitude in the rendering. And in attempting this the translator has met with success.

Besides the translation, the volume also contains a considerable number of addenda, by Dr. Hervey and Dr. Ward, which are duly distinguished in the text by the interpolation of brackets. The increments are truly American, for they consist largely of a series of recommendations of American microscopes and microscopical accessories. It seems a pity to mislead students on such an important matter, as is done by striking out the original account of the European microscopes and substituting a set of praises of American stands, praises which exhibit more patriotism than judgment. On the other hand, many of the lesser American devices are capital; but we warn readers against the Syracuse watch-glasses.

With the exception of the first chapter (on the microscope), there have not been many alterations. The directions for the making and preserving of microscopical preparations are given with clearness and good sense. The best part of the book, however, that which gives it individuality and value, is the portion, Chapters IV and V, dealing with what we may call micro-chemistry for botanists. This is a thoroughly original compilation of the extremely scattered literature of a difficult subject. The matter is treated from two sides; first, in Chapter IV, the author goes through the somewhat lengthy list of reagents, and second, in Chapter V, he takes up the various substances the botanist encounters under the microscope, and details the va-

rious methods of studying them. In connection with this, is given for each substance references to the principal literature concerning it.

Before closing, we wish also to commend the hints on drawing given by Behrens. To conclude: the volume is meritorious, and we hope it will contribute much towards the advancement of scientific botany in this country. It is a field we have sadly neglected thus far.

*The Technology of Bacteria Investigation.* By CHAS. S. DOLLEY, M.D. Boston: S. E. CASSINO & Co. 1885.

This is a book presented with the hope that it "will stimulate careful study of the Schomycetes by American investigators." If it fulfils this hope we are mistaken in our estimate of the work. It may be of service to the general reader in medicine, but its use by the beginner is likely to create confusion.

The various methods employed in bacteriology are given, but with no sufficient comment which would enable a judicious selection of them to be made. This is a point which cannot be ignored, in view of the constant and lengthy additions to the subject that are almost daily being published. The form of the book is open to criticism as being unsuited to a manual for the laboratory table, and it certainly was not necessary to fill a third of its bulk with bibliography, by printing it in the same type with the text. H. C. E.

*Manual of Diseases of the Ear; for the use of Students and Practitioners of Medicine.* By THOMAS BARR, M.D. Lecturer on Aural Surgery, Anderson's College, etc. Glasgow: James Maclehose & Sons. 1884. Small 8vo, pp. 518.

This is a most admirable manual of the subject of which it treats, and better adapted for giving thorough, scientific knowledge than any of the lesser works with which we are acquainted, and serves the purpose for which it was intended, to give students a reliable textbook in moderate space, extremely well. It fills a long-felt want. It avoids on the one hand conciseness which is too apt to be uninteresting and incomplete, and on the other hand, wearisome diffuseness and unpractical scientific accuracy.

The arrangement of the work is admirable on the whole, and the subjects are easy of reference; in one or two places, perhaps, a little tendency to introduce new names is noticed. The illustrations, although few in number, are exceedingly well done, and at the end is a list of formulae, a favorite bit, as it has always seemed to us, a dangerous refuge for the medical student and young practitioner. On the whole, the book receives our hearty endorsement.

— Dr. Henry William Reichardt, Professor of Botany in the University of Vienna, committed suicide on the 11th inst., by hanging himself in a fit of temporary insanity. Dr. Reichardt was graduated as Doctor in Medicine at Vienna in 1860, became Assistant Professor of Botany in the same year, and in 1866 was named Deputy Keeper of the Imperial Botanical Cabinet. In 1879, he succeeded Dr. Fenzl in the chair of Botany at the University, and also as Chief Keeper of the Botanical Cabinet and Vice-President of the Vienna Horticultural Society. He was fifty years old at the time of his death.

## Medical and Surgical Journal.

THURSDAY, SEPTEMBER 3, 1885.

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### BIOLOGY, PREPARATORY TO MEDICAL STUDIES.

In the battle between hostile factions of educators on the subject of the best intellectual preparation for the duties of active life it is not, perhaps, within the province of the medical journalist to intrude. We wish, however, to call attention more fully than we have done before, to a new path leading into the study of medicine, which for those who find it to their taste, seems to us to offer an excellent preparation for doing a kind of work which medical science needs. There is, perhaps, some truth in the criticism that the work of the various different schools for professional training tends to fall into ruts, and that the men who are graduated look upon the problems which are to confront them from one common, and that a partial point of view. Anything, then, which being in the nature of sound learning, tends to give variety to the mental attitude and equipment of a profession, is to be welcomed.

The Massachusetts Institute of Technology has always been to some extent a feeder of the Harvard Medical School. It is only comparatively recently, however, that it has designed and prepared one among its courses especially for the training of young men for the study of medicine. This course is called "Biology, Preparatory to Medical Studies."

It covers, like the other courses in the school of industrial science, a period of four years. Of these, the first is identical with the other courses, and is devoted largely to subjects of a general nature, such as mathematics, chemistry, drawing, literature, history and the modern languages. In the second year the work begins to diverge into a biological channel, although the general subjects already alluded to are not discontinued. A large room, well adapted to laboratory uses, has been assigned to this course, and here the students are made practically familiar with living things, beginning with the simplest organisms, such as the amoeba, mould and yeast fungus, and working up gradually to more complex forms. There is a minimum use of textbooks, and the eye and hand of the student, assisted by the microscope, the scalpel, and similar appliances, are the media through which the mind is brought directly

in contact with the phenomena of living things. Comparative anatomy, studied entirely by dissections, first of the lower animals, and then of the mammalia, histology, experimental physiology, embryology (studied for obvious reasons chiefly in the chick, but forming a most complete groundwork for the study of the human embryo), and finally, what may be called transcendental biology, including such topics as natural selection, mimicry, heredity and instinct, constitute the large work of the course. Meanwhile, the more general subjects are not neglected, since physics with laboratory work, chemical methods and sanitary chemistry, as well as the modern languages, constitutional history and political economy are also included.

This course of study, which has but just got upon a fair working basis, has during the last year had a number of students who with more or less zeal for the subject, have been working in its laboratory. Only a comparatively small number of them, however, are men who have medicine as a calling definitely in view, and are following the biological course as a means to that end. It is evident that the course, especially if kept up to a high standard of thoroughness, can never be popular with that unfortunately large class of men who are seeking the shortest cut to medical practice on a money-making basis. Moreover, the intellectual trend of a large number of the men who seek a liberal preparation for medical study, will lead them as heretofore through the colleges and universities. Doubtless, however, some of these latter may, after graduation, take the last two years of the biological course, and thence pass perhaps into the second year of the medical school to spend three years there, thus completing the four years' course. In this way but one year more than the ordinary term would be expended. Others whose means permit and who realize how little most men can accomplish in the way of medical practice in our large cities, before the age of thirty, may easily find time after graduation from college for the two years of biological work and four years at the medical school, and then have two years to spare for hospital service or foreign study.

We have spoken chiefly of the course established in connection with the Massachusetts Institute of Technology, because we have had an opportunity of witnessing its appliances for work and of learning from the accomplished teacher in charge of the department of his purposes and aims for the students under his instruction. We understand, however, that a similar work is going on in other cities. The Johns Hopkins University, which is, perhaps, to be one of the leading centres of medical teaching in this country, is giving, as is well known, especial attention to and providing special facilities for, biological studies. The Sheffield Scientific School of Yale College has already equipped in a similar course a number of men for the medical profession.

The great "Dark Continents" of medical science to-day comprise among others that unexplored domain lying between the boundaries of chemical and physio-

logical science. Another region, hitherto unknown, but now occupied by more numerous investigators and giving hope of some contribution to our knowledge of disease, is the study of the lower organisms. For these and kindred researches we look with hope to some of the men who bring into medical science such training of brain, and eye, and head, as may be gained by zealous and earnest work in the field of biological science.

#### THE UNCERTAIN ANTI-MALARIAL PROPERTIES OF THE EUCALYPTUS.

THE reputed properties of the eucalyptus globulus as affecting the prevalence of malarial diseases in climates where the tree can be cultivated successfully, have attracted considerable attention on the part of hygienic observers within the past twenty years or more. Observations in Italy and in Algeria gave promise of remarkable protection afforded by means of plantations of eucalyptus, and trees were largely distributed by the Italian Government in 1875 to the inhabitants of the Roman Campagna, where forests were planted with the confident belief in a future immunity from malarial poison. The singular properties of the tree have been attributed to the wonderful rapidity of its growth, and the consequent drainage of the surrounding soil, and also to a certain specific quality afforded by the exhalations of its leaves. The former has usually been accepted as the more reasonable explanation.

Prof. Tommasi Crudeli<sup>1</sup> adduces certain observations in opposition to this belief. The summers of 1881 and 1882 were notably dry in the neighborhood of Rome, and also exceptionally free from malarial diseases. During this period of unusual health a serious epidemic of malarial fever broke out at Tre Fontani, where a monastery of Trappists is located. At this place these monks had carefully planted and watched a grove of eucalyptus trees, to which they had also attributed their temporary immunity from malarial disease. To confirm the experiment a colony of convicts had been established in that part of the estate which was believed to have been made healthy in consequence of the forest of eucalyptus trees. In the fever season of 1880, nearly all the colony of convicts were attacked by fever, and notwithstanding the careful precautions taken in the summer of 1882, every inhabitant was attacked, both the monks and the convicts suffering severely.

Professor Crudeli says: "We must remark the singular contrast presented by the sanitary state of the whole Agro Romano in 1882, and the great development of malaria which took place in this plague-stricken spot in it, which so many, both in Italy and abroad, declared to be already cured by eucalyptus plantations, and a wisely-conducted high cultivation, and it cannot fail to strike all those in Italy who are interested in the vital question of the improvement of malarious soils.

"The facts prove to what risks of mistake we expose ourselves if we hold *a priori* that the methods which have resulted in a permanent improvement of one malarious locality can be usefully applied to all."

As to the best method of improving the condition of any given soil with reference to the development of malaria, he presents the following proposition:—

"The condition of such a permanent improvement is that of so modifying the physical condition and the chemical composition of the soil as to render it incapable of producing the malarial ferment."

In an address before the International Medical Congress at Copenhagen in 1884, Professor Crudeli stated certain conditions as essential to the development of malarial poison.

- (1) A temperature not less than 20° C.
- (2) A moderate amount of permanent moisture in the soil.
- (3) Ready access of oxygen to the strata which contains the ferment.

The efforts of man must be confined to the destruction of two of these conditions, by excluding the oxygen by means of topdressings of compact soil, and also by removing the subsoil water by drainage.

Instances were also cited wherein the French Government had made inquiries in Algeria, and shown that the woods or groves of eucalyptus established there had not affected the hygienic condition of the locality in the slightest degree.

#### MEDICAL NOTES.

—The amount of quiet heroism shown, when occasion arises, by members of the medical profession is little understood, and, as a rule, little regarded outside its ranks. The profession, as a whole, is exposed to the attacks of a large number of wrong-headed persons, who, in the advocacy of their pet-isms, heap a vast amount of undeserved obloquy upon it. We are called heartless and mercenary, and it is proclaimed that our deeds of charity are done in the hope of indirectly reaping some pecuniary reward, and that we take a "fiendish pleasure" in inflicting pain; yet those who know the inner life of hospitals, and the regular routine of general practice, know how much self-denial and how much silent courage are daily displayed. It is well for us and well for the public, that sometimes a conspicuous act of courage is brought prominently forward, and receives the recognition which it deserves; and it is, therefore, with great pleasure that we note the official announcement, that "the Queen has been graciously pleased to confer the Albert Medal of the Second Class" upon Edward Charles Thompson, Esq., M. B., University of Dublin, L.R.C.S.I., and surgeon of the Tyrone County Infirmary, for conspicuous heroism displayed in endeavoring, on April 11th, 1885, to save the life of a child, named Herbert Mitchell, suffering from diphtheria." Dr. Thompson is to be heartily congratulated on the reward which his courageous conduct has deservedly received. — *British Medical Journal*.

<sup>1</sup> The Practitioner, July, 1886.

— His Honor, William McGregor, M.D., C.M.G., has been appointed by the Imperial Government administrator of the government of the colony of Fiji. The *Australasian Medical Gazette* reprints an English translation of that portion of his speech at the annual meeting of the chiefs in May last, which relates to sanitary affairs. In it, Dr. McGregor tells the chiefs that during the past year there were actually 2,562 more deaths than births, and that the principal, if not the sole immediate, cause of the great decrease in population, was an epidemic of whooping cough. The fatality in the aboriginal population from this epidemic of whooping cough was much less serious than that from a similar epidemic of measles a few years ago.

— According to the New Orleans *Picayune*, Pension Commissioner Black has turned out three highly respected members of the board of examining surgeons, and undertaken to appoint in their places one man now under indictment and two others so young to fame as to be unknown by the public.

— *La Enciclopedia Habana* gives an account of a case of catalepsy in a young soldier of twenty-two, now in the military hospital of San Ambrosio, in Cuba. He has remained in a cataleptic condition for fourteen months.

— The cuca plant from which the new local anæsthetic is obtained, is reported as being planted on a large scale in Ceylon.

## Miscellany.

### THE INTERNATIONAL CONGRESS.

WE are glad to gather from our latest information from the United States that the prospects of the International Medical Congress meeting have improved. It would be strange indeed if such a project in such a country could fail of a successful issue. The organization of the profession there may be somewhat different from what it is in older countries, and there may be ideas of professional freedom which exceed ours. There may even be questions of a personal character involved in the arrangements to be made; but that the arrangements will be great, and conceived in a magnanimous spirit, and worthy of the profession of a great country may, we trust, be taken as already secured. One guarantee of this hopeful view being realized is to be found in the nomination of Dr. Flint as President of the Conference. Dr. Flint is so well known amongst us, not only by his works, but by his genial and dignified presence, that the English profession will need no other proof of the oneness of the profession in both countries, both in its spirit and its practice, than the selection by the American Medical Association of this distinguished physician for the chair of the Congress. It will be the same in other European countries. Dr. Flint has not hesitated to take long voyages in promotion of the international co-operation of the profession. He was as active at Copenhagen as in London, and we doubt not that the European response to the American invitation will be wide and hearty. The little differences which have arisen in America are such as the near approach of the Conference will dispel or resolve. Some of them are differences which will keep, and

which can be postponed till after the Congress. The Congress itself will swallow many of them up, and give an overwhelming exhibition of the unity of the profession, such as will best at once answer and convert those who would break it up into sections and cliques, or liberate any of its members from those great traditions which have been the distinction of the profession from the time of Hippocrates downwards.

There are, indeed, powerful attractions to draw members of the profession over to Washington in 1887. The road is not an untrodden one. Many of our brethren have already crossed the water, and they bring back but one report of the greatness of the land, and the hospitality and kindness of its people, and especially of our medical brethren. Besides this, we need not remind our readers of the fact that medical art and science are in a most active state across the Atlantic. The Americans set us an excellent example year after year of disregarding the sea and its sickness in search of knowledge, and to acquire the last hints of Europe in art or science. They come so freely that we are apt to think they are only learners, and not teachers; but no mistake could be greater. They are profoundly influencing both surgery and medicine, and our own foremost leaders would be the first to admit their indebtedness to American physicians and surgeons in respect of details, and of boldness, in the improvement of instruments, in the great operations of surgery, in the addition of new medicines, and of enterprise in the whole field of pathology and therapeutics. — *Lancet*.

THE *Lancet* has not taken up a wise line in reference to the Washington Congress. It has either been misinformed as to the facts and the importance of the unfortunate dispute now going on in America, or else it has wilfully shut its eyes to them. It is absurd, for instance, of the *Lancet* to attempt to minimize the differences which have caused the withdrawal from the Congress of almost every man of mark in America. The fact that nearly every medical journal of any repute in the United States has vigorously condemned the action of the American Medical Association, and given its warm support to the men who are contending for the freedom of the profession against the selfish designs of a clique, should in itself have induced the *Lancet* to give a little more attention to the question before taking the wrong side with such a light and careless heart. The sole fact that seems to weigh with the *Lancet* is that Dr. Flint has been appointed President of the Congress, or rather that his original appointment has been confirmed by the new Committee. Dr. Flint's is no doubt a powerful name to shelter one's self behind. He is incontestably one of the most eminent representatives of the profession in the United States, and it has been a source of profound sorrow to those who have felt constrained to withdraw from the Congress, that in doing so they have had to part company with him. But we cannot blind ourselves to the fact that Dr. Flint, eminent and honored as he is, has in the present instance allowed himself to be made the instrument of a minority. The part which Dr. Flint would take in this lamentable strife has been foreseen and discounted. The men of Boston, Philadelphia, and Baltimore who withdrew from the Congress knew that he would not follow them. The fact is that Dr. Flint is bound up with

the American Medical Association, and an honorable feeling of loyalty no doubt constrains him to accept its decisions, however much he may deplore them in his secret heart. — *Medical Times and Gazette*.

#### PARALYSIS OF THE BLADDER FROM THE USE OF CARBOLIC ACID.

CARTAZ, in the *Gazette méd. de Paris*, 1884, No. 42, reports interesting cases of vesical paralysis due to the use of carbolic acid in surgical dressings. This is one of the various toxic effects of the acid, and has been observed by the writer only twice, occurring in the first instance after irrigation of the uterus with a two per cent solution of carbolic acid after abortion. The paralysis disappeared on the substitution of corrosive sublimate as a disinfectant. The second instance was met with in the case of an aged woman with fracture of the neck of the femur. The dressings, which were daily changed, were treated with five per cent solution of carbolic acid. In two weeks there was an enormous distension of the bladder, and for forty-eight hours the woman had not urinated. By the catheter about a quart of dark brown urine was evacuated. In four days the paralysis disappeared, the carbolic solution having been replaced by boracic ointment. There appeared no reason to doubt that in each case the paralysis of the bladder was caused by the drug in question, as in both patients the urine had the color characteristic of carbolic acid poisoning, and the symptoms of paralysis in each case disappeared on abandoning the use of the drug. Only two similar cases are reported, and in these vesical paralysis resulted from drinking a concentrated solution of the acid. — *Centrabl. für Chirurgie*, March 28, 1885.

#### ASSAULTS BY GANJA-SMOKERS.

MURDEROUS assaults by individuals under the influence of Indian hemp have been somewhat frequent of late in Bombay. At the Bombay Police Court, towards the end of May, last, two cases of this nature came up for trial. In both cases the assailants were Mahomedans. In one case, the prisoner, Khuda Baksh, without provocation, struck with his fists a Parsee child, aged two and a half years, which was being carried along the street by an older girl. He there-afterwards seized the child by the legs and dashed its head on the ground. He was then seized by the passers-by, and, on being brought before the Magistrate, pleaded guilty, saying that he at the time was under the influence of ganja, and did not know what he was doing. As the child recovered from the concussion of the brain, the man was only sentenced to six months' rigorous imprisonment. In the second case, a Moghul, named Syed Hossain Ali Khan, while under the influence of ganja, was walking in the street with an open knife in his hand, when he made a thrust at another Moghul with the knife. The attacked individual, by stepping backwards, received only a comparatively superficial wound over the stomach. The assailant then fled through the bazaar like a maniac, brandishing the knife, and threatening to attack every one in his neighborhood. He was seized with much difficulty, and was sentenced to six months' rigorous imprisonment. A very large number of the inhabitants of this country are addicted to this form of in-

toxication, and the present low price of the drug allows of its being too readily procurable, so that further restrictions on its sale are certainly called for in order to lessen this source of bodily danger from the ganja-habitue, to which the public are constantly exposed. — *Indian Medical Gazette*.

#### Correspondence.

##### COCAINE IN CRACKED NIPPLES.

MR. EDITOR,—As it is the correct thing to use the muriate of cocaine for everything from corns to toothache, and as I have not seen it recommended as yet for fissured or eroded nipples of nursing women, I wish to report that I have found it to be a perfect anæsthetic in these cases. In three such cases a four per cent solution was applied with a small brush, in five minutes a second application was made and five minutes later two of the patients nursed directly from the nipple, the other using a nipple shield. All experienced a complete relief from pain. Furthermore it did not appear to hinder healing of the part. If time is any object a stronger solution should be used. Washing the nipple before the child nurses seems to make no difference to either mother or child.

1083 TREMONT STREET.

GEORGE C. MECUM.

##### ON THE INCOMPATIBILITY OF CHLORAL HYDRATE IN THE PRESENCE OF POTASSIUM BROMIDE AND ALCOHOL.

BOSTON, MASS., SEPT. 1, 1885.

MR. EDITOR,—In the July 23d number of the JOURNAL, Professor Markoe in a communication calls attention to an alleged incompatible prescription consisting of

"R Bromid Potass.	.....	℥ ss ʒ iii.
Chloral Hydrat.	.....	℥ ss ʒ iii.
Tr. opii et Camph.	.....	℥ ss ʒ iii.
Syr. Zingiber.	.....	℥ ss ʒ iii.

Sig. One or two teaspoonfuls in half a wineglass of water every 2 to 6 hours. For sleep."

He says on putting this prescription up, a separation of it occurs into two layers, due, in his opinion, to the formation of chloral alcoholate, which is less soluble. He also cites in full three experiments to prove his supposition.

Now, I have repeated the three experiments cited, but do not get the separation into layers which he describes, but on the contrary, a perfect homogeneous mixture results, in each case. Under Ex. 2, he says: "After standing a short time the mixture separated into layers." I do not know what he calls a short time, but my mixture has been standing three days, and has not separated as yet.

Thinking that perhaps the method of putting up the prescription might vary the result, I repeated Ex. 2 by two different methods.

In the first, I dissolved the chloral in the alcohol and the potassium bromide in the water and syr. of ginger, and mixed the two solutions.

In the second, I dissolved the bromide of potassium and chloral together, in the syr. of ginger and water and then added the alcohol, and in both cases the result was a homogeneous mixture, as before stated.

To separate portions of these two mixtures I added a small amount of tr. opii Camph., but that did not affect the stability of the mixture. Showing that the other ingredients in the paregoric played no part in the alleged incompatibility.

I wish also to state that the drugs used by me were U.S.P. I cannot account for Professor Markoe's results, except that either he had not shaken his mixtures carefully or else drugs of a peculiar quality were used.

I would add that my results seem to be confirmed by statements in September number of the *Druggists' Circular*, Page 178, and in the *Pharmaceutische Rundschau*.

Yours respectfully, HENRY EHRICH

## REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 15, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	756	392	35.75	13.26	23.53	.78	3.69
Philadelphia	477,465	467	230	25.20	9.26	16.38	2.73	3.76
Brooklyn	644,536	337	164	32.64	11.20	25.60	1.60	1.60
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	216	101	25.38	12.88	20.24	2.30	1.84
Baltimore	408,520	—	—	—	—	—	—	—
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	93	38	25.92	10.80	17.28	4.32	2.16
New Orleans	234,000	103	35	28.13	12.61	14.55	2.91	4.85
Buffalo	201,600	—	—	—	—	—	—	—
District of Columbia	194,510	88	37	28.50	22.52	15.96	4.56	1.14
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	50	25	38.00	10.00	32.00	4.00	—
New Haven	62,882	30	13	16.66	13.33	6.66	6.66	—
Nashville	54,400	30	11	36.66	16.66	24.44	—	3.33
Charleston	52,286	30	11	36.66	13.33	10.00	10.00	—
Lowell	71,447	—	—	—	—	—	—	—
Worcester	69,442	30	17	50.00	13.33	50.00	—	—
Fall River	62,674	—	—	—	—	—	—	—
Cambridge	60,995	30	19	46.66	—	43.33	—	3.33
Lawrence	45,516	21	12	28.56	28.56	28.56	—	—
Lynn	44,895	22	12	31.85	9.11	31.85	—	—
Springfield	38,090	15	9	42.22	6.66	33.33	—	—
Somerville	31,350	16	9	37.50	—	18.75	—	6.25
Holyoke	30,515	14	6	42.84	14.28	28.56	14.28	—
New Bedford	30,144	24	9	38.44	16.14	38.44	—	—
Salem	29,503	19	4	21.04	21.04	21.04	—	—
Chelsea	24,347	14	6	—	—	—	—	—
Taunton	22,693	8	3	37.50	—	25.00	—	—
Gloucester	21,400	15	10	33.33	—	13.33	—	13.33
Haverhill	20,505	10	2	—	20.00	—	—	—
Newton	19,421	3	—	33.33	—	33.33	—	—
Brocton	18,323	17	8	29.44	29.44	17.66	—	5.88
Malden	15,275	4	1	25.00	—	25.00	—	—
Newburyport	13,947	8	7	50.00	—	50.00	—	—
Waltham	13,568	5	—	40.00	20.00	40.00	—	—
Fitchburg	13,433	8	—	—	—	—	—	—
Northampton	13,165	4	3	50.00	—	50.00	—	—
Massachusetts towns.	—	—	—	—	—	—	—	—

Deaths reported 2,466; under five years of age 1,197; principal infectious diseases (smallpox, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 794, consumption 301, lung diseases 121, diarrhoeal diseases 563, diphtheria and croup 73, typhoid fever 51, whooping-cough 10, malarial fevers 32, scarlet fever 11, cerebro-spinal meningitis seven, puerperal fever six, measles eight, erysipelas three.

From whooping-cough, New York 26, Brooklyn six, Philadelphia four, District of Columbia, Providence, Somerville, and Gloucester one each. From malarial fevers, New York 11, New

Orleans six, Charleston five, Brooklyn and District of Columbia three each, Nashville two, Philadelphia and Springfield one each. From scarlet fever, New York four, Philadelphia and Brooklyn three each, District of Columbia one. From measles, New York six, District of Columbia and New Haven one each. From cerebro-spinal meningitis, New York three, Philadelphia two, Taunton and Brockton one each. From puerperal fever, New York and Cincinnati two each, Philadelphia and Malden one each. From erysipelas, New York three.

Cases reported in Boston: scarlet fever 16, measles 15, diphtheria 14, and typhoid fever 10.

The meteorological record for the week ending August 15th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
Saturday, Aug. 15, 1885.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Daily Mean.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	7.23 A. M.	3.23 P. M.	11.23 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Sunday, . . . 9	30.116	65.2	68.8	59.1	79.0	77.0	90.0	82.0	N. E.	E.	S. E.	3	12	3	F.	C.	O.	—	—
Monday, . . . 10	30.073	70.5	70.7	62.3	90.0	63.0	88.0	80.3	S. E.	S. W.	S. W.	5	11	10	O.	C.	O.	—	—
Tuesday, . . . 11	29.951	74.9	85.3	66.0	90.0	75.0	89.0	83.7	W.	W.	S. W.	10	6	9	O.	O.	C.	—	—
Wednesday, . . . 12	29.967	78.5	88.7	70.0	89.0	57.0	92.0	73.3	S. W.	S. W.	S. W.	10	10	8	F.	F.	C.	—	—
Thursday, . . . 13	29.778	78.4	85.5	73.2	83.0	73.0	83.0	82.3	W.	S. W.	S. W.	12	24	15	F.	O.	F.	—	—
Friday, . . . 14	29.967	77.5	88.8	69.4	85.0	66.0	66.0	66.3	S. W.	W.	N. W.	11	22	12	O.	C.	C.	—	—
Saturday, . . . 15	29.922	62.4	70.0	59.0	73.0	67.0	74.0	71.3	N.	S. E.	N. W.	17	10	8	O.	F.	C.	—	—
Mean, the Week.																		2 hrs.	.01

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING AUGUST 23, 1885.

JONES, WM. H., surgeon. Detached from the Wachusett, and waiting orders.

## Original Articles.

CLINICAL NOTES OF PSORIASIS.<sup>1</sup>

BY F. B. GREENOUGH, M.D.

It is with no expectation of throwing any new light on so well-known and not uncommon a disease as psoriasis, that I venture to occupy the time of the meeting. The fact, however, of having had the opportunity of seeing quite a number of cases of this disease, 394, and of having endeavored to obtain such records of them as were obtainable, seemed to me to furnish data for some statistics, which might be of value, if for nothing else, with regard to the questions of sex, age, date of first appearance of the disease, evidence, either positive or negative, as to the history of an hereditary influence, etc.

Apart from the mere statistical information that can be obtained from these records, I have been much interested in seeing how far the cases seen conform to the description of the disease as given by the recognized authorities. In any large number of cases some anomalous ones must occur, and these are the ones that are more especially interesting from a diagnostic point of view. Inasmuch as the majority of the patients seen have been out-patients at the Boston Dispensary, the records necessarily cannot be anywhere near as complete, as they would be in the case-book of one's private practice. In fact, with the exception of the entry made at the time of the first visit, which gives the sex, age, the date of the first appearance of the disease, if any apparently reliable testimony on that point can be obtained, and also any hereditary influence or known absence of it, the data as to appearance, progress, and termination of the cases are entirely a matter of recollection.

These 394 cases of psoriasis occurred in a number of about 15,000 patients seen seeking advice for cutaneous disease. That is to say, the cases of psoriasis observed, were a little over two and one-half per cent of the cases of general skin disease seen. This is a larger proportion of frequency than usual: Hebra's statistics give the ratio of psoriasis to general disorders of the cutis, as one in sixty, or one and two-thirds per cent. Of these 394 cases, 205 patients were males, and 188 females. This gives a slight excess in favor of the male sex. With regard to the age of the cases when first seen, twenty-one were under ten years old. Four were four; one was five; five were six; two were seven; six were eight; and four were nine; in all twenty-one. Thirty-three were from ten to fifteen; forty-seven were from fifteen to twenty; one hundred and twenty-nine were from twenty to thirty; seventy-two were from thirty to forty; forty-two were from forty to fifty, and there were fifty cases that were fifty years of age and over; in all, three hundred and ninety-four. Forty-four cases when first seen gave decided testimony, or it was given for them, that they had not had any previous manifestation of the disease. Seven of these were under ten; that is, two were four; two were six; one was eight; and two were nine; five were from ten to fifteen; six from fifteen to twenty; fourteen from twenty to thirty; six from thirty to forty; five from forty to fifty, and one over fifty.

In one hundred and seven cases the age at which they were first attacked by the disease, was reported in

a way to warrant accepting it as probably correct. They were as follows: under ten there were thirteen; that is, one was three; two were four; two were five; one was six; three were seven; four were eight; in all thirteen. From ten to fifteen there were thirty; from fifteen to twenty there were fifteen; from twenty to thirty there were twenty-six; from thirty to forty there were thirteen; from forty to fifty there were five; and over fifty there were five, which five cases were respectively fifty, fifty, fifty-two, sixty and sixty-seven.

Taking these one hundred and fifty-one cases, (forty-four seen and one hundred and seven reported) where the date of the patient's age when first affected by psoriasis could be got, we have: number of cases, 151; under ten there were twenty; from ten to fifteen there were thirty-five; from fifteen to twenty there were twenty-one; from twenty to thirty there were forty; making ninety-six; from thirty to forty there were nineteen; from forty to fifty there were ten; over fifty there were six; in all, one hundred and fifty-one.

It will be noticed that out of these 151 cases, ninety-six were first affected with psoriasis between the ages of ten and forty, which is what we should expect; that is to say, that a large proportion of the whole number should come between those ages, but twenty cases out of 151, occurring in individuals under ten years of age is certainly contrary to the teaching of the books, and that there should be six cases who were attacked by the disease for the first time, after passing their fiftieth year, is still more extraordinary. In ninety-seven cases I was able to get what seemed to me to be sufficient evidence as to the existence, or the reverse, of an hereditary influence. I have only taken those where the intelligence of the patients and the circumstances of their lives made it seem probable that their testimony on the subject was reliable. In thirty-one cases I got a history of the probable existence of psoriasis in some immediate member of the family, and in sixty-six cases there was a denial of any such disease, from individuals who had lived at home, or would be likely to have known if any of their near relations had been afflicted in the same way that they were. The fact that very nearly one-third of the number of patients from whom any definite evidence on the subject could be obtained, gave an account of the disease having manifested itself in their family circle, would tend to show that hereditary influence played more of a rôle in the causation of psoriasis than is generally thought. It is true that thirty-one cases out of three hundred and ninety-four is not a large proportion, but on the other hand it must be remembered that the great majority of these cases, being seen as out-patients in a public service, belong to a class in which family ties are not long kept up, and many of them being of foreign birth, know little or nothing about their family. In fact in only ninety-seven instances could any information which seemed reliable, be obtained, and of these, very nearly a third reported the existence of an hereditary influence. The term hereditary influence is used in its broadest sense, as I have included under it the cases where the disease was reported as having been known to exist in uncles, aunts, brothers and sisters, and in some cases in progeny. Perhaps a family tendency to the disease would be a more strictly appropriate term.

With regard to the general health of these cases, I should say that on the whole, Hebra's statement that

<sup>1</sup> Read at the annual meeting of the American Dermatological Association, August 26, 1893.

the subjects of psoriasis are apt to be strong, robust and hearty, holds good; perhaps to a lesser extent in the female than in the male sex. Whether this difference between the sexes is any greater than can be explained by the fact that the women of the lower and middle classes, are as a rule, less robust than their laboring, outdoor-working husbands, I cannot say. I remember few of these cases of psoriasis that showed great general debility and poor condition, whereas, on the other hand, quite a large proportion of them exhibited every evidence of robust and blooming health, having large muscles, and being rosy, perhaps with a tendency to rather more adipose tissue than is consistent with our idea of perfect condition.

The conventional type of the butcher, or market-stall man, represents very well the physical condition of quite a number of them. In many others, however, the general health was neither markedly good nor the reverse. The localities of preference of the eruption in the cases seen, have proved very uniformly to be those described by the authors. In those cases where the eruption was at all fully developed, almost constantly efflorescences would be found about the elbows and knees, and occupying the extensor side of the limbs much more than the flexor. This fact is one of the most important helps we have in diagnosis. There are of course exceptional cases, of one class of which I have seen several instances, having several spots, or one large patch of eruption confined entirely to the legs below the knees, without any sign of manifestation elsewhere. One of the most interesting of the cases seen was that of a negro. The eruption was of the nummular form, consisting of several circular patches, from the size of a quarter to that of a silver dollar, slightly raised above the surface, and giving to the touch the feeling of infiltration. The color of these patches was perhaps slightly darker than that of the surrounding, healthy skin, but very slightly so, and this was the only evidence of hyperæmia. The patches were covered with heavy epithelial scales, which instead of the characteristic pearly whiteness, showed a dirty grayish tint, and when removed and held up to the light, even to the naked eye, showed numerous very fine points of pigment, as though they had been powdered with a very fine, dark gray pepper. Unfortunately this patient, like many others, disappeared, and was only seen twice. It is chiefly with reference to diagnosis, and more especially with regard to points of differential diagnosis, that the observation of a large number of cases can be made of value. While a fully developed and typical case of psoriasis is one of the most well marked and easily distinguished of skin diseases, there are nevertheless cases where the diagnosis is by no means so easy, either because the case is anomalous or from the fact of the eruption having been affected by treatment, or on account of its having, when first seen, already begun to change in appearance from the process of involution having begun. Again where a large number of cases are seen, some will be found that are complicated by the coexistence of other cutaneous disorders, from which of course a patient is not exempted by the mere fact of his having psoriasis. The eruptions which most resemble, and at times are not easy to distinguish from, psoriasis, are those which are symptomatic of constitutional syphilis. My experience has been that quite a fair proportion of cases of psoriasis are mistaken for, and treated as, syphilis. I remember one case of a respectable middle-aged woman

who showed a perfectly typical case of psoriasis, with a history of its having first appeared before the age of puberty, and of having been affected by it off and on ever since, saying that she would follow out any treatment that I ordered, but she hoped that I would not give her mercury, as she had been salivated six times without any improvement in the disease. One of the most common regions for the manifestation of psoriasis is the scalp, and it is also a place where the diagnosis is sometimes difficult. The first appearance of the eruption in this situation is very much the same as that which is found as one of the earliest, and not unfrequently the first, symptoms of secondary syphilis. In both cases the efflorescence consists of a small crust or scab, raised above the surface, generally on the top of the scalp, or on the temporal regions, which generally is first discovered by the patient from the fact of his comb catching on it. As far as one can judge by simple inspection there is very little difference between them, but while the crust of a commencing patch of psoriasis is entirely epithelial, which when picked off will show a few points hardly larger than a pin's point from which blood oozes, the scab due to syphilis is the result of a small pustule, and when removed will show a drop of moisture, or at least a raw surface as a base.

There is one peculiarity in the eruption of psoriasis on the hairy scalp, not only in its first appearance as small separate points of epithelial crusts, but also when it has increased into large patches, even to the extent of involving the whole of the region covered by hair, and that is that the hyperæmia, which is always noticed in patches on the skin elsewhere, cannot be seen. That is to say, psoriasis on the hairy scalp shows more or less epithelial scales, but no redness. In this respect it is analogous to the efflorescence of the tinea trichophytina, which on the scalp simply appears as a dirty, grayish scurfy spot, while on the integument elsewhere we have a decided redness of the circular patches affected. Whether the congestion of the affected part of the scalp does not exist, or whether the hair prevents its being appreciated, I cannot say, but its absence is not due to the locality, for in cases of patients who have become bald who have psoriasis, the redness of the patches on the scalp is just as marked as anywhere else. One quite characteristic symptom of psoriasis of the scalp, is the existence of a band of hyperæmia from three-eighths to one-half an inch in breadth, running along the forehead contiguous to the margin of the growth of the hair. The skin here is red and shiny, but I have never seen heavy scales on it. This band of hyperæmia is typical of psoriasis and is to be considered in questions of differential diagnosis between psoriasis of the scalp and eczema capitis. This differential diagnosis is at times rather puzzling, and I have seen a few cases where I was decidedly in doubt as to whether I had to do with a case of psoriasis of the scalp, eczema capitis, or favus. The thing to be remembered is, that in psoriasis the crusts and scales are simply epithelial, whereas in even chronic eczema some evidence of dried serum or pus is likely to be found, or at least, history of its previous existence is obtained. Eczema, when affecting the whole scalp, is very apt to extend to the ears, and I never have found any enlargement of the post-cervical glands in cases of psoriasis, whereas in eczema of the scalp it is quite common. The line of hyperæmia on the forehead, which I have referred to, is never seen in eczema, and lastly, it would be rare to have a

case of eczema capitis in which you could not get a history of some previous acute attack, as shown by the exudation of serum matting and stiffening up the hair. With regard to favus, the patient would have to be quite young, the crusts would be more solid and like mortar, which when picked off would leave a granular raw base. Evidence of destruction of the hair follicles, as shown by partially bald patches would be seen, and very likely the yellowish cup-like appearance characteristic of favus could be determined. The microscope would, of course, settle the diagnosis. I have never been able to satisfy myself that psoriasis of the scalp, even when affecting the whole of it, caused any permanent loss of hair. This seems extraordinary, when we think of the very decided damage which we see resulting from what seems to be a much less serious abnormal condition of the scalp in cases of alopecia furfuracea. Nevertheless, I think I can say, having carefully watched some cases in private practice, that the hair is not affected either in quantity or quality. In one case the patient, a lady, thought that a rather premature tendency to grayness was due either to the disease, or to the local remedies used, but I doubt it. Before leaving the scalp I would say that I have often found in doubtful cases that a question as to whether the patients had not at times been troubled with a very decided amount of dandruff, would, if they had had psoriasis, be answered very promptly in the affirmative. On the general integument a squamous syphilide is one of the eruptions that is most likely to show points of resemblance to a case of psoriasis. In both, the serpiginous outline of the efflorescence is apt to be found, owing to the same cause, that is, the extension and coalescing of circular patches. In this connection the regions on which the eruption is most thickly distributed is a very important point, as while psoriasis is found to affect the extensor side of the arms and legs, the syphilides are much more apt to be developed on the side of the flexors. There is, however, a decided difference in the first appearance of the two eruptions. Although psoriasis is universally described as starting as a small raised spot of congestion covered with an epithelial scale, my observation is that it invariably begins as a very minute point of simple hyperæmia. Theoretically every efflorescence, whether macular, papular, squamous, vesicular, or pustular, must begin by hyperæmia, but I mean that in psoriasis, this condition of simple congestion lasts for several days as such. In the case of a macular syphilide it is different; in twenty-four, or even twelve hours from the time when the cutis was seen to be normal, a crop of macules from the size of a small shot, to that of a little fingernail, will appear. It is, of course, possible that these spots may start as very minute specks of congestion, but I have never seen them in that stage, whereas, I have time after time seen the gradual development of a patch of psoriasis from an almost infinitesimal point of congestion. In the fading out of these eruptions there is even a more marked difference. In a syphilide, as the congestion passes off, a decided pigmentary stain will be seen, which remains for some time. In the case of a patch of psoriasis no pigmentation at all remains. The reason of this is that the nature of the eruption is such, that the epithelial layer, in which the pigment in cases of chronic hyperæmia is deposited, is being blown off and exfoliated as fast as it is formed. That this is the case is shown very well in cases where chrysorobin is

used as a remedial agent. After applying it for a few days it will be noticed that while the healthy skin around the patch of psoriasis to which it is being applied will be stained and dirty looking, the patch itself will look like clean healthy cuticle, and as long as that is the case the morbid process has not been overcome. That is to say, the remedy must be persisted in, until the stain is as marked on the spot treated as on the surrounding skin. It is not, however, the remaining pigmentation alone that is characteristic of a fading syphilide, but in many cases that pigmentation shows a decided character, which is not seen in any other eruption, at least I never have seen it. As the hyperæmia of a syphilitic macule ceases we find a certain amount of pigment deposited on the extent of surface formerly congested. The hyperæmia will be found to continue, however, in a series of points, which correspond to the mouths of follicles, and when it disappears entirely these points will be seen to be accentuated, or more darkly pigmented than the intervening surface, which gives a very characteristic punctated appearance to the skin, which is only seen after a syphilitic eruption. It is, however, the later or squamous type of syphilide which is especially liable to be confounded with psoriasis. A fully developed syphilide of a squamous character, is very apt to show points where there is more or less tendency to breaking down, or ulceration, in which case the crusts or scales would be very different from the dry, shiny epithelial scales exfoliated from a patch of psoriasis. It must, however, be remembered that in some cases of psoriasis there is sufficient itching to cause scratching and tearing the skin, as a result of which, scab crusts may be found, and also that the co-existence of scabies, or the presence of pediculi vestimentorum may produce the same result. These crusts, however, will generally contain dried blood as well as pus and serum, and the evidence of scratching can be recognized by the linear lesions resulting. Excepting as a result of actual injury to the cutis, by the fingernails or other sources of irritation, the scales found on the patches of psoriasis consist of simple epithelium, whereas those covering the efflorescence of a syphilide eruption will be formed by dried pus and serum. The amount of pruritus that accompanies an outbreak of psoriasis varies very much in different cases, and its intensity does not seem to depend upon any special characteristic of the eruption, either as to its stage of development, its form of distribution, or the amount of surface of the integument involved. In some cases it is most marked at the time of the first appearance of the disease, and ceases as it develops; in others, it reaches its maximum of intensity when the patches are fully developed and covered by heavy epithelial crusts. I should say that it was rather an exception to have itching a prominent symptom, but in some cases it certainly is one of the most distressing ones for the patient. There are many cases of eczema squamosum in which if a piece of paper, with a hole cut in it, say an inch or two in diameter, were placed over a patch of efflorescence, the surface seen could hardly be differentiated from psoriasis, and *vice versa*. Fortunately, we are not confined to examining any one part of the integument, and when the whole of the eruption is seen, the distribution, the more sharply drawn margin in the case of psoriasis, the existence somewhere of heavy characteristic scales, if psoriasis, or evidence of dried serum or pus, if eczema,

will help our diagnosis. I have, however, seen a few cases where the eruption was confined to the anterior part of the lower leg, and consisted of several small, or one large, patch of shiny red infiltration, without any scales, crusts, or scabs, in which no cutaneous abnormal manifestations elsewhere were to be seen, and no light could be obtained by any previous history, that have been quite puzzling in the way of diagnosis. I remember one of these cases, the diagnosis of which (between psoriasis and eczema) I have never felt sure of. In one instance, I made the mistake of taking a commencing case of psoriasis to be one of seborrhea. The patient was a young woman, rather anemic, who showed two circular patches over the sternum covered with very thin fine scales, of a dirty yellow color. Through these scales the base of the patches was seen to be very slightly congested. They were not raised above the surface of the skin, and had, by report, existed for some little time slowly increasing in diameter. It was only after having seen the patient three or four times that a crop of similar patches appearing on the trunk and limbs convinced me of my error. I have had the case under observation since, seeing her through two or three relapses. I have noticed in other cases, occurring in female subjects, the same thin and almost powdery character of the scales covering a patch of psoriasis, and I am inclined to think, though I will not state it as a fact, that in this form of the eruption the scales can be removed without being followed by the characteristic oozing of minute points of blood, which shows that the papillae have been laid bare.

In another case I mistook the first appearance of psoriasis for tinea trichophytina. This case was seen some time ago, and I think that the youth of the patient, a little girl, four years old, had more influence on my judgment in excluding psoriasis than it would now have. The eruption, however, certainly did resemble that of tinea very closely. It consisted of a few small circular patches, confined to the breast and shoulders, slightly raised above the surface, the slight amount of scales noticed being decidedly more evident on the margin than elsewhere, and accompanied with a marked pruritus. In this case, as in the previous one, a more general outbreak of the eruption showed the true nature of the disease. I have never seen any eruption on the palms of the hands or soles of the feet that in any way resembled psoriasis, with the exception, of course, of eczema, that was not undoubtedly syphilitic. This is a point on which I can speak most decidedly, of course merely as far as my own observation gives. And equally decidedly can I say that I have never seen any lesions of the buccal mucous membrane, accompanying, or in any way connected with, or due to, psoriasis.

With regard to the influence of temperature or climate on the disease, I have not been able to form any opinion. Some patients state that they are always better in the summer season, and about the same number say that cold weather seems to improve their condition.

With regard to treatment, my experience has undoubtedly been the same as that of every other practitioner, that is, that some cases do very well, and others do not do at all well. We most certainly know of no specific, and of the many local applications that have been tried that one which will produce a marked improvement in one case will prove absolutely inert in

another. The great majority of the cases that have come under my observation being out-patients visiting a charitable public service, the opportunity for carrying out a protracted course of treatment is very slight, as those that do not get relief will go to some other institution. One can hardly expect a man who has been hard at manual labor all day, or a woman, who has a family of children to take care of, to give up from a quarter to half an hour before getting the rest they so much need, to rubbing in ointments, etc., to say nothing of the mess and dirt it makes.

To get rid of a decided case of psoriasis is most important for the patient, as this cutaneous lesion is almost universally looked upon as showing some taint which would render the subject unfit for intercourse with other people. Even when the result of treatment is most successful the patient must be told of the not only possibility, but great probability, of a future relapse.

On the whole I have found the preparations of a tarry nature, especially the oil of cade, the most efficacious in the treatment of psoriasis. I have used them very largely and have never had a case of the black urine, and other toxic symptoms that are sometimes called forth by these agents. I always make it a principle in a new case, not to have the remedy applied over large surfaces at first. In some cases great comfort can be obtained by simply using some emollient to soften the crusts, especially those on or near the large joints, which in some cases make every motion almost a torture. Cod liver oil is one of the best applications for this purpose, and as a matter of routine practice I use a mixture of equal parts of it and the oil of cade. In addition to softening the scales, their removal is important. This can be done by washing with any soap, the *sapo viridis* being one of the most efficacious in cases where it is not too irritating. In private practice where the cod liver oil is objected to, the oil of cade can be diluted with olive oil, glycerine, or some of the petroleum products. Oil of cade, glycerine, and rectified spirit makes a very good application, when the greasiness of the remedy used is objected to. I order the tarry preparation to be applied at bedtime, with a piece of flannel or a brush, and in the morning to have the places to which it has been applied thoroughly washed with German soap, or the *spiritus kalinus*, or if these are too strong, simple castile soap.

On the face or hands, where the patient objects to using tar, the white precipitate ointment in some cases has acted very well. In chrysarobin we have undoubtedly a very powerful agent in many cases. It is used generally by patients under protest, as it absolutely ruins any clothing or bed-linen that it may come in contact with. I have also found that it is not safe to use it on the face or scalp, even when ordered in quite a small proportion to the vehicle employed, as it is apt to start up quite a violent dermatitis. When employed on the trunk or limbs it should be remembered that its use should be persisted in until the staining of the patch being treated, in the same way as the surrounding tissue, shows that the exfoliation of epithelium has ceased. When the scalp is the seat of the disease the result of treatment is generally very marked. An application of the oil of cade, diluted according to the sensitiveness of the patient, with cod liver, olive, or other oil, at night, followed by a thorough shampooing the next day, with the tr. kalinus and the

use of a stiff brush to remove the scales that have been loosened up, will give great comfort to the patient. There can be no doubt but what the internal administration of arsenic has a marked effect in some cases; in others it seems to be absolutely inert. I have not found any benefit from increasing the dose, and in cases where a moderate amount does not produce any effect, I stop its administration.

Even in those cases where treatment is most successful the patient must be warned as to the likelihood of a relapse. I have, however, some half-dozen cases under pretty constant observation and treatment, in which, by taking hold as soon as any signs of a relapse appear, the disease has been pretty well held in check for some years.

In conclusion, I would say, that while I am fully aware that the deductions drawn from the points I have touched upon, must, in a great measure, be repetitions of well-known facts, I have ventured to hope that, even if only as confirmation of accepted ideas, or the reverse, by personal observations, my notes may not be absolutely useless.

#### THE APPLICATION OF ANTISEPTIC PRINCIPLES TO GENTO-URINARY SURGERY.

BY A. T. CABOT, A.M., M.D.

IN the discussion upon "Catheter Fever" which prevailed in the past year throughout Great Britain, it was generally acknowledged that a considerable proportion of the cases included under this term are of septic origin, and are due to the introduction of germs upon instruments used. This view found especial support in Edinburgh, where Professor Chiene, Dr. Wyllie, and Professor Amundale advocated it most strongly.

Certainly, as the habit of making thorough autopsies becomes more general, many cases of fatal issue after instrumentation, which would formerly have been referred to reflex or other nervous influences, are found to be septic in character.

It is not proposed to discuss here the various causes of "Catheter fever," but to confine our attention to the cases of urinary disease which are generally admitted to be of septic origin.

These cases may be divided into four classes:

*First:* They may be of a distinctly pyæmic character with metastatic inflammations in the joints, internal viscera and other parts of the body, frequently accompanied by chills.

*Secondly:* They may present the familiar symptoms of septicæmia, with chills, high temperature and rapidly fatal course, with the post mortem appearance of a granular degeneration (cloudy swelling), of the various internal organs.

*Thirdly:* In other cases with grave constitutional disturbance leading rapidly to a fatal issue, autopsy may reveal diphtheritic ulcerations of the urethra, bladder, ureters and even of the pelvis and substance of the kidneys.

The cases included in these first three classes are most commonly ones in which there has been some operation involving a wound; such as the division or division of a stricture, a difficult catheterization or a lithotomy in which abrasion of the mucous membrane has occurred.

The *fourth* class includes those cases, less serious,

but far more common, in which a general cystitis is set up by the introduction of ferments upon dirty instruments.

Fortunately the neglect of absolute cleanliness does not always result in harm, and this is so, not because the germs are harmless, but because healthy tissues and especially epithelial surfaces have great power to resist septic influences.

If a bladder is in good condition and completely empties itself at every urination, the introduction of a few germs is not likely to cause trouble, for before they can multiply to any extent and produce a marked degree of fermentation, the urine in which they are propagating is thrown out and the danger is averted.

If, however, owing to any obstruction or through loss of power, the bladder does not completely void the urine, it then cannot free itself of any germs that may find their way into it, so that these ferments when once introduced have ample time to act upon the residual urine and to produce changes in it. And the irritating products of this fermentation soon cause inflammation of the bladder walls.

Unfortunately, these cases in which the bladder habitually contains residual urine are just the ones in which the frequent use of a catheter is required, so that it often happens that germs are introduced into stagnant urine and many cases of cystitis are the unfortunate result. A result all the more common from the fact that in these cases the catheterization and care of the instruments must often be left to the patient himself who cannot understand the importance of the care necessary for thorough asepticism.

Professor Chiene, in a recent discussion in the Edinburgh Medico-Chirurgical Society, enumerated the following ways in which septic matter may reach the bladder:

*First:* It may be introduced upon an impure instrument.

*Secondly:* It may be carried in also by air rushing through a catheter.

*Thirdly:* It may enter by passing along an inflamed urethra, which has been irritated by a prolonged use of instruments.

*Fourthly:* Organisms may pass between the instrument and the wall of the urethra when a catheter is tied in.

Such are the dangers! To guard against them is possible but not easy.

Urethral and bladder instruments are complicated and hard to keep clean; even a catheter which is in frequent use can be rubbed and thoroughly cleansed only upon the outside, while the inner surface of the tube, constantly traversed by urine, which is often foul and loaded with mucus, cannot be reached except by irrigation. Further, as catheters are now generally made, there is, below the eye, in the point of the instrument, a pocket (Fig. 1, a.) in which impurities of every sort collect, and from which it is almost impossible to dislodge them, as they are in an eddy out of the current when the catheter is flushed by a stream of water thrown through it.

In a silver, or other metallic instrument, this pocket may be easily obliterated (Fig. 1, b.) so that the eye is at the end of the tube, and a stream of water running through reaches every part with full force.

Soft rubber catheters should also be made in this way, and in some of those that I have recently obtained, made under the Jacques patent, this pocket is very

much reduced in size as represented in Figure 1, c. The Davidson Rubber Company make a soft catheter with the opening at the extreme end (Fig. 1, d.) and with a view to cleanliness, this is a most excellent arrangement; but unfortunately it renders them more difficult

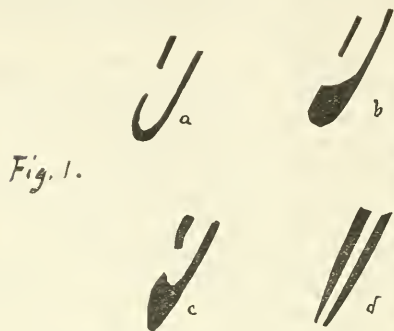


Fig. 1.

of introduction and more irritating to the urethra than the ordinary form, so that their advantages are more than counterbalanced. This company have also endeavored to make a soft catheter with a point like that in Figure 1, b, but the technical difficulties in the working of the rubber have thus far prevented their success.

Webbing catheters, both French and English, have this same disadvantage of form of which we have been speaking, and have the additional fault that their surface, whether of oil or rubber, is easily cracked, and is therefore difficult to keep antiseptically clean. An old instrument of this kind is always a source of danger.

#### METHODS OF DISINFECTION.

Thorough disinfection of intricate or hollow metallic instruments can be accomplished by prolonged boiling, which not only raises them to a temperature at which the germs cannot survive, but also dissolves away oily impurities in crevices which would not be reached by the most thorough scrubbing. If the instruments are plunged at once into boiling water albuminous particles are precipitated by the heat and are then difficult to remove. It is a better plan, therefore, to put them first to soak in cold water which is then gradually raised to the boiling point, and this should be maintained for at least a half an hour.

As the disinfection by heat requires some outlay of time and trouble, most surgeons prefer the easier but less efficient disinfection by antiseptic washing and scrubbing. This should be thoroughly done immediately after use, while the impurities (urine, mucus, blood, etc.) are still moist and easily washed away.

Every instrument should also be rinsed off in an antiseptic solution immediately before it is used, even when it has been previously boiled or thoroughly washed. This is to remove any dust that may have settled upon it while laid away.

Rubber and gum elastic catheters after careful cleansing should be subjected to long soaking in antiseptic solutions, especially when they are in constant use.

The best solutions for antiseptic washing are, carbolic acid one part to twenty parts of water, corrosive sublimate, one part to one thousand parts of water, liquor soda chlorinate, one part to ten or fifteen parts of water. Phenyl, too, in the proportion of one to

fifty or one hundred is excellent for use upon metallic instruments, but acts injuriously upon rubber.

Chlorinated soda has the advantage that it saponifies and removes fats, but both it and corrosive sublimate have the disadvantage of corroding metals.

The five per cent carbolic solution, therefore, so familiar to surgeons, remains the best antiseptic wash for these as for other instruments.

It is further to be remembered, that an instrument, perfectly clean itself may carry on into the bladder impurities which it finds about the meatus or in the urethra. This is especially liable to occur in the catheterization of women, as in them the urethral orifice is often bathed in lochial or leucorrhœal discharges, which besmear the catheter at the time of its introduction.

To guard against this danger, the parts about the meatus urinarius should be carefully cleansed before an instrument is introduced, and if a urethritis exists, a preliminary irrigation of the canal by removing the discharge, will lessen the danger of carrying germs on to the deeper parts.

The danger from the introduction of microorganisms with air which finds its way through a catheter into the bladder is probably not very great; still it is important to avoid even the slight amount of risk which would come from this source.

With a soft catheter the end can easily be submerged in the urine as it flows, and thus air can be prevented from entering. With a stiff instrument it is not so easy to prevent it unless the catheter is withdrawn while the urine is still flowing. Especial care should be taken, if pressure is made above the pubes to hasten the flow of urine, that before such pressure is removed the catheter is stopped or withdrawn, as otherwise, air will be directly aspirated into the bladder.

#### CHOICE OF A LUBRICANT.

It is, of course, a most necessary precaution to choose as a lubricant for urethral instruments a substance which is at least aseptic, and if possible is somewhat antiseptic.

In many cases, no doubt, a well-selected lubricant so coats the instrument that even if there are germs upon it they are covered up and do not come in contact with the tissues or fluids and so fail to do harm.

Owing to the extreme sensitiveness of the urethral mucous membrane, the antiseptic chosen must be as unirritating as possible.

Carbolic oil which has been much used for this purpose will set up a urethritis in some patients and is, as Koch has demonstrated, of feeble antiseptic power.

For some time I have been using a mixture of eucalyptus oil with olive oil, vaseline, or castor oil, in the proportion of one part of eucalyptus oil to sixteen parts of the vehicle, and have found these mixtures to remain fresh and sweet for a long time, and to be unirritating to the urethra.

Castor oil has some advantages over any of the other oily preparations. Owing to its clinging character it adheres to the instruments until they reach the deep parts of the urethra, and it also does not produce the changes in soft rubber catheters which are often so troublesome when olive oil or vaseline are used. The two latter soon cause a rubber catheter to swell and become soft, whereas a long immersion in castor oil produces but little change.

Glycerine is a moderately good aseptic lubricant,

and as it is soluble in water it is especially useful when some drug is to be applied in solution to the urethra. An oily preparation under these circumstances would coat the mucous membrane, and so render the injection less efficient.

The third danger that Professor Chiene speaks of, namely, "that the bacteria will pass along an inflamed urethra which has been irritated by a prolonged use of instruments," can be greatly lessened by care in the selection and use of instruments and lubricants.

If a urethritis of this sort appears, the passage of instruments should be stopped if possible, and mild, astringent injections will then usually bring about a speedy cure.

When a catheter is tied into the bladder it almost always causes a urethritis, and this inflammation may take on a septic character. To afford as much protection as possible against this course of things, the urethra should be thoroughly washed out whenever the catheter is changed, and the penis and catheter, after careful cleansing may be sprinkled with iodoform powder and closely enveloped in salicylic cotton. In order to prevent any leakage of urine along the side of the catheter it is important to keep the bladder empty, and so to prevent any pressure from behind. This is best done by attaching a rubber tube to the catheter and dropping it over the side of the bed into a bottle, where its end may be submerged in an antiseptic solution into which the urine constantly escapes, being drawn out of the bladder by the syphon action of this tube.

#### IRRIGATION.

Thus far we have spoken of prophylactic measures. Suppose, however, that fermentation has reached the bladder and that the urine is foul, alkaline and loaded with bacteria; how can this state of things be best remedied?

The use of antiseptic irrigation occurs to every one, and could we inject at once a strong antiseptic solution and so destroy the germs present, the treatment of these cases would be comparatively easy. Unfortunately, however, the bladder will not tolerate these strong solutions; in fact, there is no mixture which can be used freely and safely within the bladder that is actively germicidal. The strongest solutions that can be properly injected are only capable of retarding putrefaction, not of stopping it. Although we cannot, in this way, at once attack and put an end to fermentation, we can do much to mitigate and remove it.

If we recall the conditions that bring about putrefaction in the bladder, we shall remember them to be first, the introduction of germs, and second, stagnation of urine. And we know that when there is no residual urine the occurrence of fermentation is very uncommon, because even when germs are introduced they are thoroughly voided before they have time to do harm.

If following this hint, we systematically draw off all residual urine once or twice a day, we shall, in a certain proportion of cases accomplish a cure by this means alone. For the bladder being relieved of its habitual distension will sometimes recover its tone, will thoroughly empty itself at each urination, and so will free itself of the fermenting urine.

As an aid to systematic catheterization, irrigation is of the greatest importance. By it we are able to wash out the dregs of fermenting material so that the

fresh urine as it comes from the kidneys is not so quickly hurried into putrefaction. This change may be still further delayed if a small quantity of the antiseptic be left in the bladder after the irrigation.

We are to look upon injections, therefore, as a means of removing septic matter rather than of *destroying* it; and it may be often found that astringent or soothing injections act better than antiseptic ones, their effect upon the bladder wall in allaying inflammation and checking supuration being of importance.

The following are some of the more common and useful mixtures for antiseptic irrigation:—

A one-eighth to one-fourth per cent solution of carbolic acid is useful as a simple cleansing solution.

Borax (borate of soda) in a three to four per cent solution is an excellent injection and its soothing properties make it especially valuable in irritable bladders.

Corrosive sublimate may be used in exceedingly dilute solutions (1-200 per cent) when the fetor of the urine is not removed by some of the milder injections.

When a combined antiseptic and astringent effect is desired, permanganate of potash (one tenth to three-tenth per cent solution) may be employed.

Utzmann recommends resorcin\* (three to five per cent solution), or nitrite of amyl (two or three drops to four ounces) to obviate the fetor of the urine.

Besides these few mixtures which are mentioned because they are especially useful in overcoming a putrid condition of the urine, there are a host of other irrigating fluids which owe their beneficial effects to their stimulating or astringent actions upon the mucous membrane of the bladder.

The method of making injections varies greatly with different surgeons.

Sir Henry Thompson advises very cautious and gentle measures and thinks that one should "never under any circumstances throw in more than two ounces; and even this quantity for efficient washing is better avoided."

Dr. Utzmann, on the other hand, recognizing the importance of mechanically removing the fermenting material (mucus, etc.) which often clings tenaciously to the bladder wall, advises forcible injections with a hand syringe, for the purpose of detaching it.

Professor Guyon also recommends injecting the bladder by short, sharp strokes of the syringe, and immediately allowing it to flow out again before the sediment which has been stirred up has time to settle. He adds a warning against injecting more than a small quantity in this way, as the bladder, though not sensitive to contact, is very sensitive to distension.

He afterwards says that the same result (that is, thorough cleansing), is arrived at by filling the bladder slowly with as much liquid as it will contain, and then allowing it to escape.

In very irritable bladders, great gentleness must unquestionably be used, and care must be taken not to throw in more than the bladder easily tolerates. If in such a case, the fluid is thrown in rapidly, contractions are excited which eject what has been introduced, and render further irrigation impossible. For such cases, Sir H. Thompson's rule, that not more than two ounces shall be injected at a time, is most applicable.

On the other hand, many bladders are quite insensitive, and do not resent the more active measures recommended by Professors Guyon and Utzmann, when skillfully carried out.

There are certain reasons, however, which to my

mind makes this somewhat rough use of the hand syringe, as recommended by these authorities, unwise.

*First:* the injection is liable, even in skilled hands, to be carried too far, and to irritate the bladder by sudden distension, thus counteracting the otherwise good effects of the irrigation.

*Secondly:* if, in endeavoring to avoid this danger, we inject but little fluid at a time, we shall often accomplish the cleansing of but a small portion of the vesical wall; for those bladders to which irrigation is necessary are not seldom voluminous and much folded upon themselves.

*Thirdly:* a hand syringe is a complicated instrument, hard to keep clean and almost impossible to make clean if it once becomes dirty. It should, therefore, so far as possible, be excluded from the armamentarium of the antiseptic surgeon.

In view of these difficulties, I gave up years ago, the use of the hand syringe in irrigation of the bladder, and adopted the apparatus that I now use.

It consists of a clear glass bottle and a piece of rubber tubing about four feet in length, with a little piece of glass tubing at one end, drawn out to a nozzle that will fit into the catheter. The injection fluid is mixed in the bottle and the rubber tube is then arranged as a siphon to draw it out and convey it to the bladder.

We have in this arrangement, no valves to get out of order and to collect dirt. The tube can be readily flushed by attaching it to a faucet, and the bottle is easily washed after each use. As it is of clear glass, we can see when it is dirty, and also while it is in use, we can watch the fall of the fluid in it, and so know the exact amount which has entered the bladder. All of these are practical advantages, and the cheapness of the apparatus is another recommendation.

The force of the current is regulated by adjusting the height of the bottle above the bladder, and its flow is so steady and free from jerks that it does not excite contractions, and the bladder can be thoroughly distended by it. Great benefit follows from this complete distension, as all of the folds are eradicated and every part of the bladder wall is reached by the medicated solution.

In a case recently under observation, it required thirteen ounces of fluid to fill the bladder so as to cause the least sensation of fullness, and a few injections upon this plan entirely relieved a cystitis, which had not yielded to smaller injections with a Thompson's bag.

Some surgeons, when using a fountain syringe for bladder irrigation, attach to the tube a two-way cock or other contrivance, which enables them to reverse the current into and out of the bladder without removing the nozzle from the catheter.

This seems to me but a slight saving in the matter of convenience, and it is objectionable in that it introduces a part, which, while not necessary, is extremely hard to keep antiseptically clean.

Another use for these irrigation fluids is in the Litholapaxy pump. It is a precaution of manifest utility to select for this most thorough washing of the bladder, a solution which shall at least be aseptic.

The antiseptic which is chosen for this purpose should be added to the water a considerable time before the solution is to be used, in order that it may have time to sterilize the fluid. This object is still further assisted if boiled water is used in the mixture.

#### DRESSING OF WOUNDS OF THE URETHRA OR BLADDER.

Lastly, we come to speak of the proper treatment of wounds penetrating the urethra or bladder. These may be the result of injury, but are more commonly caused by operations (cystotomy, urethrotomy, etc.)

The instruments used in these operations should be disinfected with as much care as for use on any other part of the body; and this should be insisted upon even when the urine is foul and ammoniacal.

To suppose that when the urine is putrid, antiseptic precautions are thrown away, is a common mistake, which should not be made by any one who believes in the separate and individual character of the organisms of the various wound fevers and septic processes.

Because the cystotomy wound is exposed to the organisms of putrefaction, it is not therefore proper to leave it open to the entry of the germs of erysipelas, pyæmia, and diphtheria. On the contrary, it should be protected from infection by every precaution before and during operation, and dressings should be applied to afford as much protection as possible afterwards.

The constant escape of the urine renders this problem of dressings a difficult one. Most antiseptic substances are quickly dissolved and washed away, leaving the wound unprotected.

Fortunately, however, we possess in iodoform, a material admirably adapted to our needs.

This drug is very sparingly soluble, so that it is not easily washed away from the wound, but enough is constantly dissolved to exert a decidedly antiseptic influence upon the fluids that come in contact with it.

A proper dressing of a wound through which urine is escaping would be somewhat as follows: First, drainage would be provided for by a rubber tube reaching to the deepest part of the wound. It is especially important to guard against any obstacle to the flow of the urine. In fact, when the bladder is opened it should be treated like an abscess cavity, and we should endeavor to prevent the urine being pent up in the former just as we should try to avoid retention of pus in the latter. Thorough drainage quickly relieves a fermented, foul condition of the urine.

The surface of the wound should then be lightly dusted over with powdered iodoform and some charpie filled with the same powder, or some iodoform gauze should then be lightly laid into the cavity. This should not be packed in, for fear of hindering the escape of the urine. This inside dressing may be left in place for from twenty-four to forty-eight hours. Outside of it there should be a large pad of some absorbent material (oakum, peat, or wool wool), which is to receive the urine, and can be often changed.

In addition to these local surgical precautions there are certain drugs which, when administered internally, render the urine mildly antiseptic, and it is easy to see of what advantage it may be to thus hinder fermentation.

First among such agents, we may mention benzoic acid and its salts, the benzoates of sodium and ammonium. By their administration, the urine is rendered acid. Benzoic acid, which has decided antiseptic properties, is eliminated as such by the kidneys, and has usually so marked an effect upon the contents of the bladder that fermentation then speedily ceases unless it is kept up by some considerable obstruction or other cause which cannot be relieved.

Eucalyptus has also considerable reputation as a corrective of fermenting urine.

Bartholow says "No remedy which the author has hitherto used has seemed to him so effective in *chronic catarrh of the bladder* as eucalyptus. The urine, during its administration, acquired a strong odor of eucalyptol, and to its local action on the mucous membrane is to be attributed the therapeutical effect."

### SOME FORMS OF DYSMENORRHEA AND THEIR TREATMENT.

BY F. R. DAVENPORT, M.D.

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In a society of this kind, subjects which lie on the border-line of general and special practice, will, other things being equal, be of most interest. I have, therefore, selected dysmenorrhea, a familiar, nay, almost a trite subject, hoping that it will excite discussion, and elicit facts of practical bearing on diagnosis and treatment. Its claims are two-fold: first, its frequency; second, its obscurity. Every practitioner meets with it, treats it successfully or otherwise, and very often the latter; every writer on diseases of women devotes pages to its consideration, and has a possibly, to him, satisfactory explanation of its several forms, the varying tenor of which are a proof of the diligence and obscurity which surround the whole subject.

It is not my purpose to say much of the pathology of dysmenorrhea, but to illustrate clinically some of its forms, and the various methods of treatment which have seemed best suited to the given case. And here in the outset let me say that I conceive that quite as much of the advance in our knowledge of this subject, will be from more accurate clinical observation as from the labors of the pathologist in the post-mortem room. Structural changes, I am convinced, play a subordinate part in the production of pain at the time of menstruation, and I think the general trend of observation and experience on this point, goes to prove this where progress is being made. It is on the line of more thorough and minute study of the time of occurrence, seat, character, and duration of the pain; and I believe that as large numbers of facts bearing on these points are collected, valuable deductions can be drawn as to the cause, and as to the proper treatment to be pursued.

My intention in this paper is briefly to relate isolated cases of different types, to give the different methods of treatment pursued, and to make such comments as they seem to demand.

CASE I. Mrs. A., thirty years old, ten years married, has had two children, the last eighteen months before date of consultation. Labor was induced at eight months on account of convulsions. She remained in bed three weeks, but her convalescence was slow. Her menstruation began at fifteen, and was regular and unaccompanied by pain until its reappearance after her last confinement, since which time she has suffered to a marked degree. The flow is regular, lasts five days, but is scanty, requiring the use of but three or four napkins. She has no pain on the first or second day, but as the flow begins to diminish, she has severe pain in lower part of the abdomen, and through the back and hips, confining her to bed. She compares the pain which she suffers at these times to labor pains. Between the menstrual periods she complains of constant backache and pain in the hips, especially on the right side. There is no leucorrhœa. Examination dis-

tected nothing abnormal except tenderness, and apparent increase in size of both ovaries. In order to be sure of the condition of the ovaries examination under ether was advised, which showed that both the organs were in position, but felt hard, the left was as large as an English walnut, the right somewhat smaller.

The application of a leech to the cervix uteri, one or two days before the expected sickness was advised, and was carried out for several months with complete relief, not only to the severe pain at the time of menstruation, but to the constant backache during the interval. Lately it has been thought necessary to apply the leech only every second month, except when from exceptional fatigue the patient fears she may have a return of the pain.

This case, for the notes of which I am indebted to Dr. W. H. Baker, under whose care the patient first came, seemed to be one of congestion of the ovaries, unrelieved by the scanty flow, and it was expected that the increased loss of blood by the leeching would so far lessen the engorgement as to relieve the pain, an expectation which was fully realized. The cases of which this is a type, are not infrequently met with. Sometimes the trouble seems to be with the ovaries as in this case, sometimes with the uterus. For relieving these forms of engorgement, wherever it may be, the application of a leech is superior to anything I know. The prolonged steady suction determines a flow of blood in the direction desired, which is analogous to a natural fluxion, and persists after the leech has been removed. The difficulties attending this procedure, and the time it occupies have influenced its abandonment in favor of scarifying or puncturing the cervix. I have tried both methods and have satisfied myself, especially with regard to puncturing, that not only is the flow scanty, and relieves only the superficial blood-vessels, but the pain which accompanies and follows this process in a sensitive womb, is by no means to be lightly thought of.

There are two forms of dysmenorrhea in which I would apply leeches. First, when the pain comes on several days before the flow begins, usually starting in the region of one or both ovaries, soon followed by backache and a feeling of weight in the pelvis, and either wholly or partly relieved when the flow is once established. The flow is usually in such cases not very profuse. The impression made, is that the congestion comes too soon, and continues too long, and that nature vainly attempts to relieve it by the starting of the flow. Where it is scanty or delayed, a combination of circumstances which is very apt to occur together, the abstraction of a moderate amount of blood by the application of a leech to the cervix will often relieve the pain. In not a few of these cases we find enlarged and prolapsed ovaries, evidently the result of the long-continued congestion. In such cases the application of a leech before each menstrual flow for several successive months, will in addition to relieving the pain, often markedly diminish the size and improve the position of these organs.

A second condition in which I would recommend this procedure is when the pain occurs principally after the flow is over. In these cases there is little trouble beforehand. Menstruation begins well, but the flow very quickly stops, and leaves a most annoying sense of weight and fullness in the pelvis, the back and head, a general feeling of heaviness and inactivity which is evidently due to unrelieved congestion. Here, too, a

few ounces of blood drawn in this way will be followed by relief. If the pain is wholly post-menstrual, the leech had better be applied then; if it comes on in the course of the menstruation it will probably be more effectual if applied before.

The operation itself was, I confess, until within the last two or three years, a severe trial to the patience. Nothing can be more aggravating than to attempt to induce a sluggish leech, to wander the length of a long glass tube, and seize hold of the proper spot. Of course if the patient was particularly sensitive, and your own time was limited, the leech would absolutely refuse to do anything. I was not quite ready to adopt the method advocated by Courty of turning into a cylindrical glass speculum placed against the cervix, a dozen leeches, slugging the end with cotton, and after waiting a certain length of time, turning out the gorged leeches and the clots. I attempted to devise an instrument that would take the place of the leech, but after one or two trials gave that up as impracticable.

It was by the suggestion I think of Dr. W. H. Baker that the following method was put in practice. It was found that by seizing the leech with the uterine forceps a short distance from the head, and holding it against the part to which it is desired to apply it, it usually takes almost immediate hold with a good deal of vigor. This can be watched, and the flattening out of the sucker-like head, which occurs when the leech is inserting its sharp jaws can be seen. The grip of the forceps is then slowly relaxed, and the leech usually goes on to satisfy himself. Very little fear need be entertained of damaging the leech by this manoeuvre. The pressure of the uterine forceps when closed and even locked, does not affect the suction-power of the leech subsequently, in the least. The point of election at which to grasp the animal is about half an inch from the head as it is elongated.

This method makes the application of a leech to the cervix a comparatively easy matter. With the patient on the side the cervix is brought into view with Sim's speculum, and the leech applied directly to any part of it with the forceps. Should it fail to take hold the first time, it may be quickly seized again and reapplied.

The amount of blood which the leech itself abstracts is but a small part of what should flow. The quantity which practically is usually sufficient to relieve congestion may be estimated at what will saturate three or four napkins, as women usually wear them. Ordinarily it will cease of itself when about that amount has been lost, sometimes earlier. If the patient is to go some distance, it is well to provide her with something to apply in case the flowing should be profuse, as occasionally happens. A cotton dressing with powdered alum to push up against the cervix will answer as well as anything.

CASE I. Mrs. B., twenty-nine years old, consulted me in March, 1881. She had been married for seven years, had always suffered from dysmenorrhœa, and had never been pregnant. The pain came on with the advent of the menstrual flow, was intermittent in character, most severe the first and second days when the flow was most abundant, and accompanied by the passage of small clots. Following the expulsion of these clots there was relief from the pain for a time. No leucorrhœa, and no marked pain at any other time. Examination showed ante flexion of the body of the uterus, with a stricture of the canal at the internal os. The small uterine probe entered, but the

sound could not be made to pass. Under ether I divided the os internum bilaterally with the uterine, until the canal easily admitted Peaslee's sound, and then inserted a tent of styptic cotton which was allowed to remain for four days. She remained under observation about a year, during which time she was free from dysmenorrhœa, but had not become pregnant.

The operative treatment of dysmenorrhœa is, of course, only applicable when we have to deal with the obstructive form due to actual or spasmodic stricture, or to a narrowing of the calibre of the uterine canal by a flexion. I think more careful observation will show that the importance of the last two factors, flexion and spasmodic stricture, has been overrated. A recent writer in one of the English medical journals, gives the report of a number of women examined by him, who suffered from severe intermittent pains at the menstrual period, which previous examination had led him to suppose must be caused either by a spasmodic stricture or a flexion. His examination was made during the flow, and when the pains were at their height. He found that so far from there being any narrowing of the canal, it was more patent and straighter than at any previous time. His theory was, that the congestion of the uterus made the body firmer, and the canal straighter. It is true that these cases were few, and more evidence is needed; but I am convinced that spasmodic obstructive dysmenorrhœa has had too much importance assigned it. There remain for consideration the cases of true stricture which we not infrequently meet with where we have a rigid narrowing of the internal os, which only admits a small probe. These are the cases where operative measures are imperatively called for.

Until recently, in this country at least, Sim's operation by dividing the stricture with the knife, has been the favorite one for the relief of this trouble. Goodell, of Philadelphia, has lately published a paper in favor of the procedure of stretching the canal forcibly, which is now on trial by the profession; and if it makes good all that the author claims for it, bids fair to supersede Sim's operation entirely. Goodell has practised it for many years, having had the unfortunate experience of losing two patients after the operation by the knife, and his opinion as to the efficacy and safety of division is very decided. A few cases have been operated on by this method at the Free Hospital for Women, but it is too soon to speak of results. The reaction after the operation, however, is very slight. Its effect on sterility, which is usually associated with dysmenorrhœa in this class of cases, has been favorable. The instrument which Goodell recommends, and which we have found effective, is Ellenger's dilator. The advantages of the instrument are, that while it is strong enough to dilate the cervix, even when quite rigid, it is not so powerful that there would be danger of rupturing the uterus, and the graduated scale is a constant guide as to the amount of dilatation reached at any given time.

CASE II. Mrs. C. first came under my care at the out-patient department of the Free Hospital for Women, May, 1881. She had been married eight years, and had never borne children. Menstruation began at fourteen, and had always been accompanied by severe pain, especially the first day. The flow lasted three or four days, but was scanty, requiring the use of but four napkins. There was found a condition of anteversion and flexion, with narrowing of the canal. A Grailly-Hewitt cradle pessary was introduced, which, however, failed to relieve the dysmenorrhœa. She was then

directed to come just before the flow was expected, and the sound was passed. This was followed by marked relief to the pain, and this treatment was repeated for several months. As she had a large uterus, three and a half inches in depth, and had a good deal of persistent pain in her back, Dr. J. W. Elliot, under whose care she came at this time, advised her to enter the Hospital for more thorough dilatation and exploration. She entered in November, 1881, and after previous dilatation with tents, the interior of the uterus was scraped with the curette, and a small amount of a fungoid growth removed. In February, 1885, she reported that the pain in the back disappeared entirely after the operation, that she had three painless menstrual periods, and then became pregnant.

This case is interesting because the dysmenorrhœa and sterility seemed to be dependent upon different conditions. The dysmenorrhœa was easily relieved by the passage of the sound just before the menstrual flow, pointing to some slight stricture of the type we have been accustomed to call spasmodic, as its cause. The sterility was only relieved by a more thorough dilatation, and the removal of a small amount of a fungoid growth.

The course of treatment employed for the painful menstruation in this case would naturally be suggested by the permanent good effect of forcibly stretching the cervix uteri, and especially the internal os, in cases of marked obstructive dysmenorrhœa. For the less severe forms, especially those cases where the examination shows a moderately patent canal, and where prolonged steady pressure will be followed by the passage of the sound, moderate dilatation just before the flow is expected, is often of service. Such result may be obtained, as in the case reported, by the passage of the sound or several gradually increasing numbers of Haak's dilators; or by passing in a small laminaria tent of less diameter than the uterine sound, and removing it in twenty-four hours, or earlier if the flow comes on. The carbolyzed douche should be taken two or three times while the tent remains, and the patient should be kept in bed. When the patient cannot be seen at the time the tent should be removed, it is a safe procedure to make a small tent of slippery-elm, and place that in the cervical canal. A string may be so fastened to this, that the patient can remove it herself at the proper time.

CASE IV. Mrs. B. applied at the Free Hospital for women in April, 1882. She was twenty-four years old, had been two years married, and had never borne children. She complained of severe headaches, pain in back, a frequent desire to urinate, and irregular and painful menstruation. Her menses occurred usually, about every five weeks, though sometimes the interval was longer. The flow lasted five or six days, and was accompanied by a good deal of pain, especially the day before and the first day. Examination showed retroversion and flexion of the uterus. An ordinary Hodge pessary was introduced, which gave some relief, but not as much as was desired. More careful examination showed that the left ovary was prolapsed. In the kneel-est position the uterus was replaced, and a Thomas bulb pessary adjusted. A week later, the patient reported herself as perfectly relieved of the headache, and ten days subsequently menstruated with less pain than for years.

This case illustrates that form of dysmenorrhœa dependent upon displacement of the uterus. It is in my experience, rare for marked dysmenorrhœa to occur as

a symptom of a backward displacement. Some increased pain and discomfort at the time of the menstrual flow may be one of the results, but is by no means the principal symptom with forward displacements; on the contrary, it is much more common; and in these cases we are very likely to find that peculiar antelexion of both body and neck, the latter having a conical shape, and associated very often with narrowing of the canal at some point, which we have learned to regard as almost pathognomonic of dysmenorrhœa and sterility.

The evident course of treatment to be pursued in these cases of pain at the time of menstruation associated with displacement, especially of the backward variety, is to replace the uterus. This will not usually hold out the prospect of so much relief in the case of antelexion as some of the operative procedures mentioned before; but with retroflexion and version, the result will oftentimes be very satisfactory.

These various methods that I have spoken of, comprise the more obvious forms of operative and mechanical treatment for dysmenorrhœa. I have confined myself to them because the medicinal treatment of this trouble, which after all, is but a symptom, seems to me in the vast majority of cases, to be but palliative. Opium, camabis indica, viburnum and alcohol, will often give temporary relief; and, where no structural cause can be found, the removal of which would promise permanent relief, it is our duty to relieve the pain by any means in our power.

#### THE QUESTION OF A VITAL PRINCIPLE. A REPLY TO PROFESSOR DWIGHT.

BY MORTON PRINCE, M.D.

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Dr. DWIGHT begins his paper (in the number of this JOURNAL for June 4th), by remarking: "To the student whose ideas of philosophy have been gained not only from so-called popular science, but from the teaching of many men eminent for their knowledge, a vital principle seems useless and absurd. In fact there is something comical in the surprise with which young men whose teaching has been solely materialistic learn that any one of any scientific attainment should presume to defend it."

As one whose ideas have been gained from "men eminent for their knowledge," I confess that to me a "vital principle seems useless, even absurd," and still more useless and absurd now that I have read Dr. Dwight's paper. I cannot, however, also confess to surprise on being told that occasionally a few scientific men—meaning thereby men who devote themselves to the examination and classification of concrete phenomena—should hold it. For in the first place, the fact that a man pursues physics, chemistry, anatomy, medicine, or any other branch of science, no more of itself qualifies him to hold an opinion on such subjects, than does the fact that he follows theology as a profession; and in the second place, observation shows that as soon as we overstep the borders of objective experience, there is no theory too absurd for people with otherwise well-balanced minds to adopt. For a man may be eminently scientific in his own department, but as soon as he transgresses the boundaries of that department his mind becomes most erratic in its action; as witness the number of scientists who believe in spiritualism.

To discuss Dr. Dwight's paper is a much more difficult task than it would seem to be at first sight. Not because of any significant fact or subtle logic that it may contain, but because such a task is very much like attempting to bring order out of a chaos of words. One feels very much as if one were brought into an old lumber room, wherein were piled in hopeless confusion all the old furniture and bric-a-brac of a hundred generations, and told to put things to rights; one hardly knows where to begin and what to clear away first. Whatever force Dr. Dwight's arguments may have, must be derived from their antiquity rather than their bearing upon the subject of a vital principle.

"I propose to show," he says, "that it is reasonable and even inevitable to admit a vital principle, and this by three distinct arguments, each based on observation." As Dr. Dwight carefully avoids defining with anything like precision of thought or terms what he means by a "vital principle," the task of disproving it is rendered still more difficult. To consider all the points involved in the paper in question would require far more space than is at my disposal, and would be out of proportion to the importance of the object. I shall therefore limit myself to the consideration, in the briefest possible space, of the most essential principles involved. Indeed, I should not enter into this discussion at all, were it not that Dr. Dwight's position as professor of anatomy might appear to some people to lend more weight to his opinions than they inherently deserve.

Dr. Dwight's first argument is based upon the phenomena of growth in plants and animals.

After mentioning the fact that organisms differ from non-living matter in that they possess the functions of growth and reproduction, and "that the living organism is one in a very different sense from that in which a heap of sand is one, or a wave is one," he asks "what makes the animal one?" The answer given is, "*It is clearly that principle which so regulates its nutrition that each part grows at its proper rate, aids the others, dwindles when its work is over, and, in short, forms a harmonious whole. Now there is absolutely nothing that we know of in matter that can bring this about.*" (Italics not in original.)

What value the assertion that what makes the animal one is "clearly that principle which so regulates its nutrition," etc., can have beyond the fact of its being a mere assertion is difficult to comprehend. It clearly begs the question, as it assumes that there is such a principle in the first place, which is the question in dispute, and then utilizes it as an explanation. To say that "there is absolutely nothing that we know of in matter that can bring this about" again plainly begs the question; for he who does not believe in a vital principle, simply points to a plant and says: "there is matter pure and simple, and see there is something in matter which grows and reproduces, etc."

It can only be said that there is nothing in matter which can account for the phenomena of life, as exhibited in plants and animals, only on the assumption that all the "properties" of matter are exhibited by such combinations of natural elements as are found in inorganic or non-living substances. It is one of the canons of science, that we must not multiply causes before showing the inadequacy of existing ones. Before, then, introducing a "vital principle" to account

for vital phenomena, we must show the impossibility of material forces producing these results. This has never been done, but, on the contrary, the more intimate becomes our knowledge of the nature of matter, the more it becomes intelligible, if not *how*, at least that the "forces" of matter are capable of manifesting themselves in these phenomena. But for this to be intelligible it is necessary to have something more than the crude notions of matter that are popularly current. The fact that certain phenomena are observed associated with matter is *prima facie* evidence that these phenomena are due to the "forces" inherent in matter, and it is most unscientific to introduce an extra foreign principle as a factor until, at least, our knowledge of matter be extended to the farthest boundaries of human knowledge, and it be shown that it is impossible for such phenomena to be produced by material forces. The fact that phenomena of growth, reproduction, repair, etc., are associated with matter is, I repeat, *prima facie* evidence that these phenomena are caused by so-called material forces, and this is the only conclusion that can scientifically be maintained until it be shown to be impossible. The only standpoint from which I can conceive of the assertion being made, that "there is absolutely nothing that we know of in matter" which can cause vital phenomena, is that all one knows is limited to the crude and popular notion that matter exists as we perceive it. And I must believe that it is from this standpoint that Dr. Dwight writes.

It is a fact that our knowledge of a crystal of sulphate of copper, for example, consists of certain groups of sensations, such as color, hardness, acidity, etc., which are not in the so-called crystal outside of us, but are forms of our consciousness. These sensations are caused in us by something outside of us, some "force" or activity, which is unknown to us. This unknown force is called the Reality of the crystal. So that matter may be resolved on the one hand into a great number of bundles of sensations, and on the other hand into a great world of unknown forces. The former exists in us, the latter outside of us. The former are the modes in which we become conscious of these unknown forces but are not these forces themselves, which must not only be forever unknown to us, but they cannot even be translated into thought. It is these forces which are the real matter. There is every reason to believe that the different properties of different chemical substances are dependent upon the different combination of forces, which are the Realities of the chemical elements. "Further" (if I may be pardoned for quoting from what I have written elsewhere) "as the different combinations of the forces or Realities lying behind the atoms of inorganic substances exhibit themselves in the varying properties of such substances, so the various and more complicated combinations of the same forces in living protoplasm exhibit themselves in its properties or vital functions. By a still further combination of these activities (underlying the properties of the simplest form of living substance, a lump of protoplasm, and manifesting themselves in its vital functions), the primitive germs of consciousness arise, and we obtain for the first time a glimpse of what these forces of the unknown universe may be."<sup>1</sup> This is not the place to enter into any extended argument in favor of these views, nor have I any desire or intention here to prove the correctness

<sup>1</sup> The Nature of Mind and Human Automatism, 1885.

of this explanation. My purpose is merely to point out that this is a very possible, if not probable, interpretation of material (vital) phenomena, and instead of there being "absolutely nothing" there is a great deal in matter, when properly understood, capable of bringing about the phenomena of growth, etc. Until this or some similar explanation is shown to be impossible, the introduction of an extra-material element is most unscientific.

"The second argument" of Dr. Dwight is based on "the theory of sensation." But as this argument involves the whole question of the relation of the mind to the brain, it is one that is far too large in scope to be discussed in either the paragraph devoted to it by Dr. Dwight or the limits of a single paper. Suffice it to say that Dr. Dwight's statement of modern views is not in accord with those views as expressed by the best authorities.

"The third argument consists in the freedom of the will": an argument, I may add, which has long since been consigned to the lumber room of metaphysical sophistry. Dr. Dwight concludes his argument by a quotation from Dr. Hammond, concerning the distinction of the mind and the soul. This quotation is introduced, the writer takes pains to assure us, "because it is a typical specimen of much that unfortunately passes for science." Dr. Hammond, after emphasizing the fact that by mind he does not mean soul, says: "With it (the soul), however, I conceive we have nothing to do, as far as science goes. Its very existence is a matter of faith, in which probably most of us believe, but which is altogether beyond the limits of proof, or even of investigation. There is nothing tangible about it. We should not know how to proceed to ascertain the existence of the soul."

I cannot express the same regret that this passes for science, for it is science of the most refined kind: it is the real coin, with the true stamp upon its face. I cannot help thinking that Dr. Dwight has been most unfortunate in his selection of passages for quotation; for every one, at all versed in scientific thought, will recognize at once that this passage shows that Dr. Hammond is possessed of a mind particularly well adapted for philosophical speculations, and thoroughly understands the limits of human inquiry. Dr. Hammond adds, "If the mind and the soul are identical, all these predisposing causes, if inherent in the parents, and which are capable of causing imbecility and idiocy in the offspring, are also capable of damaging the immortal soul that we believe God has given to every human being," etc. To which Dr. Dwight exclaims: "And this is what is palmed off on us as science!" The best advice I can give Dr. Dwight is to try Joseph Cook.

—A serious mistake was lately found to have been committed by a wholesale house in Philadelphia, which had been selling tartar emetic in place of Rochelle Salt, probably owing to the carelessness or ignorance of one of its workmen. A number of persons who had purchased Rochelle Salt at a retail pharmacy were taken violently ill, and the above fact was ascertained as being the cause of the illness. Presumably, the wholesale house succeeded in getting back all the tartar emetic thus sold, as no further cases of poisoning have since been reported.

## Reports of Societies.

### THE AMERICAN DERMATOLOGICAL ASSOCIATION.<sup>1</sup>

#### MYCOLOGICAL STUDIES IN *TINEA FAVOSA* AND *TINEA TRICHOPHYTINA*.

By Dr. A. R. ROBINSON, of New York.

The speaker prefaced his paper with a few general remarks. The epidermis of different individuals differs in susceptibility to these parasites. Children are more apt to suffer with *tinea trichophytina* and favus, while adults more frequently present *tinea versicolor*. All children are not equally susceptible. In many cases of parasitic disease there is impaired vitality previous to the development of the affection.

The speaker then gave an account of his investigations to determine the exact anatomical seat of the parasitic diseases in question and to determine the changes which they produced in surrounding tissues. The conclusion was that in favus, the rete is not affected until the latter stages when ulceration had made its appearance. The parasite confines itself more particularly to the corneous layer. The parasite of *tinea trichophytina* in some cases passes down into the rete, while in others it does not.

A number of sections were shown under the microscope which illustrated the points brought out in the paper.

#### DISCUSSION.

Dr. WHITE. — I would ask the reader what evidence he has that in ringworm and favus a decreased vitality is necessary?

Dr. ROBINSON. — I think that is found in the fact that it is exceedingly difficult to cure these affections occurring in broken-down subjects, until the general health is improved.

Dr. WHITE. — Is there any evidence that the fungus attaches itself more readily, or runs a more rapid course in unhealthy children?

Dr. ROBINSON. — Practical experience shows that. It is well known that in hospitals the disease will spread more rapidly than in private families.

Dr. WHITE. — I cannot agree with the speaker in the importance of depressed general health as a factor in the production of these diseases. I have never seen any necessity for internal treatment in these cases. Where the disease affects a superficial portion of the body it is readily removed, but where it involves a portion covered with hair it is difficult to cure. Although I think the improvement of the general condition has nothing to do with the cure of the parasitic trouble, yet it is of service in the restoration of the parts to their natural condition after the parasite has been destroyed.

Dr. PIERCE. — I must agree with Dr. Robinson that there is a relation between the condition of the general system and the rapidity of development and the rapidity of cure.

Dr. DURING. — I have always held the view that a particular condition of the epidermis was necessary for the growth of the fungus. The majority of cases of obstinate ringworm that I have seen, have been in individuals in poor health, but there are exceptions to this rule. What this peculiar condition of the skin is has not been determined.

<sup>1</sup>Continued from page 236.

DR. HEITZMAN.—As regards the constitution of the patient, I must agree with Dr. White. I have seen strong healthy persons covered from head to foot with tinea.

DR. DENSLOW.—I have recently seen a large number of cases of ringworm of the head and beard, but all the patients were well developed muscular subjects. These were cured without internal treatment.

#### ON THE STRUCTURE OF THE DERMA AND THE DEVELOPMENT OF ELASTIC TISSUE IN IT.

By DR. C. HEITZMAN, of New York.

The essayist drew attention to the fact that Professor Stricker, of Vienna, the acknowledged best microscopist of Europe, has now accepted his views concerning the life of basis-substance. Dr. Gartner (who was present at the meeting), Stricker's assistant, has brought from Europe an electric picture microscope, by means of which these newly-discovered facts can easily be demonstrated to a large audience, upon a screen. There are three varieties of basis structure, differing from each other in their chemical constituents, namely, the glue-yielding, basis substance proper, producing the spindles within the bundles of so-called fibrous connective tissue; the cement substance between the spindles; and the elastic substance developing along the edge of the bundles in advancing age and in some tumors. All three varieties are traversed by a delicate reticulum of living matter in connection with the protoplasmic cords, that fill the interstices between the bundles in the shape of a comparatively coarse reticulum. Thus it becomes intelligible that in morbid processes, not only the protoplasm, but also the basis-substance participates in an active manner. After the liquefaction of the solid fields of glue yielding basis substance, the bundles directly are transformed into inflammatory corpuscles from which starts every physiological and pathological new formation.

DR. W. A. HARDWAY, of St. Louis, described

#### A CASE OF MULTIPLE MYOMATA OF THE SKIN ACCOMPANIED WITH SEVERE PAIN.

A. B., aged thirty-six years, married, with healthy children and good family history. Never had syphilis. Present trouble began a year ago. Changes in weather produced pains in the parts which have since become affected. To relieve these, firm pressure was made with the hand. Between the paroxysms, pain was not produced by pressure. Later the lesions presented themselves.

#### PRESENT CONDITION.

A strong hearty man, a peddler by occupation. The pains still persist, recurring at intervals of one night to a week. Each attack lasts two or three minutes and does not return the same night.

The growth is situated on the right side of the back in the mid-dorsal region, and the course of the growths is obliquely outwards. There are one or two of the elevations on the left side, three of the growths are as large as peas, others are small. The epidermis is not abnormal. On passing the hand over these growths, there is no hyperæsthesia, but on deep pressure in the neighborhood of the larger masses, the patient sinks morning to the floor.

One of the larger growths was removed and micro-

scopical examination showed it to be composed of smooth muscular fibre.

From a clinical stand-point, the case bears a close relation to the cases of neuroma which have been reported. The speaker concluded that certain new growths in the skin, accompanied with severe pain may be widely different histological structures. We are not justified in assuming that a painful tumor of the skin is a neuroma or fibro-neuroma simply from its clinical history, without a microscopical examination.

DR. DUNN.—It would be difficult to differentiate from the local appearances, the case described by Dr. Hardway and that which I reported some years ago. It is not possible from a clinical stand-point, as has been said, to differentiate these growths, and we have to rely on the microscope. There is one point, and that is, in the case just described, no pain was produced by superficial manipulation, while in my case the pain was intense on the slightest touch, while firm pressure decreased the pain.

#### AN UNUSUAL CASE OF TYLOSIS ON THE HANDS.

By DR. R. B. MORISON, Baltimore.

The patient was a negro, aged 32, muscular, well developed and apparently healthy. By occupation, he was a fireman of a steamer and had occupied this position for ten years, shovelling coal, with the right hand grasping the upper portion of the shovel, and the left hand sliding up and down the handle. Two fingers of the left hand are worn off to the second joint, while the other two are going in the same way, the nails having nearly disappeared. On several occasions he has drawn pieces of bone from the fingers. There has been no pain at all connected with the affection. On this hand there are some large blisters underneath which there are red granulating surfaces, which are painless. There is no history nor evidence of syphilis. Specific treatment has been used without effect. The man obstinately refuses to give up his work, so that little could be done in the way of treatment.

DR. WHITE.—From the unusual change it would seem that there must have been some precedent change causing atrophy.

DR. TILDEN.—There is a good deal of resemblance between this case and the cases of perforating ulcer of the foot, and this would lead us to suspect a nervous element.

DR. WIGGLESWORTH.—This resembles in some respects anæsthetic leprosy, but it differs in other points.

DR. MORISON.—I am led to consider it a strictly local affection, from the fact that the hand which was most exposed to rubbing and to the heat of the furnace, was the one most affected.

DR. DUNN.—I should be inclined to consider the callosities a secondary condition. The occupation probably had something to do with the aggravation of the disease, but if the occupation had been different, there would probably have been a similar change. I should regard it as dependent on some deep change in connection with the nerves similar to that which occurs in perforating ulcer of the foot.

DR. MORISON.—That it was an affection of the nerve in the first place I can hardly admit. It may be that the continued congestion of the skin, dependent on his occupation, produced changes in the nerves or other part, which culminated in this affection. In referring to the literature of the subject, I find similar cases attributed to mechanical irritation.

## EVENING SESSION.

## THE RELATION OF HERPES GESTATIONIS AND CERTAIN OTHER FORMS OF DISEASE TO DERMATITIS HERPETIFORMIS.

By DR. L. A. DUBRING, of Philadelphia.

Attention was briefly directed to the previous articles of the reader on dermatitis herpetiformis, and to a paper showing its identity with the impetigo herpetiformis of Hebra; also to a preliminary note on the relation of this disease to herpes gestationis and other similar forms of cutaneous disease, read before the Association at the last meeting.

The object of the present communication was to prove the identity of so-called herpes gestationis with vesicular variety of dermatitis herpetiformis, and to show that the term herpes gestationis was a misnomer, the affection being found in men as well as women. Secondly, that certain other so-called forms of herpes, such as "herpes pemphigoides," "herpes vegetans," "herpes pyramicus," etc., as well as certain cases regarded by the reporters as "peculiar forms of pemphigus," must be viewed as examples of this disease; and finally, that instances of the same affection were also met with in literature, under the title of hydroa, and under divers other captions. Numerous cases from English, French, and German literature were cited. The paper of Dr. Duhring was stated to be looked upon as supplementary to the preliminary note referred to, and embodied the results of considerable research into literature. If the views put forth proved to be correct, a great deal had been gained for dermatology in bringing these peculiar forms of disease together.

## DISCUSSION.

DR. WHITE.—I think that the term dermatitis herpetiformis is a misnomer. The disease should be called dermatitis multifloris. The herpetic element is often wanting.

DR. ROBINSON.—I agree with Dr. White, that the term dermatitis herpetiformis is too restricted, but I should prefer some term which does not indicate the pathology, until the disease is better understood.

DR. HYDE.—There are reasons why I should disagree with the last speakers. The term herpetiformis is preferable, if for no other reason, because it is suggestive.

DR. FOX.—I wish to show here a photograph of a case which might be mistaken for dermatitis herpetiformis, namely, erythema multiformis. This disease should be placed in strong contrast with dermatitis herpetiformis.

DR. DUBRING.—The name dermatitis herpetiformis was adopted because it seemed the least objectionable. The herpetiform character of the disease is to my mind characteristic. The term dermatitis multifloris is already employed to designate a form of skin trouble, and dermatitis herpetiformis expresses an important variety of that affection.

## MYCOSIS FUNGOIDES.

By DR. G. H. TILDEN, of Boston, Mass.

The speaker described the case of a man, aged 28 years when he came under observation. Three years before, several red, desquamating spots had been observed on the elbows. Several months later, erythematous spots accompanied with pruritus were noted. These lesions remained a dry, scaly character. There

were no vesicles or pustules. At the end of a year several red nodules appeared on the face and throat. These, however, disappeared. Later, a small papule appeared on the right thigh and increased in size. From this there exuded a thin fluid. This was followed by the development in many parts of the body, particularly, the axillæ, groins and neck, of similar lesions, in some cases reaching the size of a hen's egg. After a time, there was superficial erosion of some of the tumors, but these excoriated tumors remained firm in consistence. But some of the masses which were covered with epidermis were soft, but there was no evidence of the formation of pus. There was also indolent enlargement of the lymphatic glands. The general health continued good. The patient passed from observation and died at the end of three years and a half.

The report of the microscopist who examined the tumors was read. His opinion was that the growths consisted of the formation of lymph tissue in corium.

Reference was then made to the literature of the subject and the various cases, some 30 in number, which had been reported were given, and the symptoms and course of the disease described. Sections of the growth were also presented for examination.

DR. WHITE.—This patient was under my care during the last stages of the disease, and he presented the changes which have been described. Some of the larger growths disappeared. During the last months of his life the man was taking arsenic. Death resulted from the occurrence of diarrhea.

DR. ROBE.—Four years ago, I saw a case of what I think to have been the same affection. The man, 62 years of age, had a multitude of these tumors. Several had been extirpated before he came under my care, but there was recurrence with this fungoid appearance. The man was given arsenic, but he died from exhaustion. No autopsy could be obtained. As far as could be detected, there was no affection of the liver or spleen.

DR. MORISON.—I have seen a similar case, which was diagnosed multiple sarcoma of the skin. It takes the microscope to settle the question in these cases.

DR. FOX.—We have seen one or two similar cases in New York. Should one come under my care, I should try the effect of calomel ointment. Judging from its effects in other cases, it should be useful.

DR. HARDAWAY.—In a case of alveolar sarcoma, which I reported, the disease has existed fifteen years, but the clinical features are about the same as they were years ago. There is marked enlargement of the lymphatic glands. The general condition is good.

DR. HERTZMAN.—The description of the microscopic appearance is that of a lympho-sarcoma, and the examination of the specimen confirms me in the view that this was a case of lympho-sarcoma.

DR. SHERWELL.—To show the amount of involution that may take place, I would refer to a case of melano-sarcoma under my care. The man was treated with arsenic, mercurials, and so forth. After six months' treatment, the tumors have almost entirely disappeared. There was not the slightest evidence of syphilis.

DR. FOX.—In regard to the use of calomel ointment, I have seen it used in a case of leprosy. There is now not a trace of leprosy, except the contraction of the fingers, which is, however, a secondary condition. It has failed in many cases, but there is sufficient to justify a trial of it in the chronic inflammatory affections referred to to-night.

## URETHRAL IRRITATION IN THE MALE AS A CAUSE OF CERTAIN NEUROSIS AND OF ACNE.

By DR. L. N. DENSLOW, of St. Paul, Minn.

He prefaced his remarks by a brief review of the cases of contracted meatus, reported by Dr. Otis. He then gave an account of a number of cases coming under his observation, in which there were reflex conditions associated with conditions of the urethra, such as contracted meatus, stricture, and excessive sensitiveness of the prostatic urethra. In these cases, removal of the urethral trouble produced an alleviation or cure of the affection to which attention has been directed. He also reported four cases of severe acne, in which the same treatment had been followed by marked improvement, or cure of the skin disease. In some of the cases, ergotin was also employed. The speaker said that he simply reports the cases as so many observed facts, and did not express any theory. He would keep the cases under observation and at a subsequent meeting give a further report.

DR. WHITE.—In regard to the use of ergot, I have employed it in obstinate cases, without seeing the least benefit from its use.

DR. TAYLOR.—I would object to this promiscuous cutting of urethras, which is so common at present.

DR. SHERVELL.—I believe that acne is largely a reflex disorder, but I am not in the habit of introducing a sound in every case of acne. I get good results from other measures. I think that it is valuable in severe cases. I strongly believe in the action of ergot in connection with local applications, especially in females.

DR. HYDE.—Many of the cases with urethral trouble associated with acne, are patients who probably have been taking for some time balsamic preparations, and as a result they have the development of acne. I would suggest to Dr. Denslow, that he take this point into consideration.

DR. DENSLOW.—In all the cases reported, the acne had existed since puberty. The patients were not hypochondriacs and they were not masturbators. I am satisfied that no drugs had been used in any of them.

Adjourned.

## FRIDAY, THIRD DAY—MORNING SESSION.

## REMARKS ON ELECTROLYSIS AND OTHER PRACTICAL TOPICS.

By DR. C. HEITZMAN, of New York.

The reader spoke very highly of electrolytic epilation. For this purpose he uses the Laclanché battery. Six cells of this battery have the advantage of steadiness, lack of pain, and lack of reaction, when applied to the face of the patient. He employs a needle devised by Leiter, of Vienna, which permits the depth to which the needle penetrates to be measured.

He has had good results from electrolytic destruction of dilated blood vessels in the face, less satisfactory results in the treatment of port-wine marks, where a permanent cure is only exceptionally attainable. Sodium ethyl is highly recommended by some for the destruction of angioma of the face, but it is in no way superior to nitric acid.

The speaker maintained after observing two hundred cases of falling of the hair, caused by seborrhea, that the method he recommended in 1876, gave fair results. This is the application of aten or twenty per cent ointment of crude oleum rusci in vasoline and paraffine.

For the removal of freckles, the speaker used an oint-

ment recommended to him by Wertheim, of Vienna. The preparation is as follows:

R Hydragr. Ammon. Muriat . . . . .	gr. 3.75.
Magist. Bisnauthi . . . . .	3.5.
Ungt. Glycerina . . . . .	30.0, M.

This is to be applied in a thin layer, every night, and in four or six weeks the result is highly satisfactory.

As to the permanency of the cure, the speaker was unable to state.

In regard to the re-appearance of hair after removal by electrolysis, it was considered to be due to the growth of the fine hairs which was increased by the transference to them of the nutrition which should have gone to the hairs removed.

DR. HYDE.—Dr. Heitzman has touched upon the important point in the removal of hair by electrolysis. The question is not what will be the result at present, but what it will be in the future. The electrolysis produces a hyperemia which tends to stimulate the growth of the remaining hair. I have found the rectified oleum rusci very valuable. I would ask what is the test for the crude oil.

DR. FOX.—In regard to the treatment of angioma, I have used nitric acid, making the application in the form of small dots one fourth to half an inch apart, with great advantage. In one case in which a nevus occupied half the body, I used this treatment with much success.

In regard to the return of the hair after electrolysis: If the needle is carefully inserted and gentle traction is made on the hair, that hair will not return. In some cases there is a constant increase in the downy hairs from some cause, but they are exceptional cases. I do not think that the removal of hairs increases the growth of others. In one case, that of a young woman with a strong beard, I removed by actual count, eight thousand hairs. This process required two or three years. Since then it has been necessary to remove only a few dozen hairs.

DR. ROBINSON.—I have used a similar ointment for the removal of freckles, but its effect is only temporary. I think that the growth of the remaining hairs is increased by the removal of a portion.

DR. WIGGLESWORTH.—For the past fifteen years I have used the following ointment, which is almost identical with that mentioned by Dr. Heitzman.

R Hydragr. Ammon. . . . .	parts 10.
Bisnauthi Subnitrat . . . . .	" 10.
Vaseline . . . . .	" 100, M.

DR. DUBRING.—I consider the oleum rusci valuable in seborrhea of the scalp. The objection to it is its disagreeable odor. I have also used in chronic seborrhea of the scalp, a preparation of sulphur, but I do not consider it as efficacious as tar.

DR. HARDAWAY.—I have performed the operation of electrolysis for ten or twelve years, probably longer than any other member of the Association. I use the irido-platinum needle which has the advantage of being heat and it is not likely to pass through the follicle wall. The moment the follicle is entered, there is an escape of sebum. One case, that of a woman with a heavy black beard, has been entirely relieved. Electrolysis with a fine needle affords a method of getting rid of freckles. The plan is to dot the needle over the surface covered by the freckle.

DR. HEITZMAN.—The percentage of recurring hairs is greater in some situations than in others. In the submaxillary region, it is greatest. The oleum rusci crudum

is better than the rectified oil. To test it, add alcohol to a small portion of the oil and paint it on the skin. If it dries quickly, leaving a black bark, it is the crude oil.

#### ON SYPHILITIC RE-INFECTION.

By DR. R. W. TAYLOR, of New York.

The speaker first referred to the literature of the subject and gave a brief review of the authentic cases on record, giving the names of the reporters. The number of cases previously reported is between thirty and forty. To these the speaker added the histories of three more. A fourth case has been observed by him, but as the complete history was not prepared, it was not given.

CASE I. A bar-keeper, aged 25 years. Was first seen in 1868 suffering with gonorrhea. Three years previously had had indolent enlargement of the lymphatic glands in the groins. Examination showed the presence of lymphatic enlargement in certain regions. Inquiry into the history showed the existence of a chancre three years before, which had been slow in healing. About two months later, he became sick and suffered with a roseolous eruption, sore throat, falling of the hair and rheumatic pains, worse at night. Under treatment he improved, but afterwards exhibited a papular eruption. He was then seen by Dr. Van Buren, who pronounced the case one of syphilis and ordered mercurial treatment. He recovered after two years, but of his own accord continued the treatment two years longer. He then remained well until the attack of gonorrhea.

In February, 1870, he again appeared, presenting a typical indurated chancre on the cutaneous aspect of the pubes. It presented every evidence of a primary infection. Later, a papular syphilide appeared over the body. There were several mucous patches on the pillars of the fauces, and the throat was red and swollen. The joints soon became the seat of nocturnal pains. The patient also presented a form of syphilitic epididymitis. Under mercurial treatment, there was some improvement, but a year later there were some tertiary manifestations. By 1874, he seemed very well. During the next three years, there was no evidence of syphilis, but he continued the mixed treatment.

He was again seen in the fall of 1882, when it was learned that his good health had continued and that he was the father of a healthy child. The child was examined and no evidence of hereditary syphilis detected.

CASE II. Had in June, 1873, a typical indurated chancre, followed by distinct secondary symptoms, which disappeared under treatment. He then passed from observation. In February, 1874, he presented several necro-tubercular lesions on the outer aspect of the forearm. He then remained under treatment six months. In January, 1875, he had spots of thickening of the periosteum of both tibiae; he was again treated, with benefit. In June, 1876, there was a typical indurated nodule on the prepuce, from which extended indurated lymphatics passing to the inguinal lymphatic glands. The incision of this sore had been about twenty days. This was followed by malaise, sore throat, swelling of the post cervical and epitrochlear glands. Over the body and arms there was a fine mottling of light pink color. The patient then went to Europe, and was not seen until March, 1885, when it was learned that the symptoms had been well marked, and that he had been under treatment for them with several Continental physicians.

CASE III. Age 11. Had had a typical indurated chancre in 1874. There had been inguinal adenitis, followed by roseola, falling of the hair, and later by severe iritis of the right side. He was treated with mercury.

In February, 1882, he returned with a typical hard chancre. In April, he became sick, had rheumatic pains and a mixed eruption of erythematous and papular syphilide. In May, inflammation of the iris of the right eye again appeared. In 1883, he had a late secondary rash.

These cases were reported with the object of throwing some light upon the natural history of second infections of syphilis. In all these cases, relapsing indurations were carefully excluded.

DR. HYDE.—In my experience, I have had but two cases of re-infection of syphilis, where I was perfectly sure of the fact.

#### OBSERVATIONS ON THE OLEATES.

By DR. H. W. STELWAGON, of Philadelphia.

In regard to the chemistry and preparation of the various oleates, both as to their manufacture by the direct combination of the acid with the base, and by double decomposition, almost, if not entirely as much can be found in the English translation of Gmelin's "Handbook of Chemistry," published 1866, as in the writings of the past several years.

Of all the oleates, those of mercury, zinc, bismuth and lead, have a place in the treatment of diseases of the skin, and in view of their costliness, the seeming unavoidable frequency of badly-made preparations, the disagreeable oleic acid odor, and the irritation so frequently observed following their use, it is probable that of these four, the mercuric oleate is the only one that promises to retain a permanent value. This last is especially valuable in ringworm of the scalp; but for immunities in the treatment of syphilis, it is of doubtful utility, as it is questionable whether it is absorbed. Oleate of copper, which has been so highly recommended for ringworm of the scalp, is not comparable in that affection to oleate of mercury, or to tar and sulphur preparations.

#### DISCUSSION.

DR. TILDEN.—I agree with Dr. Stelwagon that oleates are not as useful as ointments.

DR. WIGGLESWORTH.—I have practically renounced all oleates except the oleates of zinc, lead and mercury, as a parasiticide.

DR. DETHMUNG.—My experience with these preparations is in accord with that of the reader of the paper. I have employed the oleate of copper in varying strengths in thirty or forty cases of ringworm, but it seemed to exert no influence whatever. These were, however, obstinate cases. Other methods of treatment were afterwards tried, and they were finally cured. As to its efficiency in acute forms of ringworm, I am not prepared to speak.

DR. HERTZMAN.—I have tried the oleate of copper in chronic cases of ringworm, without any result; but in the acute cases, it cures after a time. It is not as efficient, however, as the preparation recommended by Dr. Taylor; that is, four grains of bichloride of mercury to the ounce of tincture of myrrh.

DR. FOX.—I should like to refer to the comparison between oleates and vaseline. It has been claimed that the oleic acid and animal oils are better absorbed than

these other preparations. As a matter of experience, I have found that vaseline makes a better base for the majority of ointments than do the animal oils. I have also found vaseline a most soothing application to the skin.

DR. TAYLOR.—I agree with the author of the paper. I only use the oleates of mercury and zinc; but I never rely on the oleate of mercury when the ointment can be obtained.

DR. HARDAWAY.—I have almost entirely discarded the oleates. In some recent cases, the oleate of copper has seemed to be successful, but in chronic cases it entirely failed.

A CASE OF SYPHILITIC APHASIA AND PARAPLEGIA  
FOLLOWED BY DEATH, WITH AN ACCOUNT OF  
THE AUTOPSY.

By DR. L. N. DENSLow, of St. Paul, Minn.

The object of the autopsy was simply to put on record a case in which an autopsy was obtained in early syphilitic cephalalgia. The patient was seen in consultation April 29, 1885. Two months previously, the patient had begun to suffer with severe headache, worse at night. There was also a papular eruption. He acknowledges the existence of a sore six months previously. Iodide of potassium with chloral had been given, two weeks later, the patient was free from pain, but it returned one month afterwards, when the patient stopped taking medicine. Iodide of potassium was again given with the effect of relieving the pain. Aphasia and paraplegia then developed, and the patient died four days later, and within nine months of the initial lesion.

At the autopsy, the dura mater, along the superior longitudinal sinns, was thickened and adherent. There were numerous small gummata in the pia mater, situated along the right border of the longitudinal sinus, and extended back to the fissure of Sylvius. The pia mater exhibited the evidences of simple acute inflammation.

Adjourned.

PROCEEDINGS OF THE BOSTON SOCIETY FOR  
MEDICAL OBSERVATION.

CHARLES H. WILLIAMS, M.D., SECRETARY.

APRIL 5th, 1885. DR. CABOT read a paper on

"THE APPLICATION OF ANTISEPTIC PRINCIPLE TO  
GENITO-URINARY SURGERY."

which will be found on page 245 of this number of the JOURNAL.

DR. F. H. DAVENPORT said that some years ago, when the catheter was freely used after operations, cystitis often occurred; even now it is often necessary to use it for twenty-four or more hours after operating, but by insisting on the nurses following definite instructions, the number of cases of cystitis has been much lessened.

The nurses are directed to see the meatus urinarius before attempting to pass the catheter; in case of failure to pass it they are to carefully wash off any vaginal discharge from the instrument before making a second attempt; and when not in use the catheters are to be kept in an antiseptic solution.

DR. FITZ proposed passing metal catheters through the flame of a lamp before using, to sterilize them, as with needles used for pure cultures.

DR. F. B. HARRINGTON had found a glass funnel,

to the lower part of which a rubber tube was attached, the best and simplest instrument for washing out the bladder.

The Secretary called attention to a feature of Dr. F. H. Williams' three-way cock for irrigating the bladder or other purposes, namely, the suction of the exit tube, which was sufficient to carry small clots of mucus, etc., through the eye of the catheter without necessitating the removal, and that the amount of suction was very easily regulated by the length of the exit tube.

DR. CABOT said that there was often more pain when the bladder was emptied artificially and the walls drawn together, than when the fluid was simply injected and the bladder left to empty itself through the catheter.

DR. TILDEN insisted on the care needed to ensure cleanliness of the instruments; he had been in the habit of using a toothbrush with boiling water and a soap containing one-half of one per cent of corrosive sublimate to clean instruments after operations. He uses as an injection after urethrotomy, a solution of 1 to 10,000 of corrosive sublimate, and has not had a case of chill or rise of temperature following the operation since the use of these injections. He advised against leaving a catheter fastened in the urethra, as it serves as a source of irritation and gives a road to germs which may set up a septic inflammation.

He mentioned a case of perineal section, where, four days after the operation, an old bougie was used to pass into bladder; two days later the patient had a chill and the urine showed masses of micrococci, which were probably first introduced with the instrument. At the Boston Dispensary he had tried injections of corrosive sublimate in cases of gonorrhoea, but in only a few cases had any good resulted. He considered this due to the infectious material soon passing through the walls of the urethra into the tissue beyond, where it could not be reached by a germicide injection, and that these would be of service only in the early stages of the trouble. For his own use he preferred a syringe for injecting, but when placed in the patient's hands, some form of hydrostatic pressure, like the glass funnel with rubber tube, was better.

DR. CABOT thought that in some cases it was necessary to have the catheter remain in the urethra, though it was not done as much as formerly. In cases where the operation was done on a posterior stricture, but not an anterior one, there is greater danger than if a free drainage of urine had been established by dividing both; in cases of bad stricture, where division had been done, it was a mistake to let the cicatricial tissue lie in old position of apposition and not keep it apart with a catheter. He thought the danger of introduction of germs between the catheter and the urethral wall could be avoided by tying a pad of antiseptic cotton closely to the catheter so that it would cover also the end of the penis. The catheter should be replaced once in two days.

DR. DAVENPORT then read a paper on

SOME FORMS OF DYSMENORRHOEA AND THEIR TREATMENT.

which is published on page 219 of this number of the JOURNAL.

DR. ELLIOT said his experience with dysmenorrhoea had not been so favorable. He considered it only a symptom of a trouble which was not well understood;

many of the cases reported as cured, afterward relapse, and when dilatation has been done, the relief is often only temporary. Of the two forms, ovarian and obstructive dysmenorrhœa, very little is known except that with the first we get pain in the region of the ovaries at the time of menstruation and a leech on the cervix seems to relieve it, though no satisfactory explanation of the way in which this has been accomplished has yet been given. The second form, occurring generally with antelexion of the uterus, is more common; here dilatation does not always do good, and the trouble may be as severe when a large as when only a small sound can be passed. General treatment is of more service in these cases than local means.

DR. BOARDMAN laid special stress on dysmenorrhœa not being a disease but only a symptom of many conditions that often are found among women, especially those who are anæmic; where little clots are expelled with considerable pain.

In cases of so-called obstructive dysmenorrhœa, he thought there is often a sort of granulation tissue near the internal os, which causes a hyperæsthesia and increase of stricture; there did not seem to be any constant relation between the malposition of the uterus and the amount of pain.

DR. STROSE said that dysmenorrhœa was sometimes due to local conditions which could be removed; in married women with anteversion there was rarely any trouble, but in unmarried women, where the uterus was higher, it was more common. In many cases the use of the dilator gives relief, though it may not always be permanent, but the old method of cutting bilaterally has generally failed; although the application of a leech to the cervix, before the flow, may not answer much theoretically, yet it often gives great relief, and many women are able to get on very comfortably in this way.

DR. DAVENPORT, in closing, said that while he agreed with the remarks of Dr. Elliot and Dr. Boardman as to the generally unsatisfactory results of the treatment of dysmenorrhœa, and as to the importance of general treatment, yet the paper purposely left these facts out of consideration. The aim was to call attention to certain classes of cases where definite local causes could be found for the pain, by the removal of which a cure more or less permanent was effected.

It would be as unscientific to neglect these local conditions as it would be to subject all cases of dysmenorrhœa to operative treatment.

In these cases reported, no general treatment was needed for the causes found, enlarged and congested ovaries, stricture of the canal, antelexion and retroflexion were sufficient to account for the pain, and the treatment of them brought about the desired result.

The object of the paper was to emphasize the importance of ascertaining the exact local condition in order that if any probable cause be found there for the trouble, it may be treated, in this way hoping to secure a more radical result than by drugs, and to point out certain simple operative and mechanical measures by which we may hope to attain this end.

—Mrs. Mulvaney (*the landlady*). "Indeed, ma'am, an' it's miserable I am. I'm but jist on my feet wid the pain in me back, and Jimmy he's as bad off; he has a cough on him that sounds loike an impty bar'l. *Cough for the lady, Jimmy!*"—*Harper's Bazar*.

## Medical and Surgical Journal.

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### THE INCREASE OF INSANITY AND ITS INADEQUATE TREATMENT.

IN a recent editorial, our esteemed contemporary, the *Boston Daily Advertiser*, published some statistics concerning the prevalence and increase of insanity in Massachusetts, and commented upon the care which the insane receive in the State hospitals. The general conclusion that the increase in the number of the insane has been exceptionally rapid in the last decade, is unquestionably true, although there is probably an error in placing it as high as sixty per cent. The census of the insane in 1875 was less complete than our present census, and a portion of the apparent increase is for that reason not real. The statement is also made that "the asylums, almshouses, and other institutions hold now not fewer than 5,700." This may, perhaps, be the whole number present in those institutions during the entire year, but must be about 1,200 more than they now contain.<sup>1</sup> The increase during the ten years of the insane coming under official notice seems, therefore, nearer forty than sixty per cent, a certain proportion of which percentage is accounted for by the fact that a larger part of the insane come under official notice now than formerly. This is bad enough and seems to illustrate the truth of some remarks made upon the curability of insanity. The writer then gives the proportionate number of physicians and attendants in some of the institutions, and questions whether these "asylums are not really mere places of detention instead of hospitals."

There is much force in this criticism, and we feel strongly that even the poor insane, who are not manifestly incurable, should have a hospital where each case could be better individualized, where their support should be more above a pauper standard, and where they would not be subjected to that blight of hopelessness which is bound, in some degree, to pervade an institution where the overwhelming majority of patients are manifestly incurable.

With an intention of doing what was humane and

<sup>1</sup> During the year ending October 1, 1884, there were estimated by the State Board of Health, Lunacy and Charity to have been under their official notice, "about 5,000, of whom all but two per cent were in Massachusetts when committed to our asylums, but 121 were moved from the State during the year. How many came into the State, or returned after removal, is unknown."—*Report for 1884*.

best, however, this State has recently built expensive large hospitals, and thereby rendered such a system impracticable for the present, unless private benevolence shall accomplish it. This is unfortunate, but it is one of the least of the present misfortunes of our insane, and it is concerning these more crying evils that we wish to speak.

These are an overcrowding and a lack of classification that render proper hospital organization impossible. We speak in moderation of what is known to have been the condition of the Danvers hospital for more than a year past, when we say that, in spite of most excellent management on the part of the physicians, it has been a disgrace to the Commonwealth. That hospital receives a much larger number of new cases than any other in the State, and is equalled, in this respect, by very few in the world. It, therefore, cannot properly bear even a slight crowding that might not seriously inconvenience an unchanging chronic population. But the fact has been that, during the time mentioned, the number of patients has been so great that from one hundred to nearly two hundred have been obliged to occupy beds placed upon the floors of the wards at night, and to suffer corresponding inconveniences by day, personal privacy has been interfered with, proper classification has been made impossible, attendants and physicians have been wearied, and their time has been consumed in meeting unnecessary difficulties. Moreover, the patient who has been sent to the hospital "for rest and quiet," has the daily routine of his life filled with annoyances and irritations as preliminary to all treatment. Now it is to be considered that this crowded population does not consist of reasonable people, who have voluntarily come together for pleasure or profit, and can lessen their discomforts by mutual forbearance, but of those who have lost reason and self-control, and are forcibly detained by a power which they usually deem unjust.

It probably is true that many of the patients sent there bear these troubles easily, either because they are too much demented to appreciate them, because they have not been accustomed to comfortable homes, or because they belong to the less disturbed class of patients, who are not likely to irritate one another and who are able to adapt themselves to circumstances very much like sane people. But this does not lessen the suffering and injury of those who are appreciative and excitable, as is the case with a large proportion of those who present the best prospect of restoration to health, and to whom the treatment of a hospital can be most valuable. It is a disgrace to the State that the officers of its hospitals are obliged to state that they have no place where these patients can receive the care and treatment which their condition demands.

That this evil exists as it does is not wholly a necessity arising from the increased number of the insane, but is partly due to a lack of any system of selection of cases which need the special structural provision of our hospitals for the insane for treatment in them, and of proper provision for those who do not, elsewhere. The function which the lunatic hospital

is now made to perform is not only that of caring for those who are dangerous to society and of furnishing remedial treatment for mental disease, but it is used as a convenient dumping ground for all cases of degenerative nervous diseases attended with mental failure, which are disagreeable to care for elsewhere, or whose care costs more than \$3.25 per week. This class is very large in the crowded population of eastern Massachusetts, and if all the feeble, broken-down cases, not needing other care and nursing than that which could be properly furnished in cheap buildings with no special structural provisions, were removed from the Danvers Hospital, its overcrowding would be sufficiently relieved to enable it to do proper remedial work for those who do need the special and expensive structural arrangements of a hospital for the insane,—a work which it is impossible for any staff of medical officers to accomplish satisfactorily under the existing circumstances.

Boston, having a larger number of this class than any other city in the state, is most grievously at fault, in that it makes no adequate provision for their permanent care, and in that it has no suitable reception hospital with facilities for temporarily treating patients with mental symptoms, until there is opportunity to decide whether they are suffering from insanity proper, or from the delirium of acute disease or alcoholic poisoning, or other conditions rendering commitment to an insane asylum unwise or improper.

Such hospitals exist in other large cities, and one here would not only do much to prevent the hasty commitment of improper cases but would furnish a place other than the Tombs for the temporary care of insane persons awaiting commitment. We are aware that both the City Hospital and the Boston Lunatic Hospital do some of this work, but the former has no proper facilities for it, and the latter is already overcrowded by its regularly committed patients.

For those feeble and demented patients who are a state charge, and for those belonging to the smaller towns, which cannot give them proper care, it will be necessary for the state to provide cheap buildings adapted to their needs, probably best in connection with one of the Hospitals in the eastern end of the state. The very pressing need of such provision was fully represented to the last legislature, but no action was taken by it.

#### SMALLPOX IN CANADA AND MASSACHUSETTS.

AFTER a period of comparative immunity from smallpox throughout the whole of North America, the disease has assumed the character of an epidemic at Montreal. Following a small localized outbreak in Ontario last fall, it appeared at Montreal in April, but not until mid-summer did it become unusually prevalent, thus taking a course contrary to its usual characteristic as a cold weather disease.

The population suffering most at Montreal are the Canadian French, among whom, ignorance and neglect of the first principles of sanitation are common traits

of character. That portion of their number which annually swells the tide of emigration across the border is not above the average in the same characteristics. Hence it follows, in consequence of direct communication with the Dominion of Canada by several lines of railroad travel, that many of the localized outbreaks of smallpox in Massachusetts in the past decade may be traced directly to the French Canadian immigrant.

This fact began to be apparent in the great epidemic of 1872-1873, when more than 6,000 cases and 1,300 deaths occurred in Massachusetts.

In the third report of the State Board of Health (1872) it was stated that "Lowell and Holyoke have a large population of foreigners including many French Canadians. These people are notoriously perverse in refusing vaccination, and when sick with smallpox, conceal the disease."

Since that time other cities and towns have received large accessions to their population from the same source.

The cases which occurred in Holyoke in 1883, were among unvaccinated French Canadian immigrants, and the same was also true of the town of Holden in 1884. In the town of Spencer in 1873, a French Canadian physician inoculated fifty-two children in the French settlement of that town with virus which proved to be that of smallpox.<sup>1</sup>

During the past week three children were taken ill with smallpox in a French Canadian family in Fall River, two of whom have since died. None of them had been vaccinated and the disease was undoubtedly brought from Montreal by the mother. These are but a small portion of the cases which might be cited.

With these facts in view there is special need of vigilance on the part of all local Boards of Health, whom the Statutes have charged with the special duty of protecting the public. Adequate power is given them for enforcing the statutes, and such power should be exercised. There can be no doubt that smallpox can be totally excluded from any community, or at least confined to the first cases by proper sanitary precaution. The following cardinal points should be kept in view by all local authorities having charge of the public health.

(1) As far as possible guard against the introduction of the disease.

(2) Vaccination and re-vaccination.

(3) Isolation and non-intercourse with the sick.

(4) Disinfection.

Dependence should never be placed upon the latter (disinfection) to the exclusion of vaccination, since there is not the slightest evidence that smallpox is in the strict sense a filth disease. No amount of filth will originate smallpox, and although *ceteris paribus*, habits of cleanliness will in a measure prevent contagion, a community of unvaccinated people who are scrupulously clean, would undoubtedly fare very much worse in the face of an epidemic of variola, than a thoroughly vaccinated community of notoriously filthy habits.

It should be distinctly borne in mind that every unvaccinated person in a community is a source of danger, whose presence should not be tolerated.

The public health is paramount to private interests and no one has the right to endanger the lives of his fellows by means of his own neglect.

The last Legislature, in common with its predecessor, refused to enact a law providing for an independent Board of Health in every town, and hence in a town where no such board exists, the Selectmen constitute the Board of Health. It is plain that such boards, elected in an *ex officio* manner and without the slightest fitness for the duties pertaining to public health, are often wholly incompetent to cope with so formidable an enemy as an epidemic of smallpox.

It is in such towns that the Statutes relative to notice of cases by physicians and householders, and also the law relative to the exclusion of unvaccinated children from the public schools are often disregarded. The careful and thorough enforcement of each of these laws is a matter of the greatest importance. The latter being one of our strongest safeguards against the disease, while a neglect of the former is both dangerous and criminal.

The following quotation from the pen of Dr. Geo. Derby, the first Secretary of the State Board of Health of Massachusetts, has lost none of its force in the years that have elapsed since it was written in 1871.

"We may speculate about the possibility of the potency of vaccine being exhausted in the human family, we may be surprised to find that people with good vaccine scars sometimes have smallpox, we may dispute as much as we please about the average period when re-vaccination may be considered a prudent safeguard, we may even conjecture that other diseases than that of the cow may be communicated by humanized vaccine, we may turn the vaccination question with ingenious skill, so that its many facts shall reflect a multitude of curious lights, and after all we find that we rest in a security against the horrid pestilence unknown to former generations."

An examination of the present condition of affairs in Montreal by the officers of the State Board of Health of New Hampshire, shows that the statements of the Health department of Montreal do not represent the magnitude of the epidemic, which embraces not only the city, but also the out-lying municipalities; and that the reported figures must be at least doubled to fully state the death rate. As the result of their observations, they state that it is their opinion that the Canadian authorities cannot handle the epidemic within their own borders, much less assist in any marked degree in keeping the disease out of the New England States, and they accordingly, in an address to the National Board of Health, recite the above facts, recall the powerlessness of a State Government in international matters, and state their belief that it is the duty of the National Government to take immediate action in this matter.

<sup>1</sup> State Board of Health Report, (1874), p. 533.

## MEDICAL NOTES.

—The Prefect of Police has issued a decree that the remains of the bodies dissected in the dissecting-rooms of the Paris School of Medicine shall be cremated in the apparatus for the purpose. The Prefect of the Seine, the Director of the Assistance Publique, and the Dean of the Paris Medical Faculty, have been informed of this decision.

—Hydrate of chloral has, according to the *London Medical Record*, been successfully employed instead of cantharides for blisters. For this purpose, powdered chloral is sprinkled on previously slightly warmed adhesive plaster. Vesicles are raised by it in about ten minutes. The advantages of this blister over other kinds are, rapid and perfectly painless action, and absence of any troublesome effect usually caused by cantharides.

—The proud distinction of having the meanest man on record is claimed for Oakville, Can. His wife was ill and the doctor prescribed wine. As it was not easily found, the doctor sent some from his private stores. The woman died. When the doctor's bill came in the broken-hearted widower lodged a complaint against the physician for selling liquor contrary to law.

—Dr. Wingate reports (*Medical Times*) eight cases of united fractures in teeth, from Carbondale, England,

where there is a large class of miners, amongst whom accidents are common. As these teeth were all extracted on account of the pain and discomfort caused by their distorted shape, it is probable that united fractures in teeth are much more common than has been supposed, for these teeth represent the failures only; the successful cases, not giving trouble, were never recognized.

—A lay exchange, speaking of the recent cold snaps, says it not only struck the corn belt of the West, but in the Southern States is striking below the belt.

## Correspondence.

## A PHYSICIAN WANTED.

A correspondent sends the following, which may be of interest to some of our younger readers: "I take the liberty of writing to you to say that where I spent my vacation, in the town of Tiverton, R. I., a physician is very much needed. I send this to you as an item of information. I know that the people residing at Tiverton Four Corners have to send six miles for a doctor, and those near the stone bridge or depot telephone several miles away to Fall River. If you know or hear of a physician who wants a country practice, he can address Mr. Isaac Brown, Tiverton, or Rev. Mr. Arnold, at Tiverton Four Corners, R. I., either of whom will give information respecting the matter."

## REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 22, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	623	238	32.60	12.16	22.88	.96	3.04
Philadelphia . . . . .	327,995	417	189	24.24	12.72	15.60	3.84	2.64
Brooklyn . . . . .	644,526	298	168	33.78	9.86	18.96	.68	4.76
Chicago . . . . .	632,300	264	159	35.24	7.60	16.76	6.46	4.54
Boston . . . . .	423,000	182	75	30.80	18.15	23.10	2.20	1.10
Baltimore . . . . .	408,720	157	61	24.82	15.33	13.87	4.38	—
St. Louis . . . . .	400,800	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	101	45	22.77	13.86	17.82	.99	2.97
New Orleans . . . . .	234,000	88	15	20.52	14.82	5.70	1.14	3.42
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,540	86	35	18.56	12.76	6.96	2.26	3.18
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	110,405	26	12	26.55	—	15.40	7.70	3.85
New Haven . . . . .	62,882	23	12	45.50	—	26.10	—	8.70
Nashville . . . . .	54,400	32	13	37.56	12.52	25.04	—	12.52
Charleston . . . . .	52,286	—	—	—	—	—	—	—
Lowell . . . . .	71,447	21	12	33.28	16.64	20.42	—	4.16
Worcester . . . . .	69,442	37	21	39.10	5.30	51.20	—	5.40
Fall River . . . . .	62,674	32	26	71.09	—	56.34	—	—
Cambridge . . . . .	60,935	22	12	40.45	4.55	27.30	—	—
Lawrence . . . . .	45,516	15	5	20.00	6.66	13.33	—	6.66
Lynn . . . . .	44,805	19	9	37.82	21.04	21.04	15.78	—
Springfield . . . . .	38,090	15	2	35.23	24.44	13.33	—	—
Somerville . . . . .	31,350	5	2	20.00	—	20.00	—	—
Holyoke . . . . .	30,515	—	—	—	—	—	—	—
New Bedford . . . . .	30,111	15	10	19.99	19.99	—	—	—
Salem . . . . .	29,503	7	1	—	—	—	—	—
Chelsea . . . . .	24,547	7	1	20.00	10.00	20.00	—	—
Taunton . . . . .	22,633	8	3	25.00	—	12.50	—	—
Gloucester . . . . .	21,400	7	3	—	28.56	—	—	—
Haverhill . . . . .	20,805	8	5	50.00	—	50.00	—	—
Newton . . . . .	19,421	9	5	26.00	20.00	—	20.00	—
Brookton . . . . .	18,323	12	6	—	—	—	—	—
Malden . . . . .	15,273	10	1	10.00	10.00	10.00	1	—
Newburyport . . . . .	13,947	3	3	27.27	27.27	27.27	—	—
Waltham . . . . .	14,568	5	4	20.00	—	20.00	—	—
Fitchburg . . . . .	13,433	14	7	12.81	7.14	12.81	—	—
Northampton . . . . .	14,165	4	1	25.00	—	25.00	—	—
90 Massachusetts towns . . . . .	—	69	23	11.60	13.05	7.25	1.45	2.90

Deaths reported 2,621: under five years of age, 1,233; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 702, diarrhoeal diseases 423, consumption 315, lung diseases 120, diphtheria and croup 80, typhoid fever 65, malarial fevers 37, whooping-cough 28, cerebro-spinal meningitis 22, scarlet fever 17, measles nine, puerperal fever seven, erysipelas five. From malarial fevers, New York thirteen, Brooklyn seven, New Orleans nine, Baltimore three, Chicago two, Philadelphia, District of Columbia and New Haven one each. From whooping-cough, New York 10, Brooklyn six, Philadelphia, Chicago and Baltimore three each, District of Columbia two, Fall River one. From cerebro-spinal meningitis, Fall River four, Chicago eight, New York three, Philadelphia, Boston, District of Columbia, Worcester, Springfield, Taunton and Brockton one each. From scarlet fever, Brooklyn seven, Boston three, New York, Philadelphia and Springfield two each, District of Columbia one. From measles, New York and Chicago two each, Philadelphia, Brooklyn, Boston, Baltimore and New Haven one each. From puer-

peral fever, Boston three, Chicago two, Philadelphia and Cincinnati one each. From erysipelas, New York and Baltimore two each, Brooklyn one.

In 113 cities and towns of Massachusetts, with an estimated population of 1,413,387 (estimated population of the State 1,355,104), the total death-rate for the week was 19.47 against 23.70 and 23.27 for the previous two weeks.

In the twenty-eight greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending August 8th, the death-rate was 21.8. Deaths reported, 3,715; infants under one year of age 1,446; acute diseases of the respiratory organs (London) 184, diarrhoea, 628, measles 109, whooping-cough 94, fever 35, scarlet fever 35, diphtheria 26, smallpox (London) five. The death-rates ranged from 19.2 in Wolverhampton to 32.2 in Leicester; Birmingham 17.7; Bradford 23.8; Hull 17.1; Leeds 23.2; Liverpool 24.9; London 22.6; Manchester 24.3; Sheffield 21.5; Sunderland 23.7; Edinburgh 15.6; Glasgow 24.6; Dublin 19.8.

REPORTED MORTALITY FOR THE WEEK ENDING AUGUST 29, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,144	642	284	32.00	15.52	20.32	1.28	3.84
Philadelphia . . . . .	327,365	365	168	23.76	7.83	14.61	7.56	3.51
Brooklyn . . . . .	644,526	307	154	33.00	10.98	21.12	1.00	3.25
Chicago . . . . .	632,100	285	158	32.90	9.10	16.45	4.55	5.95
Boston . . . . .	423,800	162	61	21.45	16.90	16.90	—	2.60
Baltimore . . . . .	408,520	161	74	25.14	22.32	17.98	1.86	3.72
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	136	48	18.50	20.72	5.92	—	2.22
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	—	—	—	—	—	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	38	10	23.47	13.15	18.41	—	2.63
New Haven . . . . .	62,882	22	10	31.85	27.30	18.20	—	—
Nashville . . . . .	54,400	12	8	58.31	16.66	25.00	—	16.66
Charleston . . . . .	52,286	24	5	29.12	16.61	16.64	4.16	—
Lowell . . . . .	71,447	40	25	30.00	7.50	30.00	—	—
Worcester . . . . .	62,671	25	14	54.60	4.55	36.40	—	4.55
Fall River . . . . .	62,671	32	14	17.16	5.72	8.58	2.86	—
Cambridge . . . . .	60,935	23	9	21.75	34.80	17.40	—	4.35
Lawrence . . . . .	45,516	12	1	—	43.33	—	—	—
Lynn . . . . .	44,895	25	12	32.00	16.00	28.00	—	4.00
Springfield . . . . .	38,090	—	—	—	—	—	—	—
Somerville . . . . .	31,350	—	5	14.28	28.56	7.14	—	7.14
Holyoke . . . . .	30,515	18	7	50.00	5.55	50.00	—	—
New Bedford . . . . .	29,144	20	8	25.00	25.00	20.00	—	5.00
Salem . . . . .	29,503	11	4	36.36	9.09	36.36	—	—
Chelsea . . . . .	24,347	11	7	54.54	9.09	36.36	9.09	9.09
Taunton . . . . .	22,633	7	3	14.28	—	14.28	—	—
Gloicester . . . . .	21,400	4	3	25.00	25.00	25.00	—	—
Haverhill . . . . .	20,905	4	3	25.00	—	25.00	—	—
Newton . . . . .	19,421	6	3	—	33.33	—	—	—
Brockton . . . . .	18,323	3	—	—	46.66	—	—	—
Malden . . . . .	15,273	3	—	—	10.00	40.00	—	—
Newburyport . . . . .	13,947	6	5	33.33	33.33	33.33	—	—
Waltham . . . . .	13,568	—	—	—	—	—	—	—
Fitchburg . . . . .	13,133	—	—	—	—	—	—	—
Northampton . . . . .	13,165	4	1	—	20.00	—	—	—
Massachusetts towns . . . . .								

Deaths reported 2,492: under five years of age 1,127; principal infectious diseases (smallpox, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 716, diarrhoeal diseases 487, consumption 317, lung diseases 118, diphtheria and croup 87, typhoid fever 61, whooping-cough 39, malarial fevers 34, scarlet fever 21, cerebro-spinal meningitis 13, measles 10, erysipelas seven, puerperal fever six. From whooping-cough, New York 16, Brooklyn seven, Philadelphia six, Chicago three, Baltimore and New Orleans two each, Providence, New Haven and Nashville one each. From malarial fevers, New Orleans 10, New York nine, Brooklyn seven, Baltimore three, Chicago two, New Haven and Charleston one each. From scarlet fever, New York five, Brooklyn and Baltimore four each, Chicago three, Philadelphia two, Boston, Nashville and Fall River one each. From cerebro-spinal meningitis, Chicago four, Philadelphia and Worcester three each, New York two, Fall River one. From measles, New York six, Chicago two, Brooklyn and Boston one each. From erysipelas, Brooklyn three, New Orleans two, New York and New Haven one each. From puerperal fever, Chicago three, New York, Brooklyn and Boston one each.

In 112 cities and towns of Massachusetts, with an estimated population of 1,423,674, (estimated population of the State 1,355,104), the total death-rate for the week was 18.27 against 19.47 and 23.70 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending August 22d, the death-rate was 19.7. Deaths reported 3,361; infants under one year of age 1,178; acute diseases of the respiratory organs (London) 165, diarrhoeal diseases 423, whooping-cough 87, measles 81, fever 44, scarlet fever 37, diphtheria 18, smallpox (London) four. The death-rates ranged from 10.9 in Bradford to 30.1 in Preston; Birkenhead 18.5; Birmingham 20.7; Bolton 22.7; Hull 24.6; Leeds 19.4; Leicester 22.2; Liverpool 25.0; London 18.8; Manchester 21.1; Sheffield 21.2; Sunderland 20.0; in Edinburgh 17.1; Glasgow 21.1; Dublin 27.4.

For the week ending August 15th in the Swiss towns there were 34 deaths from diarrhoeal diseases, consumption 21, lung diseases 13, whooping-cough five, smallpox two, typhoid fever two, measles one. The death-rates were: at Geneva 16.2; Zurich 3.9; Basel 21.2; Bern 20.7.

The meteorological record for two weeks ending August 29th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Saturday, Aug. 22, 1885.																			
Sunday, . . . 16	30.167	65.3	74.7	55.1	59.0	55.0	60.0	58.0	N.	E.	S.W.	6	10	7	C.	C.	C.	—	—
Monday, . . . 17	30.166	67.1	78.6	58.0	75.0	45.0	74.0	64.7	W.	S.W.	S.W.	6	12	9	C.	C.	O.	—	—
Tuesday, . . . 18	29.994	73.4	83.5	64.0	88.0	41.0	71.0	67.3	S.W.	W.	W.	15	13	11	F.	C.	O.	—	—
Wednesday, . . 19	29.697	72.3	81.8	66.2	89.0	54.0	83.0	73.3	W.	W.	N.W.	10	15	10	R.	C.	C.	—	—
Thursday, . . . 20	29.984	65.2	72.2	59.8	56.0	48.0	72.0	58.7	N.	N.W.	N.W.	10	10	2	C.	C.	C.	—	—
Friday, . . . 21	30.093	69.6	75.1	55.8	68.0	62.0	83.0	71.0	N.W.	S.W.	S.W.	2	14	15	F.	O.	O.	—	—
Saturday, . . . 22	29.924	74.1	85.7	66.5	90.0	68.0	77.0	78.5	S.W.	W.	N.W.	4	7	12	O.	O.	C.	8 hrs.	1.03
Mean, the Week.	29.969	69.7	78.1	60.6				67.7											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

Week ending	Barom-eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Saturday, Aug. 29, 1885.																			
Sunday, . . . 23	29.861	68.1	74.0	62.4	73.0	68.0	97.0	79.3	N.W.	S.E.	W.	7	4	10	F.	O.	R.	—	—
Monday, . . . 24	29.607	73.7	85.9	64.4	92.0	61.0	86.0	79.7	S.W.	S.W.	E.	9	12	3	O.	F.	O.	—	—
Tuesday, . . . 25	29.803	78.3	88.9	55.2	98.0	94.0	85.0	91.3	N.	N.E.	N.	8	7	12	R.	R.	O.	—	—
Wednesday, . . 26	29.806	56.5	65.5	49.7	72.0	52.0	81.0	68.3	N.	N.W.	N.W.	13	18	12	C.	C.	O.	—	—
Thursday, . . . 27	29.062	57.1	65.2	48.5	63.0	46.0	64.0	57.7	N.W.	N.W.	N.W.	14	14	9	C.	C.	F.	—	—
Friday, . . . 28	30.076	59.0	68.5	47.2	70.0	45.0	79.0	64.7	N.W.	W.	W.	9	6	11	C.	C.	O.	—	—
Saturday, . . . 29	30.117	60.0	68.4	53.4	69.0	44.0	76.0	63.0	N.W.	S.E.	S.W.	10	5	11	C.	F.	F.	46.	3.16
Mean, the Week.	29.916	61.8	70.6	54.4				72.0											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM AUGUST 23, 1885, TO SEPTEMBER 4, 1885.

MAGRUDER, D. L., lieutenant colonel and surgeon. Granted leave of absence for fifteen days. S. O. 201, A. G. O., September 3, 1885.

MIDDLETON, PASSMORE, major and surgeon. Assigned to duty as attending surgeon at these headquarters, vice major J. V. D. Middleton, surgeon, hereby relieved. S. O. 131, Department of the Missouri, August 28, 1885.

CRONKHITE, H. M., captain and assistant surgeon. Relieved from duty at Fort Reno, Indian Territory, and assigned to duty as post surgeon Fort Hays, Kansas. S. O. 129, Department of the Missouri, August 26, 1885.

GHARD, ALFRED C., captain and assistant surgeon. Assigned to duty as post surgeon at Boise Barracks, Idaho Territory, S. O. 112, Department of the Columbia, August 22, 1885.

DAVIS, WILLIAM B., captain and assistant surgeon. Having reported for orders from leave of absence, assigned to duty at Fort Porter, New York, as post surgeon. S. O. 183, Department of the East, August 28, 1885.

POWELL, J. L., captain and assistant surgeon. Relieved from temporary duty at Fort Leavenworth, Kansas, and assigned to duty as post surgeon at Fort Lyon, Colorado. S. O. 128, Department of the Missouri, August 25, 1885.

BANISTER, JOHN M., captain and assistant surgeon. Assigned to temporary duty at Camp of Competitors at Creedmoor, New York, arriving not later than September 4, 1885. S. O. 58, Division of the Atlantic, August 31, 1885.

MC CAW, W. D., first lieutenant and assistant surgeon. Assigned to temporary duty at the camp of the troops near Kiowa, Kansas. S. O. 128, Department of the Missouri, August 25, 1885.

KENDALL, WILLIAM P., first lieutenant and assistant surgeon (recently appointed), to report in person to the commanding general, Department of California for assignment to duty. S. O. 201, A. G. O., September 3, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE U. S. NAVY, DURING THE WEEK ENDING SEPTEMBER 5, 1885.

STEWART, HENRY, surgeon. Leave of absence extended one year from October 15, with permission to remain abroad.

STEELE, JOHN M., passed assistant surgeon. Detached September 1 from Constellation, and report for duty at Naval Academy, Annapolis, Md.

BRIGHT, GEORGE A., surgeon. Detached September 1 from Constellation and wait orders.

DICKSON, S. H., passed assistant surgeon. Ordered to Naval Academy, Annapolis, Md., as relief of Passed Assistant Surgeon A. A. Austin.

FITTS, HENRY B., assistant surgeon. Detached from coast survey steamer "Gedney" and await orders.

AUSTIN, A. A., passed assistant surgeon. Detached from Naval Academy, Annapolis, Md., and ordered to coast survey steamer "Gedney" to relieve assistant surgeon H. B. Fitts.

#### ERRATA.

In last week's issue of the JOURNAL, p. 228, l. 7, the word multiparous should read nulliparous.

#### BOOKS AND PAMPHLETS RECEIVED.

Fourth Annual Report of the State Board of Health of the State of New Hampshire for the Fiscal Year ending April 30, 1885.

A Treatise on Epidemic Cholera and Allied Diseases. By A. B. Palmer, M.D., LL.D., Professor of Pathology, Practice of Medicine and Clinical Medicine in the College of Medicine and Surgery in the University of Medicine.

Diseases of the Tongue. By Henry T. Butlin, F.R.C.S., Assistant Surgeon and Demonstrator of Practical Surgery and Diseases of the Larynx, St. Bartholomew's Hospital.

Forty-Fourth Annual Announcement of the St. Louis Medical College. Seventh Street and Clark Avenue. Winter Session 1885-86 and Catalogue for 1884-85.

## Original Articles.

IS CRANIOTOMY UPON THE LIVING FETUS EVER JUSTIFIABLE?<sup>1</sup>

BY ROBERT B. DIXON, M.D., OF BOSTON.

I WOULD say in the beginning, that this paper is from a purely medical and non-ecclesiastical point of view; and in no way have I, in dealing with the subject, touched upon it from an ecclesiastical standpoint.

An attempt to look through the works that have been published during the past fifty years upon the justifiability of the operation of craniotomy upon the living fœtus, taught me that the contributions upon this subject were indeed numerous, and that the topic had been dwelt upon by men eminent the world over. Still this subject, important as it is, remains in an unsettled condition. It is not with the idea that I can add anything of value to the subject that I deal with it; but I do so more especially because in a paper recently read by Dr. Basey, of Washington, the strong statement, which is the title of the article, is made, that "Craniotomy upon the Living Fœtus is not justifiable." What I shall attempt in this paper will be to collect such strong conclusions as will clearly show that craniotomy, in certain instances, is vindicable by reason, and, in these cases, is the only operation that can be justifiably done.

The question of destroying a living fœtus is a most serious one, and every means should be taken to obviate the necessity for the operation. In large cities, where there are usually two or three practitioners skilled in the various operations of abdominal section, where trained assistants and nurses are at hand, and where all the instruments and appliances necessary to the operation can be obtained at short notice, then, perhaps, in most cases where craniotomy would usually have been performed, abdominal section might be chosen if the woman is in a suitable condition to undergo the operation; that is, labor has not commenced or is just starting, the woman is in no way exhausted, and there is positive evidence that the child is alive. Supposing, however, that a country practitioner is called to a woman in labor, and, from some one of the many obstacles which may exist, he finds it impossible to deliver the woman *per vaginam*, without diminishing the diameters of the child's head, what is he to do? Would it be justifiable for him to attempt the difficult operation of abdominal section, an operation which, in all probability, he has never seen performed, or knows anything more about than what can be learned from text-books? One might say that he should send for some practitioner who can do the operation; but the delay thus necessitated would, with little doubt, result in the death of the child, and get the woman into such an enfeebled condition, that her life would also be imperilled.

The obtainable statistics of recoveries after the various methods of abdominal section, for removing a living child, are those computed by men, who, although they but rarely open the abdominal cavity to remove a fœtus, are almost daily removing the various kinds of tumors by abdominal section. Supposing the general practitioner should try his hand at this operation, an operation which could hardly be called for more than once or twice during his lifetime, how then would the statistics stand if they could be collected? In all probability, if the woman did not die from hemorrhage dur-

ing the operation, she would hardly survive the after-coming shock and exhaustion, and very likely in such cases as these, the child would be extracted in a moribund condition.

That craniotomy, an operation that existed previous to the time of Hippocrates, has been time and again performed when it ought not to have been, in cases which, with the present knowledge of obstetrical surgery would be treated differently, there is not the least doubt. Many fœtal lives that were destroyed in cases of slightly contracted pelves, or when the diameters of the fœtal head were a little above the average, or there was premature ossification of the bones of the head, might have been saved by the forceps or version. There are but few eminent obstetricians with a large consultation practice, who have not been summoned by a brother practitioner to do craniotomy, and found, after thorough examination, that there was a possibility of extracting a living child by version, and, making the attempt, have succeeded in so doing. In our city there are several obstetricians who have had experiences of this kind.

Now, right here comes up the important subject of version, which will save many lives, and in slightly contracted pelves, obviate puncturing the fœtal head till it becomes an absolute necessity. For many years Dr. W. L. Richardson, of Boston, has strongly advocated version in cases of slightly-contracted pelves, where failure in delivery has resulted from the application of the forceps. He has had marked success in many cases which would have come to craniotomy if version had not proved beneficial. If turning can be accomplished in slightly-contracted pelves with a good degree of success, ought it not to be the procedure in all such cases?

There is a good probability, if the operation is done early and skillfully, that a living fœtus may be extracted. If the head cannot be removed, then craniotomy can be done; and it has been shown that craniotomy upon the after-coming head is not as difficult a manoeuvre as has been thought. The successful termination, by version, of many of these cases which the attending physician has made up his mind must come to craniotomy, strongly brings this operation forward as a measure which is, indeed, sound and scientific.

Would it be considered good judgment to do Cesarean section or one of its substitutes, for the removal of a child with a hydrocephalic head? I should say not. Supposing a physician is called to a woman in labor with good pains. Upon examination, and the lapse of time, he learns that for some unknown reason the head of the child does not descend. The woman is etherized, and the operator's hand inserted into the vagina and through the cervix, so that the child's head can be taken into it and thoroughly examined. The introduction of the hand will demonstrate to a practitioner of even moderate experience, the presence or absence of pelvic contraction of any moment. If it is determined that the pelvic diameters are normal, or nearly so, and that the child's head is hydrocephalic, would any one say that craniotomy ought not to be done and is the only suitable operation? The woman's pelvis is all right, as it would most likely be, and the child can be removed after the head is perforated, with less trouble than by forceps or version when these operations are called for. The risk of the soft parts of the woman being injured by pressure, as in cases of severely contracted pelves, is absent, and the percentage of recoveries after the operation could not be otherwise than very large.

<sup>1</sup> Read before the Section for Obstetrics and Gynecology, of the Suffolk District Medical Society, April 15, 1885.

Most certainly, in a case of this kind, abdominal section in none of its varieties is justifiable; for most assuredly, the death of a diseased foetus whose chances, if delivered safely, of survival are the slenderest, cannot be compared with the recovery of a woman, healthy in all her parts, and who in every way is constituted to continue having children, which she is very likely to do.

A physician in attendance upon a woman who cannot be delivered other than by craniotomy or abdominal section, who, in no way, is sufficiently familiar with the operation of opening the abdomen, and who, if he made the attempt, would probably lose the mother and quite likely the child also, could hardly be considered as acting in a sound manner in attempting anything of the kind. If the operation is not done, then craniotomy is the only resort; otherwise, both the mother and child will be lost.

A few statistics compiled from the various operations which have been performed by eminent men for the removal of the child by Cæsarean section, or some one of its substitutes, laparo-elytrotomy and Porro's operation, will be of the greatest value. The results from these operations during the past few years, under the improved and more skilful methods of operating, have been most pronounced. Out of something over 1,500 tabulated cases of Cæsarean section, occurring in England, Germany, France, Belgium, Italy and America, the average mortality was fifty-three per cent. Dr. Harris, in the *Obstetrical Journal* for February, 1872, reports seventeen cases which were operated upon the first day of labor. Out of these 73½ per cent of the women recovered and 86½ per cent of the children were saved. Of all the cases operated upon in France for fifteen years up to 1861, of those operated upon early, while the strength of the patient was still good, 81 per cent of the women recovered; where the patient, however, was in a state of exhaustion when the operation was commenced, only 19 per cent recovered. Up to 1876, when Späth<sup>2</sup> operated, every Cæsarean case in a century had proved fatal in the Lying-In Hospital in Vienna, and a like fatality had followed for nearly as long a period at the Maternité at Paris, till Professor Tarnier operated in 1879.

Dr. R. P. Harris,<sup>3</sup> of Philadelphia, tabulated 59 cases of Cæsarean section occurring in the United States, between 1822 and 1870, in which there were thirty-one recoveries and twenty-eight deaths. The results to the children were that twenty-six were born alive, thirty-two were lost, and the result to one was not stated. The prevailing causes of death in the women were exhaustion and peritonitis, and in the children the causes assigned were principally long labor and some operative procedure as craniotomy.

Of eleven cases of Cæsarean section, occurring during the past few years, that I have tabulated, nine women and eight children were saved. Most of these operations occurred very early. Winckel has performed fourteen Cæsarean operations, and saved six mothers and nine children. Previtali, of Italy, lost seventeen out of nineteen cases. But two of twenty-seven were saved in Naples, and Dr. Belluzzi had twelve operations, in one of which the mother recovered. Späth,<sup>4</sup> of Vienna, has reported four cases of Cæsarean section which were under his observation between 1852 and 1871, all of which ended fatally. He considers hemorrhage the chief source of danger.

Dr. Harris quotes the comparative results of the Cæsarean operation in the two countries, as follows: Great Britain and Ireland, cases, 106; fatal, 88; children saved, 60. United States, cases, 60; fatal, 28; children saved, 27. Dr. Harris' twenty-four cases reported in the *American Journal of Medical Sciences* for April and July, 1878, and January, 1879, in which the operation was performed within twenty-four hours from the beginning of labor, show that of these six died and eighteen were saved, about 75 per cent. M. Péhan Du-féilley has shown that 81 per cent of women operated upon early and before the strength was exhausted, recovered.

Lusk says that Cæsarean section is chiefly justifiable in cases in which craniotomy and the delivery of the child by the natural passages involve the life of the mother in still greater peril. It is indicated, therefore, in extreme degrees of pelvic contraction, in the case of solid tumors which encroach upon the pelvic space, and in advanced carcinomatous degeneration of the cervix.

Statistics on Porro's operation give beneficial results. Champininiere<sup>5</sup> reported four cases in which two women and all the children were saved. In 1879, Dr. Harris tabulated 37 cases of Porro's operation with 17 recoveries and 20 deaths. Späth considered the results of Porro's operation as very promising. The operation is considered as safer than Cæsarean section, and also safer than craniotomy in extremely contracted pelvis. It is being rapidly adopted on the continent, and with a marked degree of success.

In the *American Journal of Medical Sciences*, April, 1885, is a review of the report of Dr. Clement Godson, of all of the Porro's operations up to the beginning of the year 1885—164 cases in all. There were 109 cases of Porro's, many of them very unfavorable, with 46 recoveries. Müller's modification was used in 41 cases, with 21 recoveries. From the 164 women, 166 children were extracted; of these, 129 were living and 37 were dead, or moribund. Dr. Godson thinks it but just to the operation to reduce the 164 cases to 147, by excluding three moribund cases operated upon to save the children, and fourteen in which the stump was dropped in, proving fatal in ten cases. Those cases operated upon in hospitals have done better than those in private houses. When the patient is prepared beforehand, and the time has been carefully selected, the results from the hospital operations are very encouraging.

Of 134 cases of Porro's operation reported by Dr. Godson<sup>6</sup> in 1884, the maternal mortality was fifty-five and ninety-seven hundredths per cent. Carl Braun had a mortality of forty per cent, while Späth and Gustavo Braun had a mortality of fifty per cent.

Laparo-elytrotomy has given better results than Cæsarean section, for by it the dangers of peritonitis and shock are reduced to a minimum, and there is not the likelihood of septicæmia showing itself. There is, however, great risk of hemorrhage from the vascular supply to the vaginal walls, and also the risk of vesico-vaginal fistula. Garrigue<sup>7</sup> says, "The incision of the vagina may be made almost safe by using the cautery, and by tearing instead of cutting." The earlier operations by Jorg and Baudeloque, were abandoned on account "of the severe hemorrhage, and the children were removed by Cæsarean section in order that their

<sup>1</sup> *American Journal of Medical Science*, p. 609, October, 1879.

<sup>2</sup> *American Journal of Obstetrics*, Vol. IV. 1872.

<sup>3</sup> *Wiener Medizinische Wochenschrift*, 1875.

<sup>4</sup> *Annales de Gynécologie*, April, 1880.

<sup>5</sup> *British Medical Journal*, 1884.

<sup>7</sup> *Gynecol. Jour.*, p. 229, 1878.

lives might be saved." Of eleven cases collected by Kinshead,<sup>8</sup> of Dublin, seven died, giving a mortality of 63.3 per cent. In two of these the operation was abandoned and Casarean section was substituted, while in a third, the operation was complicated by the ligation of the internal and common iliac arteries. Of the remaining eight cases, four died, giving a mortality of fifty per cent. The death in some of these cases cannot be attributed to the operation. In the case of Dr. Thomas, in 1870, the woman had pneumonia, and was in an almost moribund condition at the time the operation was commenced. Two cases reported by Dr. Skene and one by Hime were also in a severe state of exhaustion.

Barnes gives, under three heads, the following indications for the performance of craniotomy:

*First.* Such contraction of the pelvis, or soft parts, as will not give passage to a live child, and where forceps and version are of no avail. These may be due to distortion of the pelvis, which is most frequent at the brim; to tumors—bony, malignant, or ovarian—encroaching upon the pelvic cavity; to growths, fibroid or malignant, in the walls of the uterus; to cicatricial atresia of the vagina or cervix; to extreme spasmodic contraction of the uterus upon the child, forbidding forceps or turning; where obstruction in pelvic contraction ranges from 3.25" maximum to 1.50" minimum.

*Second.* Cases where the obstruction is due to the child, as face presentation, locked twins and hydrocephalic head.

*Third.* Condition of danger to the woman, rendering it expedient to deliver as rapidly as possible. Some cases of rupture, convulsions, hæmorrhage, or great exhaustion, where delivery is urgent and the cervix undilated.

The mortality in craniotomy has been shown to be about one in five, but it would not be as high as this even if the operation was not attempted in cases where the antero-posterior diameter of the pelvis is below two and a half inches. The high percentage of recoveries after recent Casarean operations comes from the cases being selected, and from the operation being performed upon the woman during the early hours of labor, or previously to labor beginning, when the patients are in a sound condition and free from exhaustion. The opponents of craniotomy in their collection of statistics do not use this same method in the selection, for tabulating, of craniotomy cases, but take all the cases together irrespective of the time of the operation or the condition of the patient. If statistics were obtainable upon those cases of craniotomy that were performed early, the patient being in a good condition, then the percentage of recoveries after craniotomy would be very much larger.

Recent craniotomy statistics are those of Dr. Adolph Merkel,<sup>9</sup> of one hundred craniotomies at Leipzig from 1877-1882, with a mortality of eight per cent. Excluding a case of ruptured uterus, determined before the operation, and the mortality would have been but six per cent. Bidder,<sup>10</sup> of St. Petersburg, did not lose a single woman out of thirty-two craniotomies performed from 1872-1877. Spiegelberg had a mortality of sixteen per cent in fifty-eight cases. Rokitsansky,<sup>11</sup> Jr., published an account of fifty-two successful craniotomies occurring in Braun's wards.

In most of the instances where craniotomy is performed, the child is dead before the operation is called for. Generally, other operations for extraction are continued till the last moments of the child's life. Very likely the forceps will be first applied, but failure with these will cause the practitioner to attempt version. He may be successful in turning the child, but not in extracting the head. If not, then there is no other alternative than craniotomy. In cases where the pelvis is not contracted much, the danger to the mother, if she is in no way exhausted when the operation is begun, is very slight. If a woman has once had craniotomy performed, she should be especially urged to have premature labor induced if she should become pregnant again, and if there is but slight narrowing of the pelvis she may give birth to a viable child.

Dr. Goodell<sup>12</sup> considers craniotomy justifiable in certain instances, for living children are sometimes born afterwards. He does not consider it wise to wait till the child is dead, but operates as soon as he thinks the operation called for. He believes in leaving the question of propriety of operating upon a sick woman to herself and her husband, and recommends that physicians will consider the question in a more logical manner, if they will bring it home to their own firesides.

The dangers from craniotomy are much less than from Casarean section, Porro's operation, or Laparo-elytotomy, excepting in cases of very contracted pelvis. In cases that have gone on for some little time, the woman may be past recovery before the operation is commenced.

Dr. Kidd<sup>13</sup> in the discussion upon a paper on "Craniotomy and its Alternatives," read by Dr. Kinhead before the Dublin Obstetrical Society, said: "Authors variously mention antero-posterior diameters of from three and a half to three inches or less, as the smallest through which a living child can pass. At the bedside I believe this difficulty can never arise, where you can have opportunities of comparing the size of the head lying above the pelvis itself, and can apply the forceps once or twice, besides having the assistance of a person in whose judgment you have confidence. If we are once satisfied, after due and careful trial, that we cannot bring the head through in an unimpaired condition, and that delivery can be easily and safely effected by the operation of craniotomy, I maintain that it is our duty to lessen the head, and to deliver the woman. I say this, viewing the question from a purely obstetric point of view, which is the only one that we here, and in this Society, are called on to consider."

In addition to Dr. Kidd's recommendation, I should say, if the woman is exhausted, it would be better to attempt version in these cases if there should be failure in delivery by means of the forceps, before doing craniotomy. If, for some reason, it was found to be impossible to turn the child, then craniotomy might be done. But if the child can be turned, it might be extracted where delivery by the forceps had failed, and if it could not be extracted, then the after-coming head can be perforated. Dr. Kidd does not consider it our duty, even with so narrow an antero-posterior diameter as two inches, to perform Casarean section.

Dr. E. B. Sinclair, president of the Dublin Obstetrical Society, said, we should not cut open a woman with a slightly contracted pelvis, when we are unable

<sup>8</sup> Dublin Journal Medical Science, Vol. LVIII, 1880.

<sup>9</sup> Archiv für Gynäkologie, 1883.

<sup>10</sup> C. Braun's Lehrbuch d. g. Gynäkologie, 1882.

<sup>11</sup> C. Braun's Lehrbuch d. g. Gynäkologie, 1882.

<sup>12</sup> Philadelphia Medical Times, 1883.

<sup>13</sup> London Journal Medical Sciences, 1880.

to deliver with the forceps, but craniotomy should be done, by which operation she would have hardly any chance of losing her life. He further says, "But when we come to cases of extreme narrowing, where craniotomy cannot be performed without lacerating the parts, and where we find from examination that the operation would be so seriously dangerous to the woman that in all probability she would die under or after it, then Cæsarean section ought to be performed in preference to craniotomy."

Dr. Parish, of Philadelphia, said, craniotomy does not require so much skill as the Porro or Cæsarean operations. In these latter, not only is a trained surgeon required, but also several skilled assistants; but the delivery of a woman has often to be accomplished by a single physician remote from help. An operator may perform craniotomy without assistance as successfully as with it. A practitioner who has scruples against doing craniotomy when justly called for, and who for many reasons is not so situated as to do Cæsarean section, or have it performed, should also have some scruples about leaving a woman to die undelivered.

With the present knowledge of Cæsarean section, with increased experience in the time of choosing the operation and the greater skill with which it can be accomplished, it would seem that this operation should be chosen early in labor in those cases of very narrow pelvis, where the woman is still in a good condition, and is not as likely to suffer from hemorrhage as she would be if exhausted from a long and tedious labor. If, for some reason, in those cases of very narrow pelvis, the labor has been prolonged, and the woman is tired out and exhausted, then the uterus and ovaries should be removed, or, perhaps, Laparo-elytrotomy be done, there being less risk of severe hemorrhage than from Cæsarean section.

If the contraction of the pelvis is not excessive, then craniotomy should be done.

Craniotomy is justifiable, according to the most prominent obstetricians throughout the world, when there is a failure by version or forceps in extracting the child, when the woman is exhausted, and when the pelvic diameters are such that only a mutilated fetus can be drawn through. The woman's chances are much better after craniotomy for slight narrowing of the pelvis, and the percentage of recoveries is very large. It is a difficult matter in the choice of operations to determine, with any degree of accuracy, the pelvic diameters while labor is going on. Craniotomy should be performed, however, if the operator feels reasonably sure that the diameters are above 3 by  $2\frac{1}{2}$  inches.

Prof. Isaac E. Taylor,<sup>14</sup> in a paper read before the New York Academy of Medicine in 1876, says that Cæsarean section should not be performed where the contractions or deformity of the pelvis are less than  $1\frac{1}{2}$  inches antero-posterior, and  $2\frac{1}{2}$  to 3 inches in the transverse diameter, unless some other complications or circumstances exist or present.

Lusk says: "If the life of the mother is at stake, and the sacrifice of the child is necessary to her preservation, few would dispute, at the present day, the superiority of the mother's claim to existence."

My investigations lead me to form the following conclusions:

(1) It is our duty to save the child as well as the

mother, when in each individual case it is practicable and possible.

(2) Craniotomy should be performed when the child cannot be extracted by forceps or version; the woman is in a state of exhaustion, the pelvic diameters are above  $2\frac{1}{2}$  by 3 inches, the case has dragged along for many hours, or perhaps for several days, and it is the wish of the woman and her husband that the operation should be done. In a case of this kind, it would be wise to attempt version first, and then, if necessary, perforate. If the woman's health is not sound, her pregnancy is complicated by heart disease, phthisis, or uterine cancer; then it is a very difficult point to decide whether craniotomy or Cæsarean section should be performed, and this question can only be decided upon the merits of each case.

(3) When the conjugate diameter is below 2 or  $2\frac{1}{2}$  inches, or there is some organic obstruction that cannot be pushed out of the way or removed by tapping, as an ovarian tumor, then, especially if early, Cæsarean section or one of its substitutes should be performed. The results from Porro's operation and Laparo-elytrotomy are so encouraging, that in many cases one of them might be selected instead of the old Cæsarean section.

(4) When the antero-posterior diameter is above  $2\frac{3}{4}$  inches, forceps may be tried, and, if unsuccessful, then version should be attempted; and if the operator is unable to extract the after-coming head, he should perforate it. If in any of these cases the malformation is recognized sufficiently early, then the induction of premature labor is called for.

(5) Under the most extenuating circumstances only, should craniotomy be attempted when the antero-posterior diameter of the pelvis is less than  $2\frac{1}{2}$  inches.

(6) Craniotomy upon the living fetus is justifiable when the practitioner is not familiar with abdominal section; when he is remote from help and has not trained assistants, or the proper instruments required for the latter operation; in those cases where it is the desire of the woman that it should be done in preference to abdominal section; when the woman is unconscious from disease or drugs; when the child's life has been imperilled by forceps or version, or the child is deformed or not viable; in cases where the use of the forceps has been delayed, the soft parts have become badly swollen and the head is impacted; when the uterus is in a state of tonic contraction, so that version cannot be done, and so much force is necessary in the application of the forceps that the life of both the mother and the child will be greatly endangered; when there is uncertainty as to whether the child is alive or dead, and longer delay will expose the mother to great peril; when there is but slight narrowing of the pelvis, after forceps and version have been tried, for the woman may have a live child afterwards, at term or prematurely; when the child possesses a hydrocephalic head; when there are locked twins; in certain cases of face presentation; and in those cases of version where by the assistance of the forceps it is impossible to deliver the after-coming head of the child.

— Prof. Fehling, of Stuttgart, whose name is most widely known in connection with the solution which he invented for the detection of sugar, died a few weeks ago at the age of 72.

<sup>14</sup> Transactions New York Academy Medicine, 1876.

# A CASE OF ENUCLEATION WITH REPLACEMENT OF THE HUMAN GLOBE BY THAT OF A RABBIT.

BY H. W. BRADFORD, M.D.

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REPORTED BY H. B. CHANDLER, M.D., LATE SENIOR INTERNE.

This operation, sufficiently novel to justify publication, was performed August 9th, in the presence of several medical gentlemen, the reporter assisting.

The patient was a seaman in good health, and about thirty-five years of age. In consequence of an injury received in early childhood one of his eyes had become atrophied, and, as is usual in cases of such long standing, the globe was very much atrophied. The operation for the removal of the stump was conducted in the usual manner, with the exception that a strabismus hook was passed beneath the recti muscles, and a suture inserted previous to their division from the sclerotic.

The atrophied globe having been drawn forward, a needle was entered through the conjunctiva close to the inner canthus, the nerve found, and a suture inserted as near the centre of its substance as possible. The nerve was now divided close to the sclerotic, the stump was removed, and the resulting hæmorrhage, which was trivial, controlled by ice.

The next stage of the operation was the removal of the eye from the rabbit. A rabbit having been obtained whose iris nearly matched the color of the patient's eye, a circular incision was made in the conjunctiva about 5 mm. from the cornea, the conjunctiva carefully dissected backward, and the tendons of the recti and obliqui divided close to their insertion. The eye being now drawn outwards, the nerve was cut at about 8 mm. from its sclerotic entrance. The cavity of the patient's orbit being, by this time, perfectly free from blood, a little albumen from a fresh egg was poured into it, and the rabbit's eye also dipped in albumen previous to putting in place. The suture, which had previously been passed through the patient's optic nerve, was drawn forward and inserted into the optic nerve of the eye, and by means of a peculiar double slip-noose the ends of the nerves were brought into apposition; one end of the suture was cut short, and the other, which had been passed through the conjunctiva, near the inner canthus, was firmly secured by means of a piece of adhesive plaster to the nose. The object of thus securing it was to prevent its being subjected to any tension, which would have resulted in the removal of the slip-noose. The four recti muscles were next brought into position, and sutured to the sub-conjunctival tissue, and the conjunctiva attached by four sutures to the band of the same tissue which had been left around the cornea.

The lids having been closed, iodoform was dusted over them, and a pad of absorbent cotton and flannel bandage applied.

For seven days the parts were left undisturbed, but the patient was carefully watched for any fibrile disturbance. Nothing of such a nature, however, occurred, nor was there any offensive odor perceptible. On the seventh day, upon removal of the bandage and pad, nothing of an abnormal character was observed about the lids, except a small amount of mucus gluing the lashes together.

The eye itself was next carefully examined. The cornea presented a slight haziness, but this seemed to be superficial; the conjunctiva chemosed and over-lapping the cornea in all directions, except externally,

where the sclerotic coat was exposed for a space about 8 mm. long, and 6 mm. wide. This condition was found to be due to the premature sloughing of the suture through the external rectus, which having contracted, had drawn the conjunctiva with it. The movement of the eye was good in all directions, except that divergence was imperfect. The suture connecting the nerve was withdrawn, as were also those of the superior and internal recti; but the inferior being still found firmly adherent was allowed to remain. Atropine was dropped into the conjunctival sac, the eye closed, and iodoform and compress used as previously.

On the twelfth day after the operation the eye was again examined, as the patient complained of some annoyance in it, this being the first complaint he had made. It was discovered that the remaining suture attached to the inferior rectus had sloughed out, and was found under the lower lid, this, no doubt, being the cause of the slight sense of irritation experienced by the patient. The condition of the eye was as follows: cornea hazy, but somewhat less so than when previously examined; conjunctiva well united around the cornea and to the globe; exposed sclerotic on outer side had become covered to about half of its extent; recti muscles working satisfactorily, with some improvement in divergence over that manifested before. Atropine, iodoform, etc., used as previously, until the present time of writing, eighteen days after the operation. To-day the condition of the eye is as follows: conformation and tension good; cornea improving, and has cleared peripherally so as to allow the iris to be distinctly seen; chemosis of the conjunctiva has disappeared, although the membrane remains congested; exposed sclerotic on outer side of the eye practically covered by the conjunctiva; ocular movements in all directions good.

The object of the operation above described was partly experimental—an endeavor to ascertain whether a whole organ could be nourished sufficiently long to have a vascular supply established. In this respect, we believe that a reasonable degree of success has been obtained.

Vision was not expected in the transplanted organ in any case, for the optic nerve was composed principally of connective tissue, and diminished to half its normal size. The principal aim, therefore, in this case, was to obtain cosmetic effects.

The patient was desirous of obtaining an artificial eye, but his occupation being that of a seaman, the nature of his calling made it undesirable to use a glass artificial eye on account of its liability to be broken. It was therefore resolved to attempt this experiment.

The value of the operation cannot from one trial be fully estimated, and it is extremely dubious whether vision could be obtained by the union of the optic nerve. That it would prove, however, of some practical value in the case of children upon whom enucleation has been performed, is credible, for it is well known that in those cases the orbital cavity is imperfectly developed. It is true that we would not expect the globe to increase in size as if a fully-matured rabbit's eye was taken; but Dr. Bradford suggests that the substitution of a young dog's eye might obviate the difficulty, as it would, in all probability it well nourished, increase in size as it would have done in its normal position. Cosmetically, it could be used in those cases that are often met with where an artificial eye cannot be used on account of some deformity in the conjunctiva or lids.

I might mention that the albumen was used empirically, as we had found in alloplastic operations that dipping the flap in albumen previous to adjustment produced excellent effects. Whether it assists in nourishing the transplanted tissue, or on account of its adhesiveness that it is of advantage, has yet to be determined.

### THE HYPODERMIC ADMINISTRATION OF MORPHINE AS A SUBSTITUTE FOR HANGING IN THE EXECUTION OF CRIMINALS.<sup>1</sup>

BY FREDERICK HENRY GERRISH, M.D.

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CAPITAL punishment is an approved method of dealing with certain classes of criminals in Maine. Within a few weeks two men have suffered this extreme penalty in the state prison; two more men and a woman are to be executed there before the year ends; and, judging from the frequency of murder of late, and the apparently growing disregard of the sanctity of human life, the number of persons whom the State will desire to exterminate annually in the future will be not less than that judicially killed in 1885. In view of this condition of affairs, it behooves the medical profession, which, more than any other class, has knowledge of the processes of living and of dying, to consider the means adopted by the legal authorities for taking lives which have been forfeited to the State, to decide whether or not these methods are humane, and to advise the law-makers concerning improvements, if any, are necessary and possible. I bring this subject to your notice because of my conviction that the present usage is antiquated and barbarous, and because a substitute for it can readily be found which is free from objectionable features.

It is not my purpose to attempt a historical account of execution by hanging. Suffice it to say that it has long been the favorite method of putting criminals to death in the English-speaking countries, and was doubtless adopted on account of its supposed superiority to others in point of humanity. That hanging is sometimes sudden, painless, and as free from hideous display as such a process well can be, is freely admitted; but that it is often slow, painful, and altogether horrible, is known to all men. Occasionally the rope breaks, and the victim falls to the ground, only to be picked up and dragged again to the scaffold, to experience once more the bitterness of death. Once in a while the long drop effects decapitation, and we have the bloodiness of the guillotine, without the neatness of its cut.

Last winter in England a condemned man was on the scaffold, the last words had been spoken, the bolt was drawn, but the drop did not fall. The convict was removed, the apparatus was tested, and again the intended victim was put in position. A second and a third time did the drop fail to act when released, and then the poor fellow, who had thrice looked death calmly in the face, fainted and was carried back to his cell. His sentence was commuted, and the people said Amen. So frequent are the bunglings and failures, that those who have the business in charge are always nervous till the affair is over. Said the assistant-warden, in response to a congratulation on the success of the recent hanging at Thomaston, "Yes, it passed off

well; but we have been very anxious about it for three weeks. The last one we had here was not so successful!" Indeed, it was not, as any one who witnessed it can testify. I have no hesitancy in pronouncing so imperfect and cruel a method of taking human life, entirely unworthy of the civilization of the nineteenth century.

In our search for a substitute, we naturally consider the methods employed by other nations, and we find that none of them possess qualities which commend them to our judgment. The guillotine, the garrote, and shooting, while presenting certain advantages, would, for obvious reasons, never find favor with Anglo-Saxons of this age, and crucifixion is not to be thought of. Electricity has been advocated; but the apparatus for an execution would be very expensive, and it is not certain that the result would be satisfactory; for many times men have received electric shocks which anybody would have supposed sufficient to cause death, and have recovered. Chloroform has been suggested; but the administration of this drug might require a considerable time, and there would always be a strong probability of struggling and delirium, with the wild shouts, and yells, and imprecations. Prussic acid might be used, but for the danger to which the anhydrous article would expose the person administering it, and the chance of convulsions resulting from a dose not immediately paralyzing to the powers of life.

The method which seems best to me is the hypodermic administration of morphine in a lethal dose. I am not aware that it has been proposed before; at all events, the plan is new to those to whom I have mentioned it, and seems worthy of serious consideration.

The details of the execution would be as follows:—

At the appointed time, the sheriff, accompanied by two deputies and the citizens prescribed by statute, enters the cell of the convict, who is lying on a couch. The sheriff administers six grains of sulphate of morphine under the skin of the felon, who, in a few moments begins to be drowsy. Soon he is overpowered with sleep, and the officer, to make assurance doubly secure, repeats the dose. Within half an hour the heart has ceased to beat, and the man is dead, having passed away without pain, convulsion, struggle, or consciousness.

The advantages of this method are its certainty, its painlessness, the freedom from the chance of horrible displays, the reduction of the dramatic element to a minimum, and its inexpensiveness.

(1) No one will dispute the certainty of the result. If anybody fears that the dose is too small, it can be repeated over and over again, so that the end may be greatly hastened. There is no possibility of the rejection of the poison.

(2) The convict is caused no suffering, for the slight sting of the hypodermic injection is unworthy to be called pain.

(3) There are no convulsions, no decapitation, none of the hideous phenomena that often attend a hanging; the man simply goes to sleep, never to awake.

(4) Many of the criminals who are condemned to death, and find that a change of punishment is impossible, make the most of their situation, and try to glorify themselves in the eyes of their friends by "dying game" on the gallows, and carrying themselves jauntily on the threshold of eternity. The exclusion of the public from executions has greatly diminished the opportunities for spectacular display; but the quiet and

<sup>1</sup> Read before the Maine Medical Association, June 9, 1885.

seclusion of the cell in which the fatal dose of morphine is taken reduce these chances to their very lowest terms. A villain on the scaffold, in full possession of his faculties, anticipating instant extinction, may appear heroic; the same man submitting to the trivial puncture of a hypodermic needle, and presently becoming too stupid to keep his eyes open, is far less likely to consider himself, or be thought by others, a hero.

(5) The cost of erecting the gallows is considerable; that of a hypodermic syringe and morphine insignificant. It may be a small matter to discuss; but, after the State has been at the expense which a murder-trial usually costs, generally paying the fees of the defendant's counsel, as well as those of the prosecution, it is not improper to desire that the last act of the tragedy may be as inexpensive as possible.

Various objections are made to the proposed change, and these will be considered and answered seriatim.

(a) It is said that the sheriff cannot inject the morphine skillfully. If one but recalls the ease with which he himself learned how to use the hypodermic syringe, and the number of people in his acquaintance who acquired all too readily the necessary skill for administering doses to themselves, he will see the weakness of this objection.

(b) The slowness of the dying is thought to be undesirable. But in this, as in other affairs, the thing is quickly enough done, when it is well enough done. At the worst, the time will not be very long, and every minute will show that the man is sinking into a rapidly deepening sleep.

(c) It is suggested that convicts might be opium-eaters, or might train themselves so that their nervous systems would be incapable of receiving a fatal impression from morphine. To say nothing of the supposition that any person might not be poisoned to death by morphine, it is to be observed that the law requires that the time for execution shall be not less than twelve months from the day on which the sentence is passed, in which time, as the state does not supply its prisoners with drugs to be taken for merely intoxicant effects, the opium-habit would be cured, or its slave be dead,—an arrangement to which nobody would object.

(d) It is objected that the publicity of an execution is diminished by the projected method, and the chance to impress the people is lost. The present law allows but few to attend an execution, evidently with the design of avoiding publicity, for the effect on the community of an old-fashioned hanging was believed to be extremely harmful. A sufficient impression is made on the populace by the announcement of the fulfillment of the law; the chief purpose of which is the permanent removal of a worse than worthless member of society.

(e) Some have said that they do not object to having felons endure some physical pain. Obviously the people do not entertain such views; for they have abolished torture and those forms of execution which are always painful, like crucifixion; and I believe they have retained hanging so long only because no plainly better plan has been advocated. The effort always is to make the death by hanging as sudden and painless as possible; and, when it is not so, we blame the executioner.

(f) It is objected that criminals dread death by hanging more than they would that by morphine, and

thus are deterred from committing deeds which they would venture upon, if an easy poison were substituted for the rope. This seems to me in the highest degree improbable; but the discussion of the point would inevitably lead to the re-opening of the question of the value of capital punishment, a subject which it would be improper to introduce here. It is well, however, to remember that the deprivation of opportunity for a dramatic exhibition would be so serious a matter to a convict that it would be almost like adding a sting to death.

In the distant future there will probably be judicial processes by which undesired lives other than those of criminals may be brought to an end. How often we have reason to wish for such a law, for the sake of those whose usefulness and happiness are blighted by the existence of some hopelessly demented dependent, who demands constant attendance; what a blessing it would be to the poor wretch smitten with an inevitably fatal disease, racked with unceasing pain, a nuisance to himself and a grievous burden to those whom he loves. If such a statute were in existence now, and it were given to us to decide what method should be pursued for bringing the unwished for existence to a close, would not every one of us write on his note morphine? And would we not choose this poison because accident has shown us many times that death by it is like another sleep, is painless, quiet, and not disfiguring? These are the very characteristics of the typical execution, qualities which hanging often has not, but which, I predict, the judicial killing of the future will always exhibit.

## RECENT PROGRESS IN ANATOMY.

BY THOMAS DWIGHT, M.D.

### THE RELATIONS OF THE LARYNX AND TRACHEA TO THE VERTEBRAL COLUMN IN THE FŒTUS AND CHILD.<sup>1</sup>

MR. J. SYMINGTON has written an excellent paper on the position of the epiglottis, the lower border of the cricoid and the bifurcation of the trachea in fetuses and young children. He has had recourse to frozen sections and has carefully noticed the position of the head in each case, as this seems to exercise an influence on the relation of the parts. He has examined in this way five fetuses, seven children up to two years and two months, and three children of five, six and thirteen years, respectively. A greater number is, of course, desirable, but these observations form a nucleus. To show the effect of position of the head, Mr. Symington cites the freezing of the bodies of two children about two years old and of just the same length, one with the neck strongly flexed and the other with it well extended. In the former, the lower border of the cricoid was at the level of the upper border of the sixth cervical vertebra, in the latter, it was a vertebra higher. In the former, the bifurcation was opposite the lower border of the fourth dorsal, in the latter, opposite the upper border of the third. The series shows a gradual descent of the lower border of the cricoid. In the youngest fetus, one of about four months, it was opposite the upper border of the fourth cervical. In a child of three and a half months, it was at the lower border of the fourth, and at one of six months, at the upper border of the fifth. It does not

<sup>1</sup>Journal of Anat. and Phys., Vol. XIX., part 3, April, 1885.

go below this point with the head erect till we reach the child of five years, when we find it at the upper border of the sixth. In the child of six it is a little higher again, but unfortunately, there is a great gap in the observations after we pass two years. In the girl of thirteen, the lower border of the cricoid was at the upper edge of the seventh vertebra, but the head was flexed. Mr. Symington thinks that, otherwise, it would have been opposite the middle of the sixth. The adult position is at the lower border of the sixth. Does this change depend on the more rapid growth of the larynx or simply on its downward displacement? Apparently, on the latter. The position of the tip of the epiglottis is not easily placed with accuracy and is subject to too many variations to be of great value, but it is clear that the whole larynx moves downward, and the author suggests that it is due to the development of the face.

The position of the bifurcation of the trachea, which, in the adult is at the lower border of the fourth dorsal, (we believe it is often lower) changes from opposite the second dorsal, where we find it in fetuses of six and seven months. At two years it has nearly reached its resting place. We find that the author has stated in a previous paper that in a child of two years, with the head fully extended, it was at the lower border of the first dorsal. His later investigations do not appear to confirm this theory, and we cannot think that it is usually so high. It is very possible that in early childhood, and still more in infancy, the position of the neck may influence that of the bifurcation, but we doubt very much if it does so in adult life, when the spine and ribs have become much more rigid.

#### THE MEANING OF THE SEMILUNAR FOLD OF DOUGLASS.

This is the name applied to the free edge of the fascia of the transversalis and internal oblique on the posterior border of the rectus abdominis at the line about midway between the umbilicus and pubes below which the aponeuroses of all the abdominal muscles pass in front of the rectus. Above this line, the aponeurosis of the internal oblique splits into two layers, the front one joining the external oblique to pass before the rectus, and the other joining the transversalis to pass behind it. The lower edge of the latter is semilunar and usually a distinct feature. Sometimes, however, it is not very evident and it is said not to be present in the fetus. The above description is the one usually given in English works on anatomy. We believe that it is frequently taught that this arrangement allows the recti to spread apart in pregnancy or in great distention of the abdomen from other causes. This explanation, though at first sight plausible, is not very satisfactory, as the separation of these muscles is often observed decidedly above the fold in question.

In 1856, Retzius gave a very different account of this structure. According to him the line marking the fold is a thickening made by the fusion of the lower border of the posterior layer of the sheath of the rectus, with the *fascia transversalis*, which, lying before the peritoneum, joins the pelvic fascia below. Thus a preperitoneal space is formed to receive the bladder when it rises above the pubes. To this it has been objected that the bladder in the adult never rises so high except perhaps in extraordinary cases of distention, and that precisely at the time when it is an abdominal organ, the fold does not exist. Still another view, supported by Hende and Luschka, is that

it is to be considered as a tendinous band arching over the epigastric vessels as they pass to the rectus. To this is replied that though such arches are common, they bear some relation to the size of the structures passing under them, and that here the arch is absurdly large.

We are indebted for most of these historical remarks to a paper by Professor B. Solger<sup>2</sup> of Halle, who gives a new, and on the whole, a satisfactory theory. He finds the explanation in mechanical arrangements.

Thus, in deep inspiration, when the lower ribs spread outwards, their overexpansion is prevented by the firm aponeurosis coming from that part of the two inner muscles attached to them which runs to the linea alba above the fold. Its action, however, is not only that of a check ligament. It plays an important part in expulsive efforts, when, the glottis being closed, the expiratory muscles (and we must add the diaphragm) contract at once. The lower portion of the abdominal wall bulges forward while the upper is drawn in by the action of those portions of the internal oblique and transversalis that arise largely from bone and cartilage in contradistinction to the lower portions that arise from Poupart's ligament. The upper portions, in short, are the ones that do the work and consequently have the firmer aponeurosis.

#### THE VENOUS SYSTEM OF THE BLADDER AND ITS SURROUNDINGS.

This paper<sup>3</sup> contains the results of very praiseworthy anatomical work. As we have repeatedly remarked, the venous system has received but a small part of the attention it deserves. The difficulties are so great as to deter any but the most patient investigator. Mr. Fenwick points out that the advice to choose old subjects for the purpose is very bad, as the veins and the valves are likely to be changed from their normal condition. He says that young subjects should be chosen, and he has even pursued his studies on fetuses. Moreover, he does not use a solid injection, as this does not permit the demonstration of the valves, a point on which he justly lays great stress. It is worth while to quote a paragraph in which he describes his method.

"My earlier dissections were all made after the venous plexuses had been inflated, the knife cleaning the tense veins with certainty and ease. Colored fluids had been thrown in, in a direction, which, in the living subject would be opposed to the normal venous current. The valves were easily seen through the thin-walled veins pouched by the force of the fluid. Their situation was then marked on a plan previously taken of the dissection. Much labor was thus expended, each vesico-prostatic plexus and its connection often demanding more than a week's continuous work. I soon found it to be a quicker method to dissect out a small tract of a vein at a time, to clamp each end of the exposed piece, to make a diagram of it, and to inject it with fluid colored with Berlin blue. If the injection was suddenly arrested, and a corresponding swelling at the right of the obstruction was observed, the vein was incised over the obstruction and generally a valve exposed. It was then depicted."

Mr. Fenwick very aptly compares the venous system of the pelvis to a room having but one exit and many entrances, each of the latter being guarded by a door

<sup>2</sup> Morphologisches Jahrbuch, Band XI, Heft I, 1885.

<sup>3</sup> By E. H. Fenwick, J.R.C.S., Journal of Anat. and Phys., Vol. XIX, Part 3, April, 1885.

opening inwards. "Hence," he says, "the abdomino-pelvic venous blood-pressure is entirely shut off from that of the lower extremities and genitals. The accuracy of closure and constancy of position of these entrance-valves is most striking."

He finds three sets of valves in the plexus of Santorini. One just behind the pubes, another near the end to guard against reflux from the internal iliac vein, and a third, of less importance, between the two. Mr. Fenwick describes two muscular bundles from the front and lower surface of the bladder that pass over the upper and anterior surfaces of the prostate and are inserted in part into the pubes and in part blend with the anterior fibres of the levator ani. When the bladder contracts, these muscles compress the plexuses and prevent regurgitation into the valveless veins of the anterior inferior portion of the bladder. The subperitoneal veins of almost the whole of the bladder tend towards the outer and posterior parts of the plexus so as not to interfere with the current from the genitals. They are well protected with valves at their entrances.

#### THE CORPUS CALLOSUM OF THE HUMAN BRAIN.

It is, we believe, considered as perfectly established that the corpus callosum is a mass of white fibres connecting corresponding parts of the cerebral hemispheres; in other words, that it is a commissure. This view has not always been universally held, but of late no one has disputed it and it has been tacitly accepted as one of the best established facts in cerebral anatomy. Professor J. D. Hamilton's<sup>1</sup> paper, giving the results of many years' work, in which he maintains a very different view, is, therefore, of great importance. We will not attempt a detailed analysis, but give merely a rough sketch of his scheme. The cardinal point is that the corpus callosum is not a commissure at all, that the fibres do not connect corresponding groups of cells, but that it is a decussation in which the fibres from the gray matter of one hemisphere cross those from the other and run into the inner and outer capsules of the opposite side.

Thus the great mass of white fibres in the hemisphere consists of fibres ascending from the deeper parts of crossed callosal fibres, and of groups of association fibres connecting different parts of the cortex of the same side. Professor Hamilton does not believe that there are any commissural fibres at all in the corpus callosum, but admits that this cannot be proved. The crossed callosal fibres pass, as we have said, into the inner and outer capsules, but it is apparently not easy to trace them much further. The greater number naturally go to the larger inner capsule.

The author thinks that most of these can be traced into the optic thalamus. Some few go to the caudate nucleus, but he is unable to say whether any end in the lenticular nucleus. The distribution of the fibres that enter the outer capsule is more complicated, and we will mention only the set that Professor Hamilton believes can be traced into the optic tract, which is also, we believe, an entirely new view.

The paper before us treats only of the adult human brain, but it contains a slight reference to an article by the same author on the "Embryonic Corpus Callosum," which appears in *Brain* for July, 1885, which we have not yet seen. Professor Hamilton claims that the arrangement of the callosal fibres is particu-

larly well shown in the brain of the human foetus at four months, and that in the brain of the embryos of mammals it can be seen with the naked eye.

Should these observations be confirmed, as we strongly believe they will be, Professor Hamilton will have accomplished a great deal in cerebral anatomy. We refer those who are curious as to the methods employed to the present paper in the *Journal of Anatomy and Physiology*, and especially to one by the same author in *Brain* for July, 1883.

#### REPORT OF PROGRESS IN GYNÆCOLOGY

BY F. H. DAVENPORT, M.D.

#### ELECTRICITY IN THE TREATMENT OF UTERINE FIBROIDS.

DR. J. T. EVERETT,<sup>1</sup> who in 1878 published the account of nine cases of uterine fibroids in which he had used at some stage of the case, the electrolytic current, gives in this article notes of seventeen additional cases. From their careful study he says there are three lessons to be learned: (1) That for intra-uterine fibroids the faradic current is amply sufficient to effect a cure, and for obvious reasons is the one to be selected, as it causes the uterine muscles to contract, choking off the afflux of blood, thus destroying the vitality of the tumor, separating it from its environments, and assisting in its extrusion. (2) For submucous or intra-mural fibroids, the continuous current from twelve to eighteen cells will be found to act powerfully as a resolvent, causing the tumor to shrink and solidify, and separate from its capsule. (3) That where the stronger electrolytic current of from twenty to seventy cells is used, there is intense pain unless anesthesia is employed. There is systemic shock, with resultant destruction of healthy and diseased tissue, and supuration. In this connection it is well to recollect that the nearer the points of entrance and exit of the current, the more rapid the result.

#### REMOVAL OF OVARIAN TUMORS WITH RETENTION OF THE OVARY.

Schroeder<sup>2</sup> gives the history of six cases where, after removing the larger tumor and ovary of one side, he found a smaller one connected with the ovary of the other side, but was able to dissect it out and leave part of the organ. The patients were young, and in several of the cases did not wish to give up the possibility of conception. One, a well-marked bleeder, died of slow hemorrhage. The others recovered, and have menstruated regularly, but have not conceived. The author considers that the retention of the menstrual function and the theoretical possibility of conception is so important to many young women that this procedure is of value in such cases. In older women, and with those who have had several children, it would be a useless refinement.

In the discussion, Dr. Martin said that the possibility of the development of another tumor from what was left should not be lost sight of, especially as a second operation had its own dangers. In the first place, there are usually adhesions, which make the operation more difficult, and in the second place, the presence of the scar of the former operation made the union less sure. His practice was to cut the scar out entirely, and the result was good.

<sup>1</sup> N. Y. Medical Journal, April 18, 1885.

<sup>2</sup> Centralblatt für Gyn., Nov. 15, 1884.

<sup>1</sup> Journal of Anat. and Phys., Vol. XIX., part 1, July, 1885.

## THE TREATMENT OF INTRA-UTERINE DISEASE.

Three papers on this subject<sup>3</sup> were read before the Obstetric Section of the British Medical Association, at the Fifty-Second Annual Meeting.

Dr. Loube Athill opened the discussion by a paper in which, after referring to the prejudice which formerly existed against treating the uterine mucous membrane as similar surfaces in other situations are treated, a prejudice which is fast disappearing, the author takes up the consideration of the best method of making such applications as may be necessary. He briefly sums up the conditions which demand such treatment, thus: "all affections of local origin giving rise to profuse menstruation, metrorrhagia, or uterine catarrh, or in which hyperæsthesia of the nerves distributed over the inner surface of the uterus exist." Polypi and other tumors he would exclude, but certain forms of recurrent growths, and of malignant diseases, are to be included. He specifies "local origin" in order to guard against conditions dependent upon affections of the tubes and ovaries being treated in this manner.

The agents he would employ are borax, iodine, carbolic acid, iodized phenol, nitric acid, iodoform, and solid nitrate of silver. Of these remedies, the author finds he uses carbolic acid in nearly seventy per cent of cases requiring intra-uterine medication, iodized phenol in about fifteen per cent, and nitric acid in three per cent. Borax in the form of a saturated solution in glycerine he uses very occasionally in exceedingly mild forms of catarrh, which have nearly yielded to harsher remedies. Iodine, either in form of tincture or liniment, he considers very inert, as probably very little is absorbed, and its action is mainly caustic. Carbolic acid is the most useful agent, both for curing catarrhs and relieving pain. It should be applied every three or four days, and its use continued some weeks. Iodized phenol, which is iodine dissolved in carbolic acid, one part to three or four, is of great value in certain cases, especially of hæmorrhage. Nitric acid is the most active of the agents. It does not cause much pain, but the cervical canal should always be protected by a tube of vulcanite or platinum. Iodoform is used in the form of slender crayons in some cases of dysmenorrhœa, and of fetid discharge from the uterus. The solid nitrate of silver as recommended by Sir James Simpson for menorrhagia, depending on subinvolution of the uterus, does not act very satisfactorily, and the author rarely uses it.

All of the agents except iodoform and solid nitrate of silver are used by winding a bit of cotton on a flexible probe, and passing it into the cavity of the uterus. By using dry cotton first, and so removing the mucus, the application will reach the uterine mucous membrane more thoroughly.

There are four conditions where it is necessary to adopt other means: (1) When the mucous membrane is so vascular that the introduction of the probes is followed by hæmorrhage. (2) When the cavity is of large size. (3) When hæmorrhage occurs as the result of vascular growths. (4) When epithelioma affects the cavity of the uterus. For all these conditions the author has been in the habit of dilating, curetting, and applying nitric acid with very good results except in cases of epithelioma. In four cases, the details of which he gives in full, where there was a vascular growth inside the uterus, and where nitric acid failed to control

the hæmorrhage, he was induced to try injections of iodized phenol, diluted with an equal part of alcohol, a method which was successful in restraining the hæmorrhage, and prolonging the patients' lives.

Dr. Thomas More Madden, in his paper on the same subject, after a short historical introduction, speaks of the methods of dilating the uterine canal, as by graduated series of dilators, where the tissues are lax, or by tents, especially laminaria, when there is more rigidity. Oftentimes to get the best effect of the agent applied, even when there is no abnormal growth, a moderate curetting beforehand is of advantage. The majority of cases calling for intra-uterine medication, are, according to Dr. Madden, those of what we should call areolar hyperplasia and subinvolution of the uterus. For this treatment he recommends fuming nitric acid applied with the necessary precautions after thorough dilatation of the canal. Milder applications of carbolic acid, iodoform, and tincture of iodine are recommended later.

For the treatment of tumors within the cavity of the uterus, if submucous or pedunculated, he advises curettage or écrasement. Within the past few years he has removed forty-two such tumors with thirty-nine recoveries and three deaths. He ends with urging the importance of general as well as local treatment in these cases.

Dr. John W. Byers emphasizes the importance of the rôle which general endometritis plays in the production of the various changes in the mucous membrane and the resulting symptoms which call for intra-uterine medication. Of the four methods, by injections, by the introduction of remedies in the solid form, by ointments, and by swabbing or painting the remedies over the interior of the uterus, he prefers the last. His testimony as to the relative value of the different solutions recommended, and as to the use of the curette, agrees with that expressed in the other papers.

## A NEW EXPLANATION OF THE PROCESS OF MENSTRUATION.

Lewenthal,<sup>4</sup> in this exhaustive article, gives a new theory of menstruation which shows marked originality and research. It would be impossible in the short limits of this report, to give an abstract of the elaborate train of reasoning by which he arrives at the results. They are summed up briefly at the end, and we would refer those interested in the subject to the article itself for the minutest details. He makes the following propositions:

I. The periodical flow of blood from the female genitals is not a consequence of the rupture of a follicle, (which usually occurs at the same time), but of the degeneration of the uterine mucous membrane which has become hypertrophied before such rupture, and independently of it.

II. This growth, the menstrual decidua, is caused by the imbedding in the unimpregnated condition of the last ovum furnished by the ovaries.

III. If this imbedded ovum is impregnated, the menstrual decidua becomes that of pregnancy, but if the ovum remains unimpregnated, it degenerates as a consequence of the death of said ovum.

IV. Taking each menstruation for itself, the rupture of the follicle and the flow of blood stand in no other causal relation to each other than that possibly the causes and conditions which are operative at the

<sup>3</sup> British Medical Journal, Nov. 29, 1885.

<sup>4</sup> Archiv. für Gyn., Band XLV, Heft II, 1884.

occurrence of the hemorrhage may, at the same time, have an effect in bringing about the rupture of a ripened follicle.

V. The coincidence of the rupture of a follicle and the flow of blood is, therefore, no necessary one. Each can occur separately; a follicle can rupture without there being any menstrual decidua present, and this secondary consequence of the ovum which has previously made its appearance, namely, the menstrual flow, can occur without a new follicle rupturing at the same time.

VI. The periodicity of menstruation is determined by the extra-follicular length of life of the imbedded and unimpregnated ovum; the variations from the general or individual periodicity depend upon the shortening or absence of such capacity for life, either idiopathic or the result of intercurrent influences.

VII. The ovum which has been expelled, usually at the last menstruation, and is present ordinarily in the uterus (in abnormal cases elsewhere), is the one which is impregnated.

From these the following practical conclusions can be drawn:

VIII. Since the menstrual flow is neither a physiological function, nor the necessary accompaniment of such a function, but the direct consequence strengthened by innumerable repetitions of a process which is the result of our social conditions, namely, the unimpregnation and death of the human ovum, therefore it has all the properties and results of other hemorrhages which are always pathological.

IX. It increases and diminishes under like conditions with them.

X. The flow of blood which is the necessary accompaniment of the menstrual decidua, is only to be regarded as harmless when it occurs per diapedesin. When per rhexin, it is under all circumstances unnecessary, and becomes injurious when it is felt and responded to by the entire organism as a loss.

XI. The amount of the injury corresponds to the proportion between the amount of blood lost, and the quantity (plus the quality) of blood which the body contains at the time.

XII. Under these circumstances the indication is for the greatest possible reduction in the amount of the menstrual flow, as of any other loss of blood.

XIII. The means to be recommended are first and foremost rest in bed, and hot water injections.

XIV. On the contrary, the voluntary cessation of the menses (idiopathic amenorrhoea), is under no circumstances to be regarded and treated as a disease; it is only a sign that a function (ovulation) which is not necessary to the life of the individual, from some cause or other (youth, age, pregnancy, lactation, debility), was not properly performed at the proper time, that is about four weeks previously.

XV. Supported by this theory, and the observation of Lawson Tait as to the importance of the tubes for menstruation, it would be desirable to attempt to substitute for castration, salpingotomy (partial resection of both tubes after previous ligation), in those cases where uterine dysmenorrhoea, menorrhagia, fibroids, and such uterine affections call for the anticipation of the menopause.

XVI. Should it appear impossible after beginning the operation for castration in the above mentioned conditions, to completely remove the ovaries, salpingotomy would be directly indicated.

# ABDOMINAL SURGERY.

The *British Medical Journal* for January 31st, 1885, has several articles on this subject. Thomas Keith gives notes of thirteen cases of supravaginal hysterectomy, in addition to the twenty-five previously reported. One of the last thirteen died, giving a mortality of three in the thirty-eight cases. He has also removed the ovaries to check the growth of fibroids, twelve times with no deaths. The death in the last series of hysterectomies was from asthenia in a patient whose case was almost hopeless from the beginning.

He has no routine method of treating the stump, but says each case must be a law unto itself. He questions the justifiability of operating in cases of fibroids, unless the mortality can be kept down as low as, or lower than his eight per cent, for the mortality of cases of ordinary uterine fibroid if left alone, is nothing approaching that. An imperfect list of hysterectomies collected by Dr. Bigelow of Washington, gives three hundred and fifty-nine operations done by sixteen of the most successful operators, of which there were two hundred and twenty-seven recoveries and one hundred and thirty-two deaths.

Dr. Keith again refers to the use of carbolic spray in abdominal operations. He not only considers it useless but harmful. In ovariectomy before he began spray, his results were one death in twenty-six; under the use of spray one in seventeen, and since he abandoned it, about the same as before he used it. He has given it up in hysterectomies. Increased success has come from two causes: first, development of the technical methods of operating, and second, thorough cleanliness. "It was," he says, "the willing and tender, though unclean hand of the surgeon, that carried most of the poison into the wound. It is to this that Lister has put a stop."

Dr. T. Oliver reports a case of parovarian dropsy, cured by a single tapping, and urges this method of treatment when the diagnosis is clearly made out, in preference to abdominal section, and removal.

Dr. T. Savage gives the results of the work in abdominal surgery done by him in 1884, consisting of one hundred and four operations. There were nine deaths, three from septicaemia, four from asthenia, one from tetanus, and one from granular kidneys. Dr. Savage lays stress upon the importance of operating early, and feels confident he could have saved several of his cases which were brought to him virtually "in extremis." He very strongly advocates drainage with long glass tubes, which should be carefully watched. He believed that pyosalpinx is most frequently due to gonorrhoea, and the best treatment is by abdominal section. In two cases after removal of the appendages a large hematocoele formed, giving rise to serious symptoms. In the third week he opened the abdomen a second time, let out the blood and pus, and inserted a drainage tube. He is of the opinion that acute peritonitis is a symptom of some organic change, and not a disease itself, and thinks that operative measures can do much for it.

Lawson Tait recently communicated to the Midland Medical Society a record of one thousand operations of abdominal section which he had performed. Of these there were: exploratory incisions, ninety-four, parovarian cysts, sixty-five, cysts of one ovary, two hundred and thirty-nine, cysts of both ovaries, one hundred and one, appendages for myoma, ninety-nine, ditto for in-

flammatory disease, two hundred and one, hysterectomy, fifty-four, and the rest for various other less frequent causes. Total number of deaths ninety-three, or nine and three-tenths per cent. This mortality he considers high, but it includes his early work. In a second series of cases he feels certain that his mortality would be much lower, not only through greater experience, but because he has abandoned the clamp in ovariectomy, and the ligature in hysterectomy. His mortality in the latter operation, thirty-five per cent, he attributes chiefly to hæmorrhage, which resulted from trying intra-peritoneal methods. He groups all his cases of pyo-, hydro-, and hæmato-salpinx, and chronic ovaritis, under "Removal of Appendages for Inflammatory Disease," as "the clinical symptoms are similar, and a hard and fast nomenclature cannot be established." In thirteen cases of this class there was little or no relief for a time varying from six months to two years, and in all of them an accident occurred in the effusion of a large quantity of blood into the circum-uterine tissues, generally within a week after the operation. This was accompanied by increase of pulse and temperature, pain, and a condition of invalidism lasting a varying time. In one case Mr. Tait reopened the abdomen after four months, and cleared out a small quantity of pus with complete relief.

#### CIRCULATION OF THE UTERUS.

Dr. John Williams<sup>6</sup> read a paper on this subject before the Obstetrical Society of London. After referring to the importance of carefully studying the circulation in the uterus, he describes the course of the ovarian and uterine arteries. All the primary branches enter the uterus on the side, and run a superficial course, being separated from the peritoneum by only a thin layer of muscular fibres. The layer of connective tissue in which they run is distinct especially in fetal and infant life. The smaller branches run towards the mucous surface in a perpendicular direction, anastomosing freely, and ending in capillary loops. The veins are arranged in a similar manner, and convey the blood into the venous plexuses which are situated in the layer of connective tissue already mentioned, and communicate freely with the venous trunks outside. The return of blood is said to take place principally through the ovarian veins, but both these veins can be tied without appearing to materially affect the return of blood from the uterus,—indeed the whole of the pelvic venous system can be injected through any one of its larger trunks. The following conclusions are drawn: (1) The layer of connective tissue in which the arterial circles run, and in which the venous plexus lies, is the sub-mucous tissue of the uterus. (2) The whole thickness of the wall between this layer of connective tissue and the uterine cavity is the mucosa uteri, and the thin layer of tissue shed at the menstrual period, and reproduced, (the menstrual decidua), is only a very small portion of the uterine mucous membrane. (3) The vascular arrangements are such that the circulation in the uterus can hardly be disturbed by mechanical causes. The distribution of the blood-vessels is such that a ligature might be placed around the uterus at any point without affecting the circulation above or below. Only compression of both broad ligaments could materially interfere with the flow of blood into or out of the uterus, and this occurs only when the uterus forms a hernia in the vaginal canal,

or in Douglas's pouch in the condition usually (but inadequately) called retroflexion or retroversion, and in procidentia. He considers the posterior displacements true hernias, the constriction at the neck of the sac being formed by the sacro-uterine ligaments. In procidentia stretching of the vessels may produce considerable narrowing of their calibre. These two conditions, hernia of the uterus, and procidentia appear to be the only displacements which can give rise to congestion of the organs.

He described the following experiment to test the influence of flexions in causing congestion. Having stitched the fundus as closely as possible to the cervix, to cause the acutest flexion, he injected a colored fluid into one of the broad ligaments. Immediately the veins of the other side became distended with the injection. On making a section the whole of the veins in the uterus were found injected. This proved what the arrangement of the vessels had already shown, that the acutest flexion did not interfere with the flow of blood from the uterus.

#### BOSTON CITY HOSPITAL.

CLINICAL CASES OCCURRING IN THE SERVICE OF DR. A. L. MASON, AND REPORTED BY W. L. MUNRO, M.D., HOUSE PHYSICIAN.

#### 1. INTENTIONAL PUNCTURE OF THE PERICARDIUM THROUGH THE LOWER LOBE OF A LUNG SOLIDIFIED BY PNEUMONIA.

JOHN D. B., thirty-three years, waiter, entered Boston City Hospital April 9th, after a debauch of three weeks' duration.

No specific history. Occasional prolonged drinking spells, temperate between whiles. No previous illness; cough for some time past, but general health has remained good.

Several days before entrance, began to feel sick and became very short of breath. Can recollect no chill, stitch-pain, etc.

Expectoration rusty. No cardiac or renal symptoms with exception of dyspnea.

Temperature 100.8°; pulse 130; respirations 45. On entrance patient well developed but somewhat emaciated, respirations short and rapid. Heart apparently negative, apex beat being in normal situation. Veins of neck distended. Signs of consolidation over whole left lung, being most marked about midway of scapula along inner margin. Urine contained a slight trace of albumen and chlorides were diminished.

Was put upon stimulants and given poultice to whole left chest. During next two days, April 10 and 11, temperature was subnormal much of time and patient lay in a partially collapsed condition.

April 12. Respiration being greatly diminished and distant over lower left back and axilla. It seemed possible that signs in left chest were due to an effusion, though heart was not displaced. Aspirated at three points in sixth and seventh interspaces about mammillary line. On first puncture a little thin purulent fluid was obtained; on the second a few drops of blood, while on the third several ounces of semi-opaque, milky fluid were obtained. In all about one pint was withdrawn. Patient experienced a slight feeling of relief after the aspiration, though breathing was not less difficult than before and cyanosis equally marked.

The next morning dyspnea and cyanosis were extreme. A moderate number of high-pitched tinkling

<sup>6</sup> Medical Times and Gazette, April 14, 1895.

râles were heard over left chest. Treatment was taken well until 1.40, when patient died very suddenly.

Autopsy showed reddish-gray hepatization of upper left lobe, fibroid metamorphosis of the lower lobe, most of the lung substance being replaced by bands of dense connective tissue in the meshes of which was the remnant of the lung substance in the stage of red hepatization. Pleural cavity entirely obliterated, the pleural surfaces being adherent by old and firm adhesion.

Pericardial sac contained a small amount of milky fluid with numerous shreds of fibrin, while both visceral and parietal pericardial surfaces were covered by a long, shaggy coat of fibrin with many bands of the same stretching across the cavity. On removing this membrane from a portion of the walls two small openings in the parietal pericardium were seen, and on introducing a blunt probe through points of aspiration on the outside, it was found to pass readily through these openings into the pericardial sac.

It will be seen that the point of puncture was one of the points usually selected for paracentesis of the thorax. Owing to the fibroid contraction the lung substance at this point was reduced to about one-half inch in thickness. The left lung being completely solidified any change in the area of cardiac flatness could only be detected at the right border, and here the pericardium was overlapped by the edge of the right lung, in a condition of vicarious emphysema. The pleural cavity being obliterated and the contents of the left chest converted into a solid mass, the needle passed readily through the contracted lung substance and entered the pericardium beyond.

## II. DISSECTING ANEURISM OF AORTA WITH RUPTURE THROUGH LUNG INTO PLEURAL CAVITY.

Gertrude T., forty-eight years, colored, entered City Hospital February 4, 1885.

Quite well until a year ago when she began to have cough with considerable purulent expectoration, dyspnoea, loss of flesh, etc. Had a severe attack of "asthma" shortly after. Four months ago began to suffer from dyspnoea, amounting at times to orthopnoea, palpitation, oedema of legs, abdomen, etc.

On entrance suffering from orthopnoea, considerably cyanosed, feet and legs swollen. Cardiac area was considerably enlarged, apex beat being in fifth intercostal space, mammillary line. Double murmur at base, systolic being transmitted upward and to right, diastolic downward to epigastrium. Systolic murmur at apex, transmitted around axilla. Signs of phthisis over both chests, most marked on left. Pulse in right radial was lacking, but no abnormal area of dullness, no pulsation, thrill, bruit, or other evidence of aneurism could be anywhere detected.

Was given digitalis and tonics. Gained slowly until the second week in March, when she began to cough very severely and suffered much from dyspnoea, and great severe pain in back.

At 5.30 A. M., March 20th, the patient had a severe attack of hæmoptysis, raising in all about a pint and a half of blood. Was much prostrated after it, breathing with extreme difficulty, troubled by an incessant abortive cough with inability to expectorate. Hæmoptysis continued to a slight degree, patient becoming greatly cyanosed. Lingered until 6.45 A. M., March 22d, when she died, about forty-eight hours from beginning of hæmorrhage.

On removing the sternum nothing but clotted blood could be seen upon the L., the clots overlapping the anterior mediastinum and filling the pleural cavity to the amount of a litre. In the visceral pleura was a large rent, extending into the lung, very little of the substance of which was left intact, it being badly torn and filled with clotted blood. Opening into this lung was a cul-de-sac caused by the expansion at this point of a long cylindrical sac extending along the aorta most of the way from its origin to the coeliac axis and formed by a separation of the outer and inner coats of the aorta. This cylindrical sac communicated with the aorta through a narrow opening  $1\frac{1}{2}$  inches in length and having perfectly smooth thick edges. On removing and laying open the aorta with its appendages, an appearance as of a double aorta was presented, the walls of the aneurismal sac running back to back with the true vessel, and studded with depressions, which corresponded very well with the origins of the intercostal arteries. On looking at the heart itself, the aortic orifice was found much contracted, admitting only one finger, and the valves much thickened.

The case, therefore, was one of dissecting aneurism between the outer and inner aortic coats with secular dilatations at two points. One of these sacs ruptured into the left lung, almost entirely destroying it, and distending it so that it, in its turn, ruptured into the pleural cavity, which became filled with clotted blood.

## III. EXTREME SUSCEPTIBILITY TO OPIUM IN A PATIENT WITH PNEUMONIA.

C. G. F., forty-three years, hack-driver, admitted to Hospital April 24th, suffering from pneumonia affecting the lower right lobe. Was put upon stimulants and Dover's powder in 5-grain doses, the last to be given only when the cough was troublesome.

Two or three dejections during the night, one of which contained about  $\frac{5}{8}$  of fresh clotted blood. Had several large bunches of hemorrhoids, one or two of which were inflamed.

At about 8 A. M., cough being severe, patient was given pulv. Doveri gr.v. On morning visit, patient complained of intense pain from piles. These were emptied, replaced, and a  $\frac{1}{4}$  gr. suppository of morphia inserted. This was at 11.30 A. M.

At about 1.30, patient became profoundly narcotized, pupils pin-hole, respiration stertorous and somewhat irregular, surface cold, clammy, and covered with perspiration, great pallor, and some cyanosis. Aroused with difficulty and immediately relapsed into unconsciousness. Pulse was very small and condition in all respects critical. Temperature full to  $101^{\circ}$  during period of narcotization. Was given atropia and brandy subcu., and a strong infusion of coffee by the mouth. At 8 P. M., in spite of stimulants and antidotes, the case seemed desperate. At about 12.30 A. M., patient began to regain consciousness, complained of pain in right side and of great thirst and dryness of throat. Recovered gradually during the night.

It will be seen that the patient had received Dover's Powder, gr. v at 8 A. M.; Suppository Morphia, gr.  $\frac{1}{4}$  at 11.30 A. M., or, Opium gr.  $\frac{1}{4}$  by mouth and Morphia gr.  $\frac{1}{4}$  by rectum, and that narcotization had followed. It was afterward found possible to relieve patient of pain and secure sleep at any time by the administration of from  $\frac{1}{2}$  to  $\frac{1}{4}$  of a grain of morphia in solution. Considering the case as a whole it would seem to have been, without doubt, an instance of very

unusual susceptibility to the influence of opium, or of natural susceptibility greatly increased by the altered conditions in the lungs.

### Reports of Societies.

#### SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M. D., SECRETARY.

April 15, 1885. DR. JAMES R. CHADWICK in the chair.

DR. ROBERT B. DIXON read a paper entitled

#### IS CRANIOTOMY UPON THE LIVING FŒTUS EVER JUSTIFIABLE?

DR. J. P. REYNOLDS said that he did not find himself inclined to dissent materially from the reader's opinions. It is one thing to give theoretical approval to abdominal section, and quite another to make it a feasible alternative in the presence of obstetric emergency. In the interest of charity, it is well to bear also in mind, as Goodell has forcibly urged, that a mode of practice may be highly commendable, when adopted by a man of limited experience, without trained assistants or instruments, which would be simply criminal in a hospital surgeon, with every resource at hand. Widely as opinions and practice vary in regard to craniotomy, something will be gained, if men who differ, fairly appreciate each other's position. It is often untruly stated, that craniotomy is proscribed merely because baptism, which the mother has received, has not been administered to the child, but the honest scruple is rather, whether any one has the right to decide which of two equally unoffending persons shall be destroyed; and still more, whether crime may be deliberately committed, for the attainment of possible good. It is to be desired that craniotomy be never lightly undertaken, and that in adopting it at any time we appreciate the very grave responsibility which the operation involves; and to this end the horror with which others regard it may not unprofitably be borne in mind.

DR. BENJAMIN CRUSHING remarked that practically the moral aspect of this question cannot be ignored. If, as Dr. Bussey seems to think, the danger to the mother is almost the same in craniotomy and abdominal section there can be no question which operation should be chosen, but this view he did not think correct. Craniotomy in itself is neither difficult nor dangerous. The danger is in waiting until the woman is exhausted, or in the narrowness of the pelvic outlet which makes the case unsuitable for craniotomy. There are cases of slight contraction of the outlet when the child cannot pass entire, and craniotomy will reduce the labor to a normal one. A case was cited in illustration. A healthy young woman, in a first labor was seen in consultation. It being evident that nature would not effect delivery, and the child being dead the head was opened. The mother did well. Some years afterward, the same woman was again seen in consultation. She had been a long time in labor when the pains suddenly ceased and the woman was sinking. Rupture of the uterus was found and the woman was delivered by emptying the head through the foramen and turning. Still later the same woman asked Dr. Crushing to attend her in a coming confinement which was expected daily. He directed the patient to give him

early notice of labor. The os being dilated and pains well established, the head was opened and emptied and the labor reduced to a normal although hard one. The woman did well. In this case, experience having shown the probable impossibility of a living child by natural means, and the safety to the mother of craniotomy, the treatment was to be decided on moral grounds. As the speaker did not believe that the life of the mother should be put to any considerable risk to save the life of an unborn child he had no hesitation as to the proper course to follow.

DR. A. D. SINCLAIR considered it very important that we should interfere early in those cases which call for craniotomy or abdominal section. Bad results follow from either if the operation is commenced late in the case, when the woman is tired out. The operation of craniotomy is one of the oldest with which we are familiar, and it will continue, without doubt, to be performed till all men are familiar with abdominal section, and even then in certain cases, it will be wisely done. The operation will depend on circumstances, and men will do the best they can under these circumstances. A skilled operator in hospital practice with competent assistants and necessary instruments may open the abdomen with a fair prospect of saving both the mother and the child. Craniotomy is called for in cases of narrow pelvis, and when the head of the child is very large or prematurely ossified. Operators must do the best that they can, and with increased experience will reduce the demand for craniotomy to those cases which call for that operation and none other.

Simpson says the old operators performed craniotomy in preference to using forceps, and, in contrasting the cases with those occurring in Germany where the forceps were being frequently used, the results were bad. Now forceps and version largely take the place of craniotomy. The life of the mother is of more value than that of the child, and should be saved in those cases where both would be sacrificed if craniotomy was not performed. Early interference is an axiom that we should not lose sight of.

DR. FIELD said that when he began practice craniotomy was the rule, if the head was not easily reached, that is, an ear easily felt; now it was the exception. Short forceps were wholly used, and if delivery could not be effected by their aid, then craniotomy was performed. He brought the first pair of long forceps to Weymouth, where he first began practice, and since that day a decided change has taken place, and now craniotomy is very rarely done. He has not performed a craniotomy in twenty years, but should say it will be done more or less forever. When Utopia shall have become reality, and the Lost Continent shall have been found again, and both the island and the continent shall be ruled by the same laws, then and only then, shall the perforator and the blunt hook be cast into the furnace, and be known no more. In those happy lands every village shall have its hospital, every hamlet its Thomas, the very breezes will be aseptic.

Craniotomy is an operation of circumstances, and much depends upon the operator whether it will be performed. If one has not had a large experience in the use of the forceps, he may say craniotomy must be done. Even if one has had a large experience in the use of forceps we may decide that it would have been better to perform craniotomy than to have used forceps after a bad delivery shall have been shown to have resulted to the woman from the latter.

A man's conscience may sway him one way or the other, and if he is without assistants and proper instruments, he may do craniotomy and do it wisely. To a person with a quick conscience craniotomy will be a last resort. Church dogma most certainly should not influence the physician. One might be swayed by the convictions of the people interested. If they were Catholics he would enter into their feelings, if he were among Protestants then it would be different. Not that the physician would willingly sacrifice *any* infant life, but that if his conviction was that craniotomy was the safest and best, he might address himself to the task with greater celerity, without taking the question of other methods into consideration. A child to a Catholic family is always bade welcome, but it is not always so to a Protestant. No one could refuse to do craniotomy in certain cases as in some varieties of deformed pelves, etc.

DR. M. A. MORRIS remarked that the doctrine of the Roman Catholic Church is opposed to craniotomy. The Catholic Church teaches that you shall not violate the fifth commandment, "thou shalt not kill." The end does not justify the means. You are not permitted to do an evil act that good may come of it.

Dr. Capellman who is considered an authority in the Catholic Church, teaches that each individual human being has a right to live,—the child has a right to live as well as the mother. A child *in utero* cannot be a "wilful aggressor" or violator of laws, and therefore cannot forfeit its right to live. Craniotomy is not a sure means of saving the mother; by its one life is certainly destroyed, and frequently both lives are lost. By Cesarean section the greatest number of *lives* are saved, and a greater number can be saved now than formerly, owing to improved abdominal surgery. He finds the statistics of a number of operators show that on an average over fifty-eight per cent of mothers were saved after Cesarean section, and more than fifty-eight per cent of the children were saved (Kayser 70), (Villeuve 72). By craniotomy all children are lost and many mothers.

Dr. REYNOLDS asked Dr. Morris what he should do if the woman refused to be operated upon.

Dr. MORRIS replied that it was considered the duty of the woman to consent.

Dr. SINGLAR asked the date of Capellman's book.

Dr. MORRIS said he believed the book was published in 1879.

Dr. REYNOLDS inquired if there had not been some change in the teachings of the Catholic Church, of late, regarding craniotomy.

Dr. MORRIS replied that there had been no change that he was aware of.

Dr. REYNOLDS expressed his surprise that any weight is allowed to the question of the mother's assent. From the standpoint of the last speaker, does her refusal alter the duty of the accoucheur? It may not be generally known, that according to statements apparently trustworthy, a decree lately promulgated, in response to an appeal for guidance, strictly forbids craniotomy to all Roman Catholics so long as the child is alive.

Dr. Wm. L. RICHARDSON said that he was very glad that the subject had been presented, and in so satisfactory and able a manner, for up to the present time the statement made by Dr. Binsey in his paper had gone unchallenged. The introduction of antiseptic precautions in all operations, the favorable results which are being obtained by the performance of Porro's

ovaro-hysterectomy and Thomas's Laparo-elytrotomy are rapidly limiting the number of cases in which the operation of craniotomy is demanded. There are, however, cases, as the reader has stated, in which the patient is in such a condition that no operator would feel justified in attempting either of these operations, or the more serious one of Cesarean section. To do the operation would mean to kill the patient. Nor would an unskilful operator, wholly unfamiliar with the methods of procedure, and so placed that he could not obtain either competent assistants, or the requisite means for a proper performance of the operation, be justified in attempting what could only result fatally to the mother.

There are other cases in which none of these operations, performed by the most skilful operator and with every possible convenience at hand, would be of the slightest avail. In breech presentations, where all of the child has been born except the head, and it is then discovered that the head is unusually large or preternaturally ossified, of what avail are any of these operations which involve an abdominal section? The child is no longer within the uterine cavity, and Cesarean section and Porro's operation are, of course, contraindicated, and Laparo-elytrotomy would only result in extracting a dead fetus through the abdominal wall at the imminent risk of the mother's life. So, also, in cases of the after-coming head after version, in which an unanticipated similar condition was encountered. What about cases of hydrocephalic children, presenting by the breech, as such cases are more apt to do than in the normal fetus, if the operator finds, as may happen, that he cannot deliver the after-coming head? As Schroeder states, such children, if delivered, do not live; is the attendant to stand by and see that woman die? If he does, is he not as guilty of her death as though he killed her, when, by the proper use of the means at his control, he can save her life; knowing that he does so even by destroying the child which he was also powerless, by any possible procedure, to save?

He objected to only one statement of the reader, and that was leaving the choice of procedure to the parents. The physician should always use his own judgment, and if not in accord with the wishes of the parents, his duty was to retire from the case, rather than to do what his patient or her friends desired, if contrary to his own judgment.

Dr. GREEN, of Dorchester, mentioned a case that he was called in to consult of a deformed woman with a narrow pelvis. The woman was a Catholic, and a clergyman was present, who said if the doctor intended doing craniotomy, he should step out. He had married the woman, after advising strongly against the marriage, and said she should stand the consequences. The woman's pains were strong and she was becoming exhausted. Both the woman and her husband desired that craniotomy should be done. Dr. Green, however, was unwilling, under the circumstances, to do the operation, and telephoned to Boston to an eminent practitioner of abdominal surgery to do Cesarean section. The practitioner, for good reasons, declined to operate, and advised that craniotomy should be done. The head was then opened with Dixon's perforator, and the woman delivered with the cephalotribe. She made a good recovery, but the narrator felt but small satisfaction in the operation, and was not sure that he should proceed in like manner again under precisely similar circumstances.

DR. LYMAN remarked that it would be far better for the physician to use his own conscience, to which after all he must finally be answerable, in the decision in each case, without reference to theological dogmas, Protestant or Romish. Treat each case according to its indications. It is not possible to decide on any fixed rule, but with the modern improvements in abdominal surgery, the tendency will be increased to try and save both the mother and the child. We must do the best we can in each case, governed by the varying conditions present.

DR. J. F. COUCH, of Somerville, said, when we consider the favorable results of Casarean section as compared with craniotomy, there is no justification in regarding the former in such an unfavorable light. In craniotomy, 50 per cent of the mothers and all of the children are lost. In Casarean section, according to Harris, when performed during the first twenty-four hours of labor, 70 per cent of the mothers recovered, and over 80 per cent of the children were saved. The tables upon which the opponents of Casarean section have based their arguments, were made up from operations performed in the remote ages of medicine, when antiseptics was unknown, at times by unskilled hands, and under unfavorable circumstances. According to Lusk, in one case the operation was performed six days after the membranes had ruptured, and in another case, after peritonitis had set in. Also in several cases, after forceps and version had been tried, and in one case after rupture of the uterus.

We must not deliberately take the child's life. If the mother is so constructed that it is impossible for her to give birth to her child in the natural way, *that is her misfortune*, and she must be prepared to give the child a chance to live, even though at the risk of her own life.

In answer to the speaker, who deprecated mixing theology with medicine, he said that in refusing to perform abortion upon healthy women, the former was actuated by his religious principles, and therefore mixed theology and medicine.

Regarding the case of the hydrocephalic child, and the performance of Casarean section by a country practitioner, he claimed that in the former he thought he would be justified in tapping the head, for he would not necessarily destroy life in so doing, while in the latter case, he believed that the mother's chances for life would be, to say the least, as good in the hands of the country practitioner after Casarean section, as after craniotomy. It must be remembered, that in the majority of cases, the latter operation is performed when the head is at or above the brim.

DR. WM. L. RICHARDSON said that he did not desire to enter into any discussion with either Dr. Morris or Dr. Couch of theological arguments, as he had understood the question was to be considered only on its merits as viewed from a medical standpoint. He could not help, however, wondering whether those who opposed craniotomy for these theological reasons were also opposed to capital punishment. He was at a loss to see how Dr. Couch had met the class of cases to which he had alluded; and he very much questioned the accuracy of his statistics. His statement that "if the woman is deformed it was so much the worse for her," hardly applied to those cases in which the woman was all right, but the child was deformed. Why should the woman be made to suffer for that, especially as we are unable, even if we let

her suffer, to save the child. As for his statement, that "in the case of a country practitioner, the mother's chances for life would be, to say the least, as good after Casarean section as after craniotomy," he was forced by personal experience to take an opposite view, as he had seen the latter operation admirably performed by gentlemen, with good results, who would never have attempted the far more serious and complicated operation of Casarean section.

DR. DIXON, in closing the discussion, said there were several points of considerable importance that had escaped the attention they demanded. Whether or no craniotomy should be performed more than once upon the same woman; also, whether the operation should be performed upon a woman the subject of an incurable disease; or upon a woman with a conjugate diameter of less than  $2\frac{1}{2}$  inches.

The statistics of Dr. Couch are extremely erroneous. He stated that a large percentage of mothers die after craniotomy, as many even as after abdominal section. This is not so. In my paper I have given the more recent statistics on the operation of craniotomy, and they are most favorable. Of Merkel's 100 craniotomies from 1877 to 1882 there was a mortality of only six per cent. Bidder did not lose a woman in 32 craniotomies, and Rokitsansky, Jr., has published an account of 52 successful cases, occurring in Braun's wards.

Dr. Couch quoted from Dr. Busey's paper that over 50 per cent of women are lost after craniotomy; it is well known that these statistics are erroneous. The idea that more women are saved after abdominal section than after craniotomy, is preposterous. Statistics show that when abdominal section is performed early in the case, when the woman is free from exhaustion, about 70 per cent of the mothers recovered. Statistics show that when craniotomy is performed early it is a matter of extreme rarity that even one woman is lost. Statistics also show that if the woman has an antero-posterior diameter above  $2\frac{1}{2}$  inches, and is more or less exhausted, her chances of recovery are very much better after craniotomy than after any variety of abdominal section. The tables from which I have quoted are all of recent date, and in no way go back into the "remote ages of medicine."

It is needless to reply to the statement made by one gentleman that "the mother's chances for life would be, to say the least, as good in the hands of the country practitioner after Casarean section as after craniotomy."

Theology or no theology, there is no getting beyond the point that craniotomy should be done when the pelvic diameters permit of the operation being performed, and the child is deformed so that it cannot live but a short time, even if it is born alive; when the parts of the woman are so badly swollen that the head is impacted in the pelvis; and in certain cases of breech presentation and version, all of which have been entered into thoroughly in the paper on this subject.

DR. KINGMAN exhibited the Underwood etherizer, to which reference was made by Dr. George W. Gay, in a recent discussion in the Surgical Section, and which is in constant use at the City Hospital. The apparatus consists essentially of a short metallic cylinder, partially occluded at one end by a truncated cone of the same material, the apex being directed inward. The cylinder being loosely filled with damp sponges, it is covered by a hood of moistened cotton cloth of

such shape as to fit tightly about the cylinder, expanding below to fit over the face, and above to form a balloon-shaped bag.

In operation, a portion of the expired air passes through the sponges, inflating the bag, and is then drawn back again with the act of inspiration. In its passage to and fro through the sponges, it becomes saturated with ether vapor.

The chief advantages of the instrument are:

*First.* Its extreme simplicity, there being no valves or movable parts to get out of order.

*Second.* Economy in the expenditure of ether. As the cloth bag is nearly air-tight, practically all the ether that evaporates enters the lungs of the patient, thus avoiding waste of the drug, and unnecessary saturating of the room and house with the vapor.

*Third.* The ease with which we can regulate the admission of air and the degree of concentration of the ether vapor.

*Fourth.* Cleanliness; it is far more easily cleaned of vomitus or blood than is a sponge.

*Fifth.* Cheapness; it costs much less than does an ether sponge, and does not wear out.

### Recent Literature.

*Diagnosis and Surgical Treatment of Abdominal Tumors.* By SIR SPENCER WELLS, BART. Philadelphia: P. Blakiston, Son & Co. 1885.

The author in his preface says this is practically a new work, though it may be called a fourth edition of the first, published in 1865. The advances in abdominal surgery have been so great in the last twenty years, that any writer who should attempt to give a fair account of the state of this branch of surgery at the present time, as compared with that remote period, would have to virtually write a new book. Sir Spencer Wells has naturally enlarged his scope as the advances have been made, so that a book which in 1865 treated almost exclusively of ovarian tumors, now includes the consideration of the operative treatment of splenic, renal, hepatic, and other tumors, and of various inflammatory processes and conditions hitherto either unrecognized, or left alone as inoperable.

The result is a fairly complete treatise on the subject of abdominal surgery. The larger part of the book is naturally taken up with the consideration of ovarian and allied tumors. The author's views of vexed questions are too well known to need expounding here.

Listerism he adopted, understanding by that what it really means, "thorough cleanliness," and not confining it to the "spray." At about the same time he gave up the extra peritoneal treatment of the pedicle, though he evidently has still a lurking fondness for it, and considers that the introduction of thorough antiseptic precautions alone made the intra-peritoneal method possible.

It is with regret that we find him designating the removal of ovaries for other diseases than those of the organs themselves, "Batter's operation." This operation, and the other allied one so commonly called "Tait's," are such general property, and have been subject to such modification since their introduction, that it is both belittling and indefinite to continue to call them by the names of those who happened first to

perform them. There are appropriate anatomical names by which we can express definitely just what has been done, which should be used.

The second part treats of uterine and other abdominal tumors. With Sir Spencer Wells' large experience, he has met with and operated upon most of the various forms he has described. Where his own experience fails, he has drawn upon German and American records.

One fact is noticeable, the utter ignoring of Lawson Tait's work in this department of surgery, and the very small space devoted to diseases of the Fallopian tubes. He says he has only met with four cases where either one or both Fallopian tubes were so diseased as to lead to their removal; and expresses the opinion that most cases of so-called salpingitis or pyosalpinx usually recover under ordinary care and rest, without surgical treatment. In the light of what Lawson Tait has originated and demonstrated, and other surgeons in Europe and America are confirming, the inference is certainly warranted that Sir Spencer Wells has allowed his judgment to be warped by his prejudices.

The book is thoroughly interesting and readable, and embracing as it does in Sir Spencer Wells' own personal record almost the complete history of what has been done in this field, it is well worth the attention of all who are interested in this branch of surgery.

—The strong point of the Delphic oracle was the obscurity of its sayings and the possibility of attaching to them almost any desired meaning. A similar quality has, perhaps, contributed to the vitality of certain of the oracular sayings in popular use to-day. For example, the maxim so often heard, "Stuff a cold and starve a fever." The colossal absurdity of the rule in its most obvious application having become apparent to most people, it is now glozed according to the fancy of the user as follows: "Stuff a cold and (you will have to) starve a fever," that is, you will have it to treat, or on the other hand, "stuff a cold and (thereby you may be able to) starve (a. s. *scarrifian*, that is, kill, abort.) a fever." The latter explanation of the phrase is probably a true one, but its correctness philologically does not imply a corresponding correctness therapeutically.

—Dr. Bradley, of Birmingham, England, who will be remembered as the victim of a charge of criminal assault by a hysterical female whom he was so unfortunate as to attend and to be left alone with for a short time, has, after seven months' imprisonment, been released by order of the Home Secretary. The judge, (Lord Coleridge) who tried the case, is said to have expressed himself as convinced of the injustice of the verdict rendered. A testimonial is being subscribed to for the pecuniary relief of, and to express the professional sympathy for the unfortunate physician.

—A writer on medical education in the last number of the *Popular Science Monthly*, commenting on the popular interest in medical topics, fostered by medical bulletins from the sickbeds of great men, and especially on the fascination which the germ theory seems to have for everybody at the present time, remarks that in the wilds of the West a cow-boy recently shot another for calling him a d—d microbe.

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### "ENDERMOSES."

THE ancient and popular belief in the occasional occurrence of internal rashes expressive of "humors" and constitutional states, these mucous eruptions being markedly analogous to external dermatoses in their origin, clinical history, and evolution, has received the support of not a few modern pathologists, especially those of the French School. The late Dr. Noel Gueneau de Mussy was one of the most earnest advocates of the doctrine of diathetic eruptions which might affect indifferently the cutaneous or mucous surfaces; he designated under the name of *herpetism*, that disposition of the economy called by older authors the "dartrous diathesis," and to which are assigned by Hardy these characters: hereditary influence, aptness to return, and tendency to spread over the surface of the body, and even to invade the mucous membranes, continuous with the integument.

The various affections included under this name are distinguished by their gouty or arthritic parentage, their chronicity, the itching or pain, and the ulcerations which commonly attend them; moreover, they frequently attack internal organs, either by propagation through contiguity, as when the darts of the face extend to the conjunctiva or buccal mucous membrane, or by metastasis, as when in the course of an eczema, a visceral disease is developed, and the cutaneous affection gets well.<sup>1</sup>

The late Gueneau de Mussy, in the last work which he published (*Clinique Medicale* t. IV, 1885), devotes several chapters to internal eczemas, lichens, urticarias, etc. He professed to be always seeing cases of marked arthritic ("herpetic") diathesis, where the existence of a mucous eruption concurrently with, and in continuity with a cutaneous rash (for example, eczema of the vulva, with a herpetic condition of the internal genitals), or alternating with a skin disease (for example, severe disturbances of the digestive organs disappearing on the outbreak over the surface of the body of a

nettle rash in an arthritic subject), could only be understood as correlated manifestations of a constitutional vice; to establish the diagnosis of the mucous affection, it was only necessary to interrogate the antecedents and the external concomitant phenomena.

The herpetism may manifest itself on the mucous membranes by secretory troubles, by erosions and granulations, by intense pruritus, by a catarrhal condition of a peculiar kind. The different forms of herpetism of the neck of the womb are likely to end in granular erosions. There has been much discussion as to the nature of these granulations; they have been regarded as a budding out of the papillæ of the mucous derm like that which occurs after the application of epispastics.

Chomel was the first to consider them as a sort of vegetating lesion linked to the dartrous diathesis. According to Gueneau de Mussy, the granular condition is in certain mucous membranes the habitual expression of congestive and inflammatory processes. Most pharyngites are accompanied by the development of granulations, constituted by the tumefaction of the glandules and follicles which enter into the structure of the pharyngeal mucosa. Uterine granulations have a similar origin: they are produced by the tumefaction of the papillæ and follicles of the cervix.

There are often, according to these views, seen temporary or fugacious morbid states of internal organs which by their march, resemble certain exanthemata which behave in the same way. Pruriginous affections of the vulva may be simply mucous urticarias.

In the urticaria which occasionally succeeds the ingestion of mussels, of strawberries, etc., it would seem that the vomiting, the colic, the diarrhœa, which often complicate the skin affections, must be due to a similar internal condition; as far as the eye can penetrate the buccal cavity are seen patches of a fiery redness, which are in striking contrast with the general congestive tint of the mucous membrane.

Gueneau de Mussy asks whether, instead of appearing as a dependence on the cutaneous exanthem, the urticaria may not localize itself from the first and exclusively on the internal tegument? He answers this question affirmatively, and cites the following case in confirmation. He had just been attending a young lady who was neuropathic and migrainous, of arthritic family, who was subject to crises of cardialgia, which came on ordinarily in the night, accompanied by tympanites, nausea, hicough, vomiting. When the pain ceased, an eruption of urticaria appeared on the skin, and remained for some time. Is it not, he asks, probable that a similar fluxion had before localized itself in the digestive organs, giving rise to the morbid phenomena above described? He moreover regards it as likely that the pretended prodromes of measles, the bronchitis, the coryza, are the manifestations of an internal eruption, already contagious. This eruption, after having invaded the skin, often attacks the stomach, producing nausea and vomiting, and later still, the intestine, where it manifests itself by diarrhœa.

<sup>1</sup> Vide Hardy on the "Dartrous Diathesis." Piffard's translation: "Among certain dartrous patients affected with asthma and pulmonary catarrh, it has been noticed that the access of dyspnea is less frequent and less severe when the eruption is in full efflorescence, and, on the other hand, its returns are more frequent and grave when the external affection is cured or even notably diminished." p. 10.

These are, altogether, not simple hypotheses, for one may distinguish the morbillous spots on the pharynx during the prodromic period, and these testify sufficiently to the nature of the process which has invaded the deep portions of the respiratory tract.

Such doctrines find more favor in France than in Germany, but there is enough to be said in their favor to afford fair ground for the differences of opinion which prevail in the two schools.

#### A PRIZE FOR A NEW INSTRUMENT FOR THE IMPROVEMENT OF HEARING.

BARON LEON DE LENVAL, of Nice, has offered a prize of 3000 francs for the best readily portable instrument constructed according to the principle of the microphone for improvement of hearing in cases of partial deafness.

This offer was made on occasion of the Third Congress for Otology, by which body a jury was appointed, in accordance with the request of Baron de Lenval, to have charge of the award. This committee consists of the following persons:—

Professor Hagenbach-Bischof, Ph. D.M.D., Chairman of the Jury (Basle); Benni, M.D. (Warsaw); Professor Burckhardt-Merian, M.D. (Basle); Gellé, M.D. (Paris); Prof. Adam Politzer, M.D. (Vienna).

Instruments of this description, intended for competition, may be sent before the 31st of December, 1887, to any one of the members of the jury. Such instruments only are admitted to compete as are completely worked out; at the examination perfection of mechanical construction, the right application of the laws of physics, and above all the power of improving the hearing will be taken into consideration. The verdict of the jury and the awarding of the prize will take place at the Fourth International Congress for Otology to be held at Brussels in September, 1888. Should none of the instruments presented be found worthy of obtaining the prize, the jury reserve to themselves the right of keeping the competition open until the meeting of the next International Congress for Otology.

#### MEDICAL NOTES.

—Dr. B. W. Richardson has recently published a summary of the anesthetics, from which we condense the following:—

Considered safe: ethyl bromide, ethyl chloride, ether, ethene (olefiant gas), ethene chloride, methyl bromide, methyl chloride, methyl ether, methine chloride, methane (marsh gas), nitrous oxide.

Of doubtful value: amylene, amyl chloride, butyl chloride, benzene (benzol), carbon disulphide, carbon dioxide, carbon tetrachloride, methyl alcohol, methylal, spirits of turpentine.

Dangerous: amyl hydride, butyl hydride, carbon monoxide, ethyl hydride. Chloroform and ethene dichloride, are regarded as useful, but requiring care. Dr. Richardson considers methyle ether to be the safest of all the anesthetics. — *Polytelic*.

—The story comes from the West of a man so tenacious of lucre that when he swallowed a five-dollar gold piece the stomach-pump could only bring up \$4.50.

BOSTON.

—*The Medical Record* says that Prince Ludwig Ferdinand, of Bavaria, son-in-law of Queen Isabella of Spain, who obtained the degree of Doctor of Medicine at Munich last year, is now practicing at Nymphenburg, Bavaria.

—Mrs. Livermore recently delivered a lecture, being the sixth in the course to young people, on the War of the Rebellion, in the Old South Church in Boston, on the Sanitary Commission. Its work begun with the permission of the National government, but not receiving its active co-operation until after it had fully shown its reasons for being: the arrangements for distributing refreshments to the troops in transit through the Northern cities; the lodges, forty or more in number, which were free hotels, open day and night to every soldier passing on furlough, and which entertained on the average, 2300 soldiers each night; the hospital stores collected and forwarded; these, and other branches of the work of the great Commission, were graphically described. No army started into battle without a superintendent of the Sanitary Commission, and a company of agents, men and women, and wagons packed with sanitary stores. No distinction was made between the blue and the gray. Confederate soldiers were as kindly cared for as northern ones. After the battle of Antietam, for instance, there were distributed 28,763 towels, bed ticks and pillows, 30 barrels of linen bandages, 2,620 cans of condensed milk, 5,000 pounds of beef, 3,000 bottles of wine, several tons of lemons, crackers, tea and sugar. The estimated value of the sanitary stores distributed during the war was \$15,000,000, and the total amount raised and expended in the work of the Sanitary Commission was \$17,000,000.

#### Miscellany.

##### THE NEW NURSES' HOME OF THE BOSTON CITY HOSPITAL.

For a long series of years the Annual Report of the Superintendent of the Boston City Hospital has contained an appeal for a Nurses' Home, or a separate building where the nurses of the hospital could be housed and fed, apart from the hospital itself. Hitherto they have been lodged as well as possible but in a somewhat crowded manner and even then a part of the room they occupied was originally intended for, and ought to have been devoted to, patients. The greatest efficiency requires that the nurses shall be able to spend the time when off duty in properly ventilated apartments, entirely apart from the rooms occupied by the sick, and so situated that so far as possible their minds may be free from the strain to which they are subjected in their daily labors, and that recreation need not interfere with the quiet that should reign within hospital walls.

Last year authority was given and an appropriation of \$40,000 voted by the City Council for the erection of a suitable dormitory, and the completed building has, during the past week, been occupied for the intended purpose. The building stands upon the corner of Harrison Avenue and Springfield Street, separated by the latter street from the hospital grounds. It is one hundred feet long and thirty-eight feet broad and four stories in height above the basement. It is built of brick with freestone trimmings. Two iron balconies at each end serve to break the plainness of its square walls, which present a neat and solid appearance. The entrance is on the Springfield Street side in the middle of its long side. A long hall runs the full length of the building on each floor with rooms opening from it on either side. The building is heated throughout by steam, on the first floor by indirect radiation with air admitted directly from the outside, on the other floors by direct radiation. On the south side in the middle of the building on each floor are bath tubs, lavatories and water supply shut off from the rest of the building by brick walls and suitable doors. This apartment is in close relationship with the central chimney and has a separate system of ventilation. Water is not introduced by pipes into the sleeping apartments so that no defect in plumbing can introduce sewer gas, but each room is supplied with a washstand with its movable adjuncts of wash-bowl and pitcher. Ventilation has been carefully arranged, each separate room having a ventilating flue which communicates with the air shaft of the central chimney through which passes the flue from the boiler. When artificial heat is not required in the building the central flue will still be heated by a smaller boiler which will be required to furnish hot water, so that the artificial ventilation ought to be perfect during the entire year. Fireplaces in the halls and larger rooms give additional communication with the outer air.

Two iron staircases, one at each end of the building, run to the top of the building and furnish all necessary means of escape in case of fire.

The floors are all hard finished and furnished with neat but inexpensive mats.

On the right of the entrance on the first floor are two parlors, separated by sliding doors, which can be used as recitation or lecture rooms, or simply as places of meeting for the home circle. Certain aspirations for a piano are acknowledged by some of the musical ones among the nurses, and to furnish one would be a graceful act on the part of some one who desires to show appreciation of the training school. On the left of the entrance is a small reception room. On this floor are the rooms of the assistant matron who is directly in charge of the home. The other side of the corridor contains sleeping accommodations for eleven nurses.

The three upper stories are devoted entirely to sleeping rooms. Each story contains two double rooms, all the other rooms are intended for one occupant. Each room is simply but comfortably furnished and contains a single iron bedstead with wire and hair mattress, a wash-stand, a chest of drawers and clothes-press, and two chairs, one of them a rocker; of course the double rooms contain these articles in duplicate. Each room has its steam heater and all are lighted by gas. Each of the three floors has accommodations for nineteen nurses. The total number in the house is sixty-eight.

The basement contains the kitchen, not yet in working order, the boilers and their adjuncts, storeroom and a large trunk room where the luggage of sixty-eight women makes a most imposing appearance.

It will be noticed that no provision is made in the home itself for sickness, in the shape of a separate room devoted to hospital purposes. Cases of sickness severe enough to require long detention in bed, will be cared for within the walls of the hospital itself.

Telephonic communication is established between the home and the central office of the hospital. No covered way exists between these different parts of the hospital, which at first would seem a disadvantage, and which certainly has its unfavorable side, but on the whole, it is thought that the necessity of passing outside the hospital walls into the open air will, on the whole, be advantageous to the nurses themselves.

#### REPORT OF THE COMMITTEE APPOINTED TO ARRANGE FOR THE MEETING OF THE INTERNATIONAL MEDICAL CONGRESS IN AMERICA, IN 1887.

THE Journal of the American Medical Association contains a long report from the Committee, which recapitulates the facts of its organization and meeting in Chicago, and then proceeds to report the late meeting in New York as follows:

In August, 1885, the Chairman, the Vice-Chairman, and the Secretary, after consultation and communication with members, called a meeting of the Committee, to be held in New York City, September 3d, 1885, for the purposes of revision of the rules and the filling of certain vacancies in the list of officers of the Congress.

The Committee met in New York City, September 3d, 1885, the following named members being present: Dr. G. Baird, Dr. Robert Battey, Dr. L. P. Bush, Dr. R. Beverly Cole, Dr. W. C. Dabney, Dr. Ellsworth Eliot, Dr. A. Y. P. Garnett, Dr. S. C. Gordon, Dr. J. W. S. Gouley, Dr. J. B. Hamilton, Dr. George A. Ketchum, Dr. R. A. Kinloch, Dr. D. A. Lindholm, Dr. John S. Lynch, Dr. R. C. Moore, Dr. William Pierson, Dr. N. J. Pitman, Dr. L. A. Sayre, Dr. X. C. Scott, Dr. John V. Shoemaker, Dr. F. L. Sim, Dr. E. F. Upham, Dr. W. H. Wathen, Dr. W. C. Wile, Dr. A. H. Wilson.

The following named members were represented by proxies: Dr. E. P. Cook, by Dr. N. S. Davis, proxy; Dr. A. R. Smart, by Dr. William Brodie, proxy; Dr. J. M. Taylor, by Dr. E. P. Sale, proxy.

The Committee was called to order at 12 m., September 3d, 1885, by the Chairman, Dr. R. Beverly Cole.

The resignation of Dr. L. A. Sayre, of New York, as member of the Committee, was received and accepted, and Dr. A. Flint, Jr., of New York, was elected to fill the vacancy, and took his seat with the Committee. The resignation of Dr. Sayre was caused solely by ill health.

The following rules were unanimously adopted:

#### RULES.

1. The Congress shall consist of members of the regular profession of medicine, and of such other scientific men as the Executive Committee of the Congress may see fit to admit, who shall have inscribed their names on the register and shall have taken out their tickets of admission.

2. The dues for members of the Congress shall be

ten dollars each for members residing in the United States. There shall be no dues for members residing in foreign countries.

Each member of the Congress shall be entitled to receive a copy of the "Transactions" for 1887.

The Congress shall be divided as follows, into seven-teen Sections: I. General Medicine; II. General Surgery; III. Military and Naval Surgery; IV. Obstetrics; V. Gynaecology; VI. Therapeutics and Materia Medica; VII. Anatomy; VIII. Physiology; IX. Pathology; X. Diseases of Children; XI. Ophthalmology; XII. Otology and Laryngology; XIII. Dermatology and Syphilis; XIV. Public and International Hygiene; XV. Collective Investigation, Nomenclature, Vital Statistics, and Climatology; XVI. Psychological Medicine and Diseases of the Nervous System; XVII. Dental and Oral Surgery.

4. The General Meetings of the Congress shall be for the transaction of business and for addresses and communications of general scientific interest.

5. Questions and topics that have been agreed upon for discussion in the Sections, shall be introduced by members previously designated by the titular Officers of each Section. Members who shall have been appointed to open discussions shall present in advance statements of the conclusions which they have formed as a basis for debate.

6. Brief abstracts of papers to be read in the Sections shall be sent to the Secretaries of the proper Sections on or before April 30, 1887. These abstracts shall be treated as confidential communications, and shall not be published before the meeting of the Congress.

Papers relating to topics not included in the lists of subjects proposed by the Officers of the Sections may be accepted after April 30, 1887; and any member wishing to introduce a topic not on the regular lists of subjects for discussion shall give notice of the same to the Secretary-General, at least twenty-one days before the opening of the Congress, and such notices shall be promptly transmitted by the Secretary-General to the Presidents of the proper Sections. The titular officers of each Section shall decide as to the acceptance of such proposed communications and the time for their presentation.

7. All formal addresses, scientific communications, and papers presented, and scientific discussions held at the General Meetings of the Congress, shall be promptly given in writing to the Secretary-General; and all papers presented and discussions held at the meetings of the Sections shall be promptly given in writing to the Secretaries of the proper Sections.

No communication shall be received which has already been published, or read before a society.

The Executive Committee, after the final adjournment of the Congress, shall direct the editing and the publication of its "Transactions," and shall have full power to publish the papers presented, and the discussions held thereon, either in full, in part, or in abstract, as in the judgment of the Committee may be deemed best.

8. The official languages of the Congress shall be English, French, and German.

In the Meetings of the Sections, no member shall be allowed to speak for more than ten minutes, with the exceptions of the readers of papers and those who introduce subjects for discussion, who may each occupy twenty minutes.

9. The rules and programmes shall be published in English, French, and German.

Each paper and address shall be printed in the "Transactions" in the language in which it was presented, and preliminary abstracts of papers and addresses also shall be printed, each in the language in which it is to be delivered.

All discussions shall be printed in English.

10. The President of the Congress, the Secretary-General, the Treasurer, the Chairman of the Finance Committee, and the Presidents of the Sections, shall together constitute an Executive Committee of the Congress, which Committee shall direct the business of the Congress, shall authorize all expenditures for the immediate purposes of the Congress, shall supervise and audit the accounts of the Treasurer, and shall fill all vacancies in the offices of the Congress and of the Sections. This Committee shall have the power to add to its membership, but the total number of members shall not exceed thirty. A number equal to one-third of the members of the Committee shall constitute a quorum for the transaction of business.

11. The Officers of the Congress shall be a President, Vice-Presidents, a Secretary-General, four Associate Secretaries, one of whom shall be the French Secretary, and one of whom shall be the German Secretary, a Treasurer, and the Chairman of the Finance Committee.

12. The officers of each Section shall be a President, Vice-Presidents, Secretaries, and a Council.

13. The officers of the Congress and the officers of the Sections shall be nominated to the Congress at the opening of its first session.

14. The Executive Committee shall, at some convenient time before the meeting of the Congress, prepare a list of foreign Vice-Presidents of the Congress, and foreign Vice-Presidents of the Sections, to be nominated to the Congress at the opening of its first session.

15. There shall be a standing Committee on Finance, composed of one representative from each State and Territory, the District of Columbia, the Medical Department of the Army, the Medical Department of the Navy, and the Marine Hospital Service.

The Chairman of the Finance Committee shall report to the Executive Committee of the Congress.

Each member of the Finance Committee shall appoint a local Finance Committee for his State, Territory, District, or Government Department, consisting of one or more members from each Government Department or Congressional District.

Each local Finance Committee shall report through its Chairman to the Chairman of the Finance Committee of the Congress.

Dr. S. C. Gordon, of Maine, recalled his withdrawal from the Congress, which action was accepted by the Committee.

The following named gentlemen were elected to fill vacancies in the Committee of Arrangements: Dr. J. K. Bartlett, Wisconsin; Dr. J. H. Baxter, U. S. Army; Dr. George Goodfellow, Arizona; Dr. Henry Hoffman, Pennsylvania; Dr. John Morris, Maryland; Dr. J. R. Tipton, New Mexico; Dr. Thomas J. Turner, U. S. Navy. The following resolution was adopted:

*Resolved*, That the representative or representatives in this Committee from each State, Territory, or Government Department, shall organize the Financial Committees in their respective States, Territories, or Government Departments.

It was decided that no person should occupy more than one position in the organization of the Congress.

It was also decided that, in the published lists of the Officers of the Congress, the names of the Vice-Presidents and Secretaries of the Congress, and the Vice-Presidents, Secretaries, and members of Councils of the Sections should be arranged alphabetically.

#### OFFICERS OF THE CONGRESS.

*President*—Austin Flint, M.D., LL.D., New York; *Vice-Presidents*—W. O. Baldwin, M.D., Alabama; H. I. Bowditch, M.D., Massachusetts; William Brodie, M.D., Michigan; Henry F. Campbell, M.D., Georgia; W. W. Dawson, M.D., Ohio; R. Palmer Howard, M.D., Canada; E. M. Moore, M.D., New York; Tobias G. Richardson, M.D., Louisiana; Lewis A. Sayre, M.D., New York; J. M. Toner, M.D., District of Columbia; the President of the American Medical Association; the Surgeon-General of the United States Army; the Surgeon-General of the United States Navy; the Supervising Surgeon-General of the United States Marine Hospital Service. *Secretary-General*—Nathan S. Davis, M.D., LL.D., Illinois. *Treasurer*—E. S. F. Arnold, M.D., M.R.C.S., New York. *Chairman of the Finance Committee*—Frederick S. Dennis, M.D., M.R.C.S., New York. *Executive Committee of the Congress*—Austin Flint, M.D., LL.D., President of the Congress; Nathan S. Davis, M.D., LL.D., Secretary-General; E. S. F. Arnold, M.D., M.R.C.S., Treasurer; Frederick S. Dennis, M.D., M.R.C.S., Chairman of the Finance Committee. *Presidents of the Sections*—A. B. Arnold, M.D., General Medicine; William T. Briggs, M.D., General Surgery; Henry F. Smith, M.D., Military and Naval Surgery; DeLaskie Miller, M.D., Obstetrics; Robert Battey, M.D., Gynecology; F. H. Tirrell, M.D., Therapeutics and Materia Medica; William H. Pancoast, M.D., Anatomy; John C. Dalton, M.D., Physiology; E. O. Shakespeare, M.D., Pathology; J. Lewis Smith, M.D., Diseases of Children; A. W. Calhoun, M.D., Ophthalmology; S. J. Jones, M.D., Otolaryngology and Laryngology; A. R. Robinson, M.D., Dermatology and Syphilis; Joseph Jones, M.D., Public and International Hygiene; Henry O. Marey, M.D., Collective Investigation, Vital Statistics and Climatology; John P. Gray, M.D., LL.D., Psychological Medicine; Jonathan Taft, M.D., Dental and Oral Surgery.

#### LOCAL COMMITTEE OF ARRANGEMENTS.

(With power to increase their number.)

A. Y. P. Garnett, M.D., *Chairman*, District of Columbia; the Surgeon-General U. S. Army; the Surgeon-General U. S. Navy; the Supervising Surgeon-General U. S. Marine Hospital Service; J. H. Baxter, M.D., District of Columbia; C. H. A. Kleinschmidt, M.D., District of Columbia; N. S. Lincoln, M.D., District of Columbia; J. M. Toner, M.D., District of Columbia, and such additional members of the profession in the District of Columbia as the Executive Committee of the Congress may select.

Lists of Vice-Presidents, Secretaries, and Councilmen for each Section were named by the Committee of Arrangements, but as it was not practicable to ascertain at once who would accept the places assigned them, or who of those who had been announced in the medical press as desiring to accept positions before the present rules and organization had been adopted, as given here-

tofore, might wish to withdraw such declination, the final adjustment of these offices was referred to the Executive Committee of the Congress, and all correspondence in relation thereto was transferred to the Secretary-General of the Congress.

On motion, the Committee of Arrangements adjourned, subject to the call of the Chairman of the Committee.

JOHN V. SHOEMAKER,

*Secretary of the Committee of Arrangements.*

## Correspondence.

### LETTER FROM CHICAGO.

MR. EDITOR,—The *International Congress*, from the standpoint of the profession here, has a gloomy outlook. We cannot see how from the present situation the gathering can be in any sense international. There may be a large meeting, but if only American doctors attend, and if, as the prospect is certain, many of the most distinguished members of our own profession are absent, what is the use of a Congress at all! Drs. Lyman, Hyde, Jackson, Parkes and Senn have publicly announced that under the present organization they *could not* serve in the positions to which they have been appointed. Not only have a large number of the strongest men in the country declined to participate, but so large a class that the idea is growing among the profession here that the Congress will not be worth attending, that it is a fore-doomed failure as an international gathering. This feeling is heightened by the indications from abroad of a growing sentiment of dissatisfaction with our ways of doing, which is entertained by the profession of Europe, and which promises to reduce to zero, the small delegation of eminent visitors we had any reason to expect under the most favorable auspices.

And the present prospects promise little for the amelioration of the situation. We can see how some of the difficulties would disappear if one side or the other would back down,—a performance there is not the smallest chance of our seeing. The leaders of the Association movement and the company of decliners to serve, both belong to that class of mankind who do not retreat easily; they will not do it in this instance. And even if they did, and mutually did, the injury done in Europe to the prospects of the Congress are past repair. The spectacle is a humiliating one for the American profession.

The new *anatomy law* went into effect on the 1st of July. Under its provisions the colleges are quietly and easily providing themselves with material for the coming session. A section of the law, introduced into the bill by the friends of the measure to disarm criticism, provides that not more than five dollars shall be charged students for each cadaver. The law makes the refusal of an officer to deliver up the body of an unclaimed, deceased pauper, in accordance with the provisions of the law, an offence punishable by fine to the extent of five hundred dollars and imprisonment in the county jail to the extent of a year. The law is certainly one of the best, if not the best in the country, for the interest of anatomical study, and, considering the almost unanimous vote by which it was passed in the popular branch of the Legislature,—where all previous anatomical bills, with a single exception, had been killed,—there may be said to be no probability of its being repealed.

The long-continued contention at our Cook County Insane Asylum between the medical and secular management has been, it may be hoped, brought to a close by the recent re-election of the former medical superintendent, Dr. Spray. So the institution finds itself just where it was before the great efforts to purify it from its alleged scandalous condition. Whatever abuses existed under the former régime—and it cannot for a moment be doubted that abuses did exist and will continue to exist there as long as the institution is under the existing sort of political management—it will

hardly be claimed that the late management has effected much improvement. The State of Illinois has four large insane hospitals, each under the absolute control of one medical superintendent who is alone responsible to a board of trustees of three men appointed for long terms by the governor. Our county insane hospital is under the management of the county board of fifteen commissioners, elected by the people, who employ a medical superintendent and a warden to look after it. There are made from year to year more charges of jobs and frauds in the supplies to this one little concern, and of bad management within it than we hear about all four of the state institutions put together. There can be no doubt that if the county institution was under a similar simple and responsible kind of control it would be as creditable as any of the state hospitals.

Professional men—must we say especially in the West?—are very much like children, as in a general way a great many men outside the professions are likewise. If the children cannot agree to play together either they will re-

fuse to play or the outs will start a new game. Note the multiplication of medical colleges where they are not needed or in clear excess of the need. A few years ago Indiana was an amusing illustration, but wisdom has come and the colleges have consolidated. Now Detroit has just seen two colleges unite to occupy a field too small for one. Minnesota has in her rival cities two medical colleges—so that each may have a college. This is the reason: there can be no other. In Chicago, after years of effort, a college of dentistry was formed, has held three courses of instruction and is growing into notice and reputation. But our friends of the dental branch are not happy, and are making plans to be even less happy in the future. They have organized another dental college. It is somewhat doubtful if a single college at this point filled a "long felt want;" the only purpose of a second college is to furnish occupation for mind and spirit to gentlemen who have more time than is required by their regular avocation, or to furnish professorships, or to lessen the distinction of the professorships of others.

## REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 5, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	665	309	28.95	15.00	18.15	1.50	3.90
Philadelphia . . . . .	927,985	597	183	24.70	13.78	10.60	6.08	4.68
Brooklyn . . . . .	644,526	525	157	31.00	12.40	17.07	1.85	4.65
Chicago . . . . .	632,000	—	—	—	—	—	—	—
Boston . . . . .	425,800	168	57	15.60	18.60	10.80	2.40	1.80
Baltimore . . . . .	408,520	—	—	—	—	—	—	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	86	37	20.88	8.12	12.76	—	4.64
New Orleans . . . . .	234,000	115	36	24.36	13.05	8.69	.87	1.74
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,350	—	—	—	—	—	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	48	16	12.48	10.40	—	—	2.08
New Haven . . . . .	62,882	23	5	30.45	75.05	21.75	—	4.35
Nashville . . . . .	54,400	24	12	29.12	8.32	16.64	4.16	8.32
Charleston . . . . .	52,286	36	13	11.12	13.90	2.78	5.56	—
Lowell . . . . .	71,417	23	10	30.45	8.70	26.10	—	—
Worcester . . . . .	69,412	24	12	49.92	20.80	12.28	—	8.32
Fall River . . . . .	62,674	22	10	13.65	4.55	9.11	—	4.55
Cambridge . . . . .	60,945	—	—	—	—	—	—	—
Lawrence . . . . .	45,516	13	6	38.45	7.69	23.07	—	7.69
Lynn . . . . .	44,835	11	3	18.18	36.36	18.18	—	—
Springfield . . . . .	38,090	22	6	18.22	13.65	9.11	—	9.11
Somerville . . . . .	31,350	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	12	—	16.66	25.00	—	8.33	8.33
New Bedford . . . . .	30,141	8	4	37.50	12.50	37.50	—	—
Salem . . . . .	29,303	7	3	—	—	7.14	—	—
Chelsea . . . . .	24,547	11	6	21.42	11.28	14.28	—	—
Taunton . . . . .	22,631	12	5	41.66	16.66	41.66	—	—
Gloicester . . . . .	21,400	7	5	28.56	—	14.28	—	—
Haverhill . . . . .	20,805	6	3	16.66	16.66	16.66	—	—
Newton . . . . .	19,421	2	1	18.00	—	50.00	50.00	—
Brookton . . . . .	18,323	9	4	11.11	—	11.11	—	—
Malden . . . . .	15,277	2	1	—	—	—	—	—
Newburyport . . . . .	13,947	5	2	—	20.00	—	—	—
Waltham . . . . .	13,748	5	—	—	20.00	—	—	—
Fitchburg . . . . .	13,433	7	2	11.28	11.28	14.28	—	—
Northampton . . . . .	13,165	—	—	—	—	—	—	—
40 Massachusetts towns . . . . .	—	83	36	31.86	12.05	25.31	—	6.05

Deaths reported 2,181: under five years of age 1,044; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 561, diarrheal diseases 327, consumption 200, lung diseases 121, diphtheria and croup 84, typhoid fever 50, whooping-cough 34, malarial fevers 30, scarlet fever 22, cerebro-spinal meningitis 10, measles four, erysipelas three.

From whooping-cough, New York 20, Brooklyn six, Philadelphia four, Providence two, New Orleans and Charleston one each. From malarial fevers, New Orleans 13, New York and Brooklyn six each, Philadelphia and Providence one each. Lung disease. From scarlet fever, Brooklyn 19, Philadelphia three, New York and Cincinnati two each, New Orleans, Providence, Lawrence, Chelsea, and Gloucester one each. From cerebro-spinal meningitis, Philadelphia four, New York three, Worcester two,

Cincinnati one. From measles, New York two, Philadelphia and Boston one each. From erysipelas, New York three. One case of smallpox reported in Boston.

In 111 cities and towns of Massachusetts, with an estimated population of 1,339,952, (estimated population of the State 1,955,100), the total death-rate for the week was 17.49 against 18.27 and 19.17 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending August 15th, the death-rate was 20.5. Deaths reported 3,197: infants under one year of age 1,282; acute diseases of the respiratory organs (London) 162, diarrhoea 519, measles 98, whooping-cough 84, fever 46, scarlet fever 28, diphtheria 13, smallpox (London) 12, Hull one. The death-rates ranged from 12.4 in Bradford to 33.8 in Preston; Birkenhead 25.8, Birmingham 23.7, Hull

16.8; Leeds 21.8; Leicester 20.3; Liverpool 23.0; London 18.8; Manchester 30.5; Nottingham 15.5; Sheffield 24.4. In Edinburgh 18.9; Glasgow 25.7; Dublin 22.9.

The meteorological record for week ending September 5th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Sept. 5, 1885.																		
Sunday, ... 30	29.939	58.7	62.5	56.5	76.0	100.0	100.0	S.E.	S.E.	N.	13	5	10	O.	R.	G.	—	—
Monday, ... 31	29.978	59.7	67.4	53.9	97.0	100.0	95.7	N.	S.E.	S.W.	9	8	4	O.	F.	G.	—	—
Tuesday, ... 1	29.969	65.7	71.5	56.3	86.0	56.0	70.1	W.	W.W.	W.	11	14	12	C.	F.	C.	—	—
Wednesday, ... 2	30.045	58.0	65.8	52.3	47.0	36.0	48.0	W.	N.W.	W.	19	16	8	C.	F.	C.	—	—
Thursday, ... 3	30.134	61.2	70.9	47.3	64.0	44.0	73.0	W.	S.	S.W.	2	14	11	C.	F.	C.	—	—
Friday, ... 4	29.949	68.9	78.7	57.4	77.0	69.0	97.0	S.W.	S.W.	S.W.	13	19	18	C.	F.	R.	—	—
Saturday, ... 5	29.924	62.6	70.1	53.2	80.0	64.0	82.0	N.W.	N.	N.	4	8	7	O.	F.	C.	24.0	1.54
Mean, the Week.	29.942	62.4	70.4	54.5			73.6											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT. U. S. ARMY, FROM SEPTEMBER 5, 1885, TO SEPTEMBER 11, 1885.

McKEE, J. C., major and surgeon. Sick leave still further extended three months on surgeon's certificate of disability. S. O. 204, A. G. O., Sept. 7, 1885.

PATZKI, J. H., captain and assistant surgeon. Assigned to duty as post-surgeon, Jackson Barracks, New Orleans, La. S. O. 192, Department of the East, Sept. 8, 1885.

KANE, JEO. J., captain and assistant surgeon. Upon expiration of his present leave of absence to be relieved from duty at Willett's Point, N. Y. H., and to report to commanding-general Department of Texas for assignment to duty. S. O. 201, A. G. O., Sept. 3, 1885.

RICHARDS, CHAS., captain and assistant surgeon. To be relieved from duty in Department of the East and to report to the commanding officer, Willett's Point, N. Y., for duty at that station. S. O. 201, C. S., A. G. O.

POLHEMUS, A. S., first lieutenant and assistant surgeon. When relieved at Fort McDermitt, Nev., assigned to temporary duty at Presidio of San Francisco, Cal. S. O. 87, C. S., Department of California.

KENDALL, WM. P., first lieutenant and assistant surgeon. Relieved from duty at Presidio of San Francisco, Cal., and assigned to duty as post surgeon at Fort McDermitt, Nev., relieving post-surgeon Polhemus. S. O. 87, Department of California, August 31, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 12, 1885.

There were no changes in the Medical Corps of the U. S. Navy during the week ending above date.

#### SOCIETY NOTICE.

The American Gynecological Society will hold its tenth annual meeting at the Columbian University, in Washington, on Tuesday, Wednesday, and Thursday, September 22, 23, and 24, 1885. Among the papers announced to be read are the following: "The Natural Hygiene of Childbearing Life," by Dr. S. C. Busey of Washington; "Remarks on the Use of Tarnier's Forceps," by Dr. Ellwood Wilson, of Philadelphia; "Facial Paralysis in the Infant from the Use of Obstetric Forceps," by Dr. T. Parvyn, of Philadelphia; "The Genu-Pectoral Posture in the Prolonged Nausea and Vomiting of Pregnancy, with cases," by Dr. H. F. Campbell, of Augusta, Ga.; "On Two Rare Cases in Abdominal Surgery," (The President's Address), by Dr. W. T. Howard, of Baltimore; "The Care of the Perineum during Labor," by Dr. T. A. Reamy, of Cincinnati; "Report of a Case of Cesarean Operation," by Dr. E. W. Jenks, of Detroit; "Puerperal Diptheria," by Dr. H. J. Garrigue, of New York; "A Modification of Emmet's Cervix Operation in Certain Cases, with a case," by Dr. R. S. Sutton, of Pittsburgh; "Induration of the Parotid Glands after Ovariotomy," by William Goodell, of Philadelphia; "A Study of an Unusual Type of Puerperal Fever," by Dr. Forbeyer Barker, of New York; "Peristalsis of the Genital Tract," by Dr. J. R. Chadwick, of Boston; "Four Cases of Oophorectomy, with remarks," by Dr. Joseph Taber Johnson, of Washington. Members of the profession are cordially invited to attend the meeting.

#### INSTRUCTOR IN HYGIENE IN THE BOSTON PUBLIC SCHOOLS.

Dr. J. B. Moran has been elected Instructor in Hygiene by the School Committee of the City of Boston.

#### BOOKS AND PAMPHLETS RECEIVED.

A Complete Pronouncing Medical Dictionary, embracing the Terminology of Medicine and the Kindred Sciences, with their Significations, Etymology, and Pronunciation. With an Appendix comprising an Explanation of the Latin Terms and Phrases occurring in Medicine, Anatomy, Pharmacy, etc. Together with the Necessary Directions for Writing Prescriptions, etc., etc. By Joseph Thomas, M.D., L.L.D., etc. On the Basis of Thomas' Comprehensive Pronouncing Medical Dictionary. Philadelphia: J. B. Lippincott & Co., 1886.

The Management of Labor and of the Lying-In Period. A Guide for the Young Practitioner. By Henry G. Landis, M.D. Philadelphia: Lea Brothers & Co., 1885.

A New Bandage for Fixation of the Shoulder Girdle. By Charles W. Dulles, M.D. Philadelphia (Reprint from Medical News.)

Complete Laceration of the Perineum and Part of the Recto-Vaginal Septum, resulting from Forceps Delivery, Primary operation, Complicated with Traumatic Erysipelas. By A. B. Cook, A.M., M.D., Louisville, Ky. (Reprint, Gaillard's Medical Journal.)

Laryngoscopy and Rhinoscopy in the Diagnosis and Treatment of Diseases of the Throat and Nose. By Prosser James, M.D. 4th edition, enlarged. N. Y.: Wm. Wood & Co., 1885.

Medical Education: a Paper read before the Philadelphia County Medical Society, Sept. 24, 1881. By Henry Lefmann, M.D., D.D.S. (Reprint.)

A Plea for the Medicinal Use of Pure Alcohol and Alcoholic Mixtures of Known Composition in Preference to Ordinary fermented liquids. By Henry Lefmann, M.D. (Reprint from the Polyclinic, July, 1885.)

Von Ziemssen's Handbook of General Therapeutics. In seven volumes. Vol. II. Antipyretic Methods of Treatment by Prof. C. Von Liebermeister. Antiphlogistic Methods of Treatment by Prof. Th. Jürgensen. Epidemic, Endemic and Hypodermic Administration of Medicines by Prof. A. Eulen- burg. With twelve Illustrations. New York: William Wood & Co., 55 and 58 Lafayette Place, 1885.

Tubercular Meningitis as it occurs in Children. With an Appendix of Illustrative Cases and two Chrono-Lithographs. By Martin Oxley, M.D., Consulting Physician to the Liverpool Infirmary for Children. (Reprint from the Liverpool Medical-Chirurgical Journal, July, 1885.) Edinburgh: Printed by Neill & Co., 1885.

Laws of Maternity. By Nathan Allen, M.D., L.L.D., of Lowell, Mass. (Reprint from the New England Medical Monthly.)

Seventeenth Annual Report of the President of the Inebriates' Home. Fort Hamilton, N.Y. For the Year 1884.

Alienist and Neurologist Editorials. By C. H. Hughes, M.D., Editor. Abstracted from July Number, 1885.

Sixteenth Annual Announcement and Catalogue of the Medical College of Indiana. Indianapolis, 1885-86.

Announcement 1885-86, of the Missouri Dental College, St. Louis, Mo. Twentieth Session.

## Lecture.

### THE INFLUENCE OF THE VASO-MOTOR SYSTEM IN THE PRODUCTION OF CERTAIN SYMPTOMS.

A CLINICAL LECTURE, DELIVERED AT THE PHILADELPHIA HOSPITAL,

BY EDWARD T. BUEN, M.D.,

Physician to the Hospital and Assistant Professor of Physical Diagnosis in the University of Pennsylvania.

REPORTED BY WILLIAM H. MORRISON, M.D.

GENTLEMEN: I shall to-day call attention to the relations of the vaso-motor nervous system to certain diseases and the importance of recognizing the influence of these vaso-motor nerves, in the management of special symptoms which complicate many forms of disease which are met with both in hospital and in private practice.

The first case which I shall present in illustration of this subject is the patient on the table, a man about thirty-five years of age, admitted to the hospital ten days ago. He stated that he had been drinking for some time past and that just before admission had taken a severe cold. He was quite delirious at times and had, when first seen, a temperature of 105°. The physical examination of the chest gave the ordinary signs of pneumonia at the right base, and subsequent examination lead us to believe that this was pleuropneumonia. In other words, we had not only dullness, bronchial breathing, and increased vocal resonance and fremitus, but we also had a greater degree of dullness than is common in pneumonia, even flatness, and at times friction sounds were heard over the consolidated area. Examination of the heart at this time showed that its impulse was deficient in force. The radial pulse was deficient in volume although the pulse rate was not high, about 100. It was rather curious that with a temperature of 105°, the pulse rate should be so low. During the progress of the case, the delirium increased, and it was with difficulty that the patient could be restrained in bed. Within three or four days the delirious condition changed to one of hebeticude. The pupils were contracted and the patient lay in a slight stupor. During the stage of delirium, we had used for a single twelve hours, small doses of opium. This was given to control the delirium which we considered to be a complication of the disease dependent on a condition of cerebral exhaustion incident to the man's habits. Ten drops of laudanum only had been taken every three hours, and in all only about thirty drops were given. I do not think, therefore, that the subsequent stupor could be attributed to the opium.

Finding this condition of delirium and stupor with the physical signs of pneumonia, it became an interesting problem to determine whether the cerebral condition was dependent on the pneumonia or whether there was some other condition disturbing the function of the brain to account for the symptoms. I did not regard the delirium in this case as due to the pneumonia, for the following reasons: Firstly, because the pneumonia was at the base. When delirium complicates pneumonia, the inflammation is usually at the apex. Secondly, the area of consolidated tissue was not very large, only one lobe being affected. Thirdly, the man had been a heavy drinker. We therefore ascribed the delirium to the chronic alcoholic habit rather than to the pneumonic condition. The pathological condition

we regarded as one of passive congestion of the brain. The effect of alcohol on the system is depressing. Large amounts of it usually produce distinct cardiac weakness and depression of the nerve centres. We had in our patient in addition to the weak heart, the depressing effect of alcohol manifested upon the cerebral and vaso-motor nerve centres, as the cause of the delirium. In many cases of chronic alcoholism, where there is delirium alternating with stupor, the condition is connected with a state of passive congestion of the brain. If the brain were examined under these circumstances, it would be found that the pia mater was injected and the evidences of venous repletion more marked than in active congestion. The brain would be soft and oedematous and excess of fluid would be found in the ventricles, and in grave cases effusion beneath the membranes.

Recognizing this condition, our treatment was twofold. In the first place, we wished to stimulate the heart and circulation, but although the heart was weak it could not be treated with alcohol because the patient's stomach was very irritable, and vomiting was a constant symptom. This symptom was associated with a tongue which was brown and dry in the middle and did not present the glazed and shining appearance which would lead one to suppose that the patient had been suffering from gastritis; neither was there tenderness over the region of the stomach. The vomiting appeared simultaneously with the delirium, and we connected the two events, regarding the vomiting as a symptom of cerebral anæmia rather than of any local condition.

As we were unable to administer food by the stomach, we resorted to that treatment which is appropriate in chronic alcoholism, that is, the use of food by the rectum. We gave this man, every six hours, four ounces of pancreatized milk. These injections were alternated with the injections of beef tea into which an egg had been stirred. This was continued until the stomach became retentive. We also poured brandy over cracked ice and caused it to be administered.

The main element of the treatment is, however, yet to be considered, and it is for that purpose that I have brought the case before you this morning. Some years ago, an English physician, Dr. Chapman, called attention to the fact that if applications of heat and cold were made to the spine, the vaso-motor system in general and also the sensory nerves were somewhat influenced. He, like most originators of any system of treatment, exaggerated the scope of this valuable measure, claiming, for instance, that by the use of hot and cold applications to the spine one could cure diseases as cholera, sea sickness and the like.

About a year ago my attention was called to the use of this same treatment in certain cases of eczema which occurred in the practice of a Boston physician. This gentleman treated a number of severe cases of eczema with the application of ice bags alternating with hot water bags to the cervical and dorsal spine. The theory on which these applications were made was this. On the one hand cold applied to the spine has a decidedly benumbing effect upon the sensory and spinal centres, and thus peripheral sensibility was lessened, and the measure also has a tendency to determine the blood from the spine and cause its accumulation in the peripheral vessels. On the other hand, hot applications to the spine tend to determine blood to the spine, and associated with this effect there is a

contraction of the peripheral capillaries from vaso-motor action, and thus is accomplished a reduction of the amount of blood in the peripheral capillaries and arterioles. Basing his treatment on these facts the Boston physician found that when cold was applied to the spine, the itching and painful sensations were relieved, but by the increased peripheral circulation it appeared that as much would be lost as had been gained. By a simultaneous judicious application of heat and cold to the spine however, he produced great amelioration of the symptoms in his eczema cases, and cured several obstinate cases without other treatment.

These results put me on the track of what I consider an important means of treating certain conditions associated with the disorders of circulation. One of these was present in this case. I applied to the back of this man's neck, the actual cautery and produced the scars which you see. It is common to apply blisters under these circumstances, but by means of the actual cautery we employed counter-irritation in a more efficient form. We also applied hot water bags to the cervical and dorsal spine. These were applied for three hours, then omitted for the same length of time, and reapplied. We counted upon the influence of this application upon the vaso-motor system to relieve the passive congestion of the brain, favor a more active circulation, and thus remove the symptoms which we ascribed to this condition.

The results of these measures were, I think, very striking. Without other treatment, the patient was decidedly relieved within thirty-six hours. The mental condition began to improve, and from that time the recovery has been uninterrupted. In forty-eight hours from the beginning of the treatment we were able to give food and stimulants by the stomach.

The treatment of pneumonia in this hospital is usually based on the free administration of stimulants, and with excellent results. It consists in the administration of whiskey, carbonate of ammonia, and digitalis. We used these drugs to combat the pneumonia, but as these measures are quite familiar, I do not especially refer to them at this time, but will confine myself more especially to the treatment of the cerebral condition in chronic alcoholism.

In many such cases, then, we observe that the treatment with counter-irritation in the form of the actual cautery and the application of hot water, would be of great service. One of the most successful methods of treatment in chronic alcoholism, added to the above, is by the use of food and diffusible stimulants. Some twenty years ago opium was considered the most efficient drug in delirium due to alcoholism, and was freely given to produce sleep. At the present time there is a great hesitation in using opium in such states, for the respiratory centre once benumbed, it is oftentimes with great difficulty that the patient is kept alive while the effects of the alcohol are passing off. We now regard the delirium of alcoholism as a condition which will frequently pass off spontaneously, if the patient's strength can be maintained; consequently the most satisfactory treatment of these conditions is the administration of food in concentrated form, as beef tea, frequently repeated, together with such drugs as capsicum. Capsicum is a diffusible stimulant and stomachic tonic which takes the place of the alcoholic stimulant of which the patient is deprived. It should be administered in the form of the tincture in quite large doses, twenty to twenty-five minims, every two or three hours.

Sleep should be secured either by combining with the capsicum a certain amount of chloral or by giving chloral separately. Ten or fifteen grains of chloral may be given with capsicum every two hours until from sixty to seventy-five grains are taken. The other plan is to give the capsicum by itself and give the chloral in five grain doses every five minutes until thirty grains are taken. After an interval of two hours these five grain doses may be repeated. Given in this way, the possible danger of depressing effects of chloral on the circulation are avoided and the total amount required is less than when fifteen or twenty grain doses are given every two hours.

Opium should only be used in those cases in which the demand for sleep is urgent and where the delirium is so extreme that the patient is becoming exhausted, or after the food, capsicum and chloral treatment has failed. In these cases the judicious use of a small amount of morphia hypodermically may control the symptoms. Morphia or opium is, however, a dangerous drug in these cases and should only be used with great caution under the circumstances mentioned. With these remarks let me turn to another patient who also serves to illustrate the influence of the vaso-motor nervous system upon the manifestation of symptoms.

#### EXOPTHALMIC GOITRE.

The next patient has been seen by the class on a previous occasion, but I wish you to note her condition at this time so that you may compare it with her condition a month or two hence after we have pursued a plan of treatment to which I shall refer. This woman has the three salient symptoms which differentiate her disease as exophthalmic goitre, or Graves' disease. We recognize the lustrous protruding eye-balls, the enlarged thyroid and the rapid action of the heart. There is also general tremulous movement of the body and limbs. With the excited action of the heart there is also heard on auscultation a blowing systolic murmur. The symptoms of this disease developed two years ago. Up to that time she had been in fair health. The period of the onset of the present symptoms was the time of the menopause, and as an evidence of the wave of irritation which passes over the nervous system at that time, she has developed this condition.

The three symptoms which have been noted are characteristic and distinguish this case from simple enlargement of the thyroid body or goitre. This is pre-eminently a disease dependent upon disorder of the vaso-motor and cardiac nervous systems. The protrusion of the eyes is supposed to be due to dilatation of the blood vessels in the orbit, or to the contraction of the involuntary muscular fibres in the orbital membrane which covers the speno-maxillary fissure, or both causes combined. The enlargement of the thyroid is due to dilatation of the blood vessels which are liberally supplied to that gland, though increased formation of tissue in its substance may occur. The excited action of the heart which is usually unconnected with organic disease is to be explained by a stimulation of the accelerating nerve; and this as well as the alteration of the nerves of the orbit has been ascribed to disease of the lower cervical sympathetic ganglia, in which increased connective tissue and diminution of ganglionic cells have been observed. Exophthalmic goitre is a disease which is very much increased by momentary excitement. I recall the case of a patient almost cured of this affection who saw an individual

suddenly die in the opposite bed. In a few hours, the whole series of symptoms had returned: a similar outbreak often attends the menstrual period. Graves' disease is especially common in woman, and between the ages of twenty and thirty, also in persons poorly nourished anæmic and of a nervous temperament. All these are facts going to show that it is a disease peculiarly dependent upon disorders of the circulating nervous system.

The treatment of this disease is only successful after a prolonged use of the apætic measures and improvement is often connected with a change in the physical condition of the individual. If the affection develops near the menopause, after that period, the disease recedes. In sewing girls and poorly nourished young women, the affection may disappear as the nutrition is improved, but in many cases the symptoms never entirely vanish.

The most successful methods of treatment have been first, the use of iron in some assimilable form, for instance the more soluble salts which can be kept up for a long time without interfering with digestion; second, the use of digitalis; third, the use of electricity. Iron is used until the condition of the blood is manifestly changed. The digitalis is useful through its stimulative effect on cardiac innervation and upon the vaso-motor nervous system. The electricity applied to the spine in a descending current, either in the form of the constant or the slowly interrupted Faradic current, or one pole may be applied to the nape of the neck, and the other over the sides of the thyroid tumor. The latter remedy is especially designed to increase the nutrition of the vaso-motor nerves. The occasional resort to bromides and arsenic may be necessary.

I propose in this woman to try the treatment with hot water bags applied to the dorsal and cervical spine. A long spinal bag filled with hot water will be applied from two to three hours every morning and for the same length of time every afternoon. In connection with this, we shall employ suitable constitutional remedies to improve the crasis of the blood. I do not see why, if the emotion of fright or of joy can so profoundly influence the vaso-motor system as to bring on the symptoms of this condition, it would not be possible to have improvement by acting on these centres in some positive way as can be done by the application of heat.

I would like to add another fact in this connection which is, in fever the temperature can often be lowered as much as a degree by rubbing up and down the spine, the hands being lubricated by oil applied to the spine. This is another argument to show that the vaso-motor nerves can be influenced in this way, since we know that elevation of temperature is in part a neurosis connected with nervous disturbances near the vaso-motor centres.

We shall try this treatment thoroughly, and in a month I shall bring her before you in order that you may see the result.

#### ŒDEMA DUE TO VASO-MOTOR DISTURBANCE.

Here is another case in the same line. As you see, there is marked swelling of the legs. This man is forty-seven years of age, and states that he was perfectly healthy until seven days before admission, when this swelling made its appearance. When first observed, the swelling affected the face and upper extremities as well. The urine has been examined and albumen

found, but the microscope reveals no evidence of renal disease. We have been unable, on repeated examination to discover either casts or epithelial cells. The appearance of the patient is well nourished and of good color, is also against this view. He asserts positively that he never had any swelling before.

He is equally free from any cardiac lesion. The heart is normal in its valvular structure, for although the force of the cardiac action is weakened, there are no evidences of fatty degeneration.

On examining the lungs, there are heard in different places some harsh and also some moist râles, but no such general distribution of râles as would lead us to suspect bronchitis. There is but little cough and no expectoration, no fever. The inference is that there is a certain amount of œdema of the lungs as is plainly evident in the limbs.

I think that this dropsy may be reasonably ascribed to a condition of deficient vaso-motor tonus. The fact that there is such a condition, is undoubted. It has been shown experimentally on animals, for if the vena cava is compressed to a certain extent, dropsy will not occur unless the sciatic nerve is cut, for the veins and lymphatics are able to take up a certain amount of effusion. If the sciatic nerve is cut, dropsy occurs, for the sciatic is a mixed nerve containing vaso-motor filaments. Exudation then occurs after its section beyond the ability of the absorbents to remove. This has been shown to be due to the section of the vaso-motor filaments, because if the sympathetic filaments which enter the sciatic are cut in the lumbar region, there will be no paralysis of motion, but the limb will become rosy and warm and there will be dropsy, just as occurs when section is made lower down, but in which there is also motor-paralysis.

Then another fact. It is known that if a hypodermic injection be given to an individual suffering with a serious brain lesion, there is a likelihood of suppuration, and bed-sores occur in persons whose nervous system is affected, for instance, in paralytics. This is due to interference with the trophic or vaso-motor nerves, as the case may be. In the same way, it has been shown that water injected into the cellular tissue of the frog will be absorbed so long as the brain and spinal cord remain intact. If these are damaged, the water will not be absorbed. With these facts before us, we cannot but admit that vaso-motor dropsy is possible. It becomes our diagnosis in this case because we can exclude renal, hepatic, and cardiac disease, and also any of the forms of anæmia. While at first it involved all the tissues, it is at present limited to the most dependent parts, the limbs and the lungs, since the patient habitually reclines on his back.

It is obvious that if the diagnosis be correct, rest and nerve tonics should be sufficient to relieve the patient. I should be willing to limit the treatment to these measures if time were no consideration, but in our patient, the mechanical effects of the vaso-motor dropsy are inconvenient, and moreover, the action of the heart is enfeebled by his indulgence in alcohol, we desire, therefore, to relieve the dropsy as soon as possible. The best remedies would be either digitalis or caffeine. Of the two, I should prefer caffeine, because besides being a cardiac tonic, its effects upon the nervous system are stimulative, and it has a decided diuretic effect. Two grains of caffeine, three times a day may be given. This should be combined with an equal quantity of benzoate of sodium to render the mixture clear.

If necessary, heat may be employed by the pharmacist in making a clear mixture, the bulk of which might be this elixir of orange, or syrup and water. About twelve or fifteen grains per day, of caffeine should be the limit of dose, but much smaller amounts are often sufficient. Abroad, as much as thirty grains a day have been given without damage.

Has caffeine any bad effect? It has one. In the treatment of a case of dropsy in which I advised caffeine, it quickly removed the effusion, but in four or five days the patient began to exhibit that kind of delirium which is seen in connection with belladonna poisoning. This is the only bad effect that I have noticed, and these symptoms have been most infrequent. It (caffeine) is a cardiac stimulant; it is not cumulative, and does not injuriously affect the kidneys. The unpleasant cerebral effect is easily avoided with a little care, and the disturbance of the nervous system can be quickly removed by stopping the administration of the drug.

This patient will be kept in bed and the caffeine administered, and four weeks from to-day, I shall show you the result.

(Four weeks later.) I have the satisfaction to-day of showing the case of Graves' disease, and you observe that the improvement of the general symptoms has been marked. The exophthalmos and enlargement of the thyroid have manifestly lessened. One may feel sufficiently encouraged by the results to persevere with the treatment, for we may reasonably conclude that two months' treatment will produce even more positive effects. You will remember that before using the hot-water bags, many other plans of treatment had been tried and signally failed.

I can also exhibit one case of vaso-motor dropsy as cured, and the patient will be discharged to-day.

## Original Articles.

### THE TREATMENT OF CHRONIC BRIGHT'S DISEASE.<sup>1</sup>

BY ISRAEL T. DANA, M.D., PORTLAND, ME.,

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A FEW considerations seem naturally to claim attention as preliminary to that of treatment.

By chronic Bright's disease I mean the affection, first described by Dr. Richard Bright, in 1827, characterized by albuminuria, dropsy and uræmia, the urine usually containing, also, casts of the renal tubules, and showing a deficiency of urea. The acute form of the disease, so often seen as a complication of pregnancy, or a sequel of scarlet fever, and which so commonly terminates in recovery, is not included within the scope of this paper.

In its anatomical relations chronic Bright's disease is a complex affection, at least three forms of structural disease are usually reckoned as underlying it. The first of these is that of tubal, or desquamative nephritis, the inflammation beginning in, and for a time being confined to the epithelial cells, which line the tubules, later becoming diffuse, and producing the so-called large white kidney. The second is that of interstitial nephritis, the inflammation commencing in the connective tissue of the organ, and finally inducing the small,

hard, contracted, cystic, or gouty kidney. The third is that of amyloid degeneration, the small arteries and capillaries of the kidneys being first attacked. One common result obtains, at last, in all the forms, that is, destruction, or atrophy of the parenchymatous elements of the kidneys, with consequent failure of function.

It may be well also to glance at some of the most prominent theories, that have prevailed in explanation of the disease, as having had an important influence upon the philosophy of the treatment. These theories have been brought forward chiefly in answer to two questions, namely, first, how is the large escape of albumen by the kidneys to be accounted for? second, at what point in the system does the disease originate? By some the escape of albumen in the urine has been regarded as the result of a true eliminative action on the part of the kidneys, by which the blood is happily relieved of an accumulated excess of albumen. By others, on the contrary, it has been looked upon as a disastrous leak of the kidneys, due to the double condition of abnormal blood pressure within the renal capillaries, and of impaired vitality of their walls, the blood being believed to be thereby robbed of its serum-albumen, and impoverished. By some the kidney lesion has been regarded as primary, and the albuminuria, the dropsy and the uræmia as consequences. By others the blood has been looked upon as the primary point of trouble, with the albuminuria, the dropsy and the kidney lesions as secondary. By yet others it has been held that the starting point of the disease is somewhere in the nerve centres, that it is of ganglionic origin. They claim that the disease is primarily a neurosis, and that the albuminuria, the dropsy and the renal troubles are of secondary development. The alleged fact that albuminuria, as well as glycosuria, can be induced by irritation of certain portions of the medulla is brought forward as giving plausibility to this view. While the theories have differed widely as to the point at which the morbid process commences, they are well agreed to this, that structural change in the kidneys constitutes the most characteristic pathological lesions.

In a disease so generally fatal in its issue as chronic Bright's disease, the question of the value of treatment naturally arises in the mind. Does it make much difference how it is treated, provided no mischief be done, or, whether it be treated at all? I believe that good treatment is of immense value. By the exercise of constant and intelligent supervision, the adoption of a suitable general plan, and the adoption of measures of relief to the shifting phases, and emergencies of individual cases, not only can much suffering be prevented or relieved, but great prolongation of valuable and effective life may sometimes be gained. It is then alike the privilege and the duty of the physician to throw more of hopefulness and cheer into the treatment of this disease than is generally done.

The first duty of the physician is to investigate each particular case by itself. This is as important as it is for the teacher to study the peculiarities of individual pupils. It is not only desirable to determine the form of the disease present, its stage of development, as shown by the symptoms, and by chemical and microscopic examination of the urine, and any peculiarities of manifestation, but also to inquire into its probable causation. He must therefore make himself acquainted with the personal and family history of the patient, as

<sup>1</sup>Read before the Maine Medical Association.

well as with the previous history of the case. A broad principle of treatment, laid down by Beale, is to let the kidneys rest, as far as possible, and throw the work upon the skin, the bowels and the lungs.

I will endeavor to present the items of treatment under the following specific indications.

I. One of the most important indications is to avert, or reduce hyperæmia, and inflammation of the kidneys. With this end in view a uniform and sufficient warmth of the surface of the body should be maintained. In this disease, and also where predisposition to it exists, when the large amount of blood normally present in the cutaneous capillaries is reduced by chilliness of the surface, a corresponding hyperæmia of the renal capillaries is very likely to occur. In a case recently under my observation, of the typical parenchymatous nephritis form, the man owned, and steadily worked upon a farm, located upon a narrow neck of land projecting out from the Maine coast into the sea, and commonly swept by cold and damp winds, often sudden and severe. Frequently, when covered with profuse perspiration, his skin would become chilled with the winds, and he had himself noticed an apparent connection between these experiences and the development of his trouble. A moderately warm and equable climate is a great advantage. A sufferer from this disease, who is so favorably circumstanced as to be able to avail himself of different climates for different seasons of the year, so that he can have the benefit of free out-of-door life all the year round without risk of becoming chilled, has his chances of prolonged and comparatively comfortable life thereby greatly increased. Woolen undergarments should be worn, thick enough to ensure warmth without inducing sweating. A flannel night-gown is advisable in cold weather. In acute exacerbations of the disease, attended with increased heat, the patient should be kept in bed, between blankets, for days, or weeks. The importance of maintaining a uniform warmth of skin, in this affection, does not seem to be fully appreciated by the average practitioner. Local applications to the lumbar regions are useful, such as leeching, or cupping, followed by warm fomentations, especially when a sense of heat, and heaviness has arisen, with scanty secretion of urine. I have found advantage in large packs. Several thicknesses of towels may be used, large enough to thoroughly envelop the small of the back, and come round somewhat freely upon the abdomen. These should be wrung out in tepid water, covered with oiled silk, or impervious paper, and bound firmly on with a flannel swathe. A small blanket, folded once, may then be wrapped, and firmly pinned around the body below the waist. These, having been worn for the night, are removed in the morning, the skin is sponged with cold water, and rubbed dry, and a flannel swathe is worn for the day. Mild diluent diuretics are sometimes called for.

II. A second indication is to unload the obstructed uriniferous tubules of their accumulations. The thrown off and altered epithelial cells, transuded fibrine, extravasated corpuscles, and fatty debris, sometimes in the form of casts, frequently occlude the tubules, and add to the existing disability of the kidneys. Simple diluents, and mild diuretics are then needed, such as cream of tartar water, and pure natural waters like the Poland spring water. They should be drunk freely, and, by preference, on an empty stomach, so as to be quickly absorbed, and pass off through the kidneys.

III. A third indication is to build up the blood, and promote nutrition. Whether, or not, the blood is ever the starting point of the morbid process in the system, it is certainly true that the peculiar anæmic look of the patient is often the first thing that arouses in the mind of the physician a suspicion of the true nature of the disease, while, in the advanced stage, the blood is constantly found impoverished and depraved to the last degree, and utterly unfit to maintain healthy nutrition. Of the large class of building-up remedies I will mention, as specially useful, the *mistura ferri et ammonii acetatis*, cod liver oil, and malt. Judicious and persistent use must be made of this class of remedies.

IV. A fourth indication is to improve the condition of the nerve centres. The importance of this indication is specially plain in the cirrhotic form of the disease, occurring in painters, and others, who have been exposed to poisoning by lead. Here the iodide of potassium, the dose of ten to twenty grains, conveniently administered in half a tumblerful of Vichy water, may be given three times a day for long periods of time, with markedly good results. The same method is applicable to cases of syphilitic origin, or occurring in systems specifically infected. In such cases the corrosive chloride of mercury, in small doses may be substituted for the iodide of potassium for the period of a few weeks from time to time, with advantage. In some of the cirrhotic cases of unknown origin, I have found great benefit from the use of the chloride of gold and sodium, as suggested by Bartholow, in the average dose of the twelfth of a grain, in pill form, after each meal. I have seen periods of marked improvement of general condition, and special relief of distressing nervous symptoms follow its use. Arsenic, in small doses, and the hypophosphites are sometimes useful.

V. The fifth indication is to promote the elimination of urea from the blood. In order to appreciate the importance of this indication we have only to remember that uræmia constitutes the chief danger of the disease, a fatal apoplectic seizure being occasionally its first revelation; or, to call to mind the fearful sufferings of the paroxysms of uræmic dyspnoea, uræmic headaches and uræmic convulsions. Here we must mainly rely upon vicarious evacuations by the skin and bowels, and I believe that sudorifics are the most valuable class of remedies. Profuse diaphoresis may be induced by hot air and hot vapor baths, and by the internal administration of various drugs, of which *jaborandi* is by far the most valuable as an eliminator of urea from the blood. But the means, which I have found at once the most efficacious and convenient, is the hypodermic injection of pilocarpine. I have resorted to this method many times with the best results. The dose used is generally a quarter of a grain, the patient being in bed between blankets, and I usually find the entire surface of the body covered with a profuse sweat within the space of five minutes. When the process of diaphoresis is over the skin may be wiped dry, and fresh clothes put on. The amount of the secretion is enormous, and the elimination of urea has been shown to be large. Great relief of the uræmic symptoms is often obtained by the daily use of this method for a series of weeks. I have seen, in a case still fresh in my mind, headache, dimness, dyspnoea, unrest, marked impairment of vision, and heart irritability so largely and rapidly subside as to raise a doubt in the mind of friends, and even of the attending

physician, as to the correctness of a diagnosis, unhappily fully confirmed by the later history of the case, and, at last, by the autopsy. I recommend the plan to my professional brethren, cautioning them to be sure to get an article of good quality.

VI. A sixth indication is to evacuate dropsical accumulations. For this purpose mechanical methods are sometimes useful, such as acupuncture of the legs, prepuce, labia, etc., or a short incision over one of the malleoli. Tapping of the abdomen is generally to be avoided in renal dropsy. Erysipelas is specially liable to follow operative methods in this form of dropsy. Hydrogogue cathartics, which are often so well borne, and so satisfactory in results in cardiac dropsy, are neither so safe nor so useful in the dropsy of Bright's disease. Sometimes, however, resort must be had to elaterium, in suitable doses and combinations. Sometimes making temporary use of the remaining powers of the kidneys, diuretics may be given, especially the infusion of digitalis with the iodide of potassium, or cream of tartar. But I believe that in this disease, not only for the elimination of urea but also for the evacuation of dropsical accumulations, the hypodermic use of pilocarpine is not only one of the safest, but also one of the most effective measures at our command. It is a good plan to alternate the various methods, laying the burden of vicarious service alternately upon the different organs. The Basham's mixture, above mentioned, besides being useful as a blood restorer, often acts as a gentle tonic-diuretic.

VII. A seventh indication is to sustain the heart. It has been shown by Johnson, and others, that in the inflammatory forms of the disease the walls of the small arteries and capillaries are very constantly thickened, and their calibre diminished. Indeed, it has even been proposed to call the disease an "arterio-capillary fibrosis." Associated with this vascular affection, if not indeed caused by it, is found hypertrophy of the left ventricle of the heart, which very generally, at last, undergoes fatty degeneration and dilatation. It is therefore a matter of great importance to save the heart if possible from all strain. No over-exertion of body or mind should be allowed. Excitements of all kinds should be avoided, and tranquility of mind should be promoted. Digitalis and strychnine are perhaps the two drugs most used, from time to time, to strengthen the heart's action.

VIII. My last indication is to palliate the suffering of this distressing disease. The methods for this are in large measure involved, and have been mentioned under other heads. As much of the distress doubtless arises from uremia, so the most lasting relief is that which comes from the elimination of the urea. I will mention a few items here. In the fits of dyspnea prompt relief is sometimes obtained from the hypodermic injection of the quarter of a grain of morphia with the hundred and a twentieth of a grain of atropine. The nitrite of amyl quickly affords relief. In some cases, a few drops being put upon a handkerchief and held to the nose. The same use of morphia and atropine is often useful in convulsions, restlessness, and general nervous disturbance of the advanced stages of the disease. For the headache and dizziness a scruple of bromide of sodium in a teaspoonful of syrup of lactophosphate of calcium may be given three times a day; and, for the anæmia, thirty grains of bromide of potassium, with seven or eight grains of chloral at bedtime. For the uræmic coma I have

found the hypodermic use of pilocarpine by far the most effective remedy.

For diet, as a rule, any articles of plain and simply cooked food may be allowed which the appetite inclines to and the stomach is able easily to dispose of. In some cases advantage is found in a restricted diet of milk, skim-milk, or butter-milk.

Again, in closing, I would mention by way of emphasis, that while chronic Bright's disease is, at least, very generally fatal, yet the fatal issue is not necessarily a speedy one, and that years of comparative comfort and effectiveness may sometimes be added to valuable lives, by constant watching and judicious treatment.

## A RARE CASE OF INTESTINAL MALFORMATION.

BY A. P. HARR, M.D., OF NEWBURYPORT.

THE case which I am about to report is unique in my experience, though a few similar cases are on record. Gross (Surgery, Vol. II, p. 684) says of such intestinal malformations: "The rectum, instead of terminating at the anus, occasionally, though very rarely, opens by a narrow canal into the urinary passages, generally at the posterior part of the urethra, or at the *bas fond* of the bladder, a short distance below the insertion of the urethra, the former mode of communication being more frequent. The malformation is almost peculiar to males, and generally proves fatal within a few days after birth, on account of the small size of the recto-vesical outlet not allowing a sufficiently free discharge of fecal matter. To this rule, however, an exception occasionally occurs; thus in a case which I attended with Dr. Kempf, and in which I made a very deep incision without reaching the bowel. The child survived six weeks, passing daily a little fecal matter through the urethra. An uncle of the child had lived in a similar condition for thirty years."

Mrs. A. B., of Newburyport, while temporarily staying in Boston, gave birth in May, 1884, to a male child which was found to have an imperforate anus. Dr. H. M. Jernegan was called in to render surgical assistance; he dissected upwards in the ischio-rectal fossa in the direction of the rectum for some distance without finding the bowel, gave up the search, and closed the wound. The next day the infant began to pass thin faeces with its urine, every such passage giving pain. The child seemed for a time to thrive; had frequent fecal motions per urethram attended with much straining and distress. At the age of five months, symptoms of obstruction of the bowels set in; for five weeks nothing but urine was passed by the urethra; the abdomen was tympanitic and painful; for several days all nourishment was vomited, these symptoms all passing away with the return of copious fecal discharges along with the urine.

I first saw the child in October. It was then a puny, pale, delicate infant; weight, fifteen pounds; lay most of the time like a limp, flaccid body in its mother's arms; could not raise itself or sit erect; took its food from the bottle with avidity, and seemed at times playful, but had frequent straining urethral passages of thin faeces, which were generally of a normal color, and curdy.

In the Spring of the present year, I found the condition of the infant not materially changed. There had

been little growth; there were no teeth. The pain during a fecal operation was very great, the child writhing in agony. These discharges were quite frequent, averaging one an hour, day and night. The indication for anodyne treatment was urgent, but opiates were, for obvious reasons, inadvisable. I directed that the bowels should be kept free, and the stools liquid by manna and magnesia, and the pain relieved by hyoscyanus, conium, chloroform water, and ether inhalations. The consent of the family to a surgical operation (left lumbar colotomy, or opening the bladder at its lower posterior portion and establishing a fistulous communication with the exterior through an artificial anus), could not be obtained. August 1st, the child sunk from the prostration of the hot weather and teething, dying at the age of fifteen months. The autopsy was performed by Dr. H. F. Adams and myself, only the abdomen being examined. The intestinal canal was normal, except at the lower portion; there was entire absence of the rectum, and the descending colon, with its sigmoid flexure dilated and distended, and forced over to the right side like a letter V, opened by a narrow, rigid tube an inch and a half in length by half an inch in diameter, into the prostatic portion of the urethra, just behind the pubic arch. The bladder, which was not at all dilated, and to all appearances was healthy, contained a quantity of liquid feces. The urethra was injected, swollen, and dilated to such an extent, that a good-sized catheter could easily be made to enter the bladder. Nothing abnormal was detected in the other abdominal organs.

Such cases as the above have a physiological as well as a medical interest, and seem to be a reversion to a primitive type of vertebrate life.

## REPORT ON NERVOUS DISEASES.

BY S. G. WEBBER, M.D.

### ARTHRITIS IN ATAXIA.<sup>1</sup>

JOINT disease in connection with locomotor ataxy. A discussion before the Clinical Society of London.

Dr. Moxon strongly opposed the view that the joint disease in locomotor ataxia is a trophic lesion depending upon disease of the cord or nerves. He seemed to consider that the cause of the changes in the bones was due to rheumatism; a joint affected with slight rheumatic inflammation is persistently used and hence serious changes in structure and loss of substance results. He thought that if the patients did not go about on their ataxic joints, keeping up a continual irritation, the originally chronic simple rheumatism would not result into an aggravated, unrepairing, irritative, severe, and therefore strange and peculiar disease of the joint. This so-called Charcot's disease began as a common rheumatism and ended in extensive disorganization, only after long experience of spasmodic irregularity of action in the presence of a wholly broken-down condition of the protective system; when there is anesthesia of the joint so that the muscles are not inhibited from acting and thus moving the diseased surfaces over each other. He asked the Society, before deciding upon so obscure a matter, to make it clear, to what extent it was probable that the later stages of a joint inflammation would be aggravated by insensibility and spasm, even when that inflammation com-

menced as common rheumatism. He thought there was too strong a tendency to refer new or strange phenomena to the nervous system, to the trophic influence of the nerves, incidentally alluding to the ease with which bones, ribs especially, may be broken in some patients who are not insane. He characterized Professor Charcot as a clinical observer than whom none had ever brought a more powerful imagination in the service of science nor had a better observing talent.

Henry Morris reported two cases, one of lesion of knee joint, which improved greatly by rest. The other was the case of a man who had a leg in a condition of elephantiasis, both ankles were affected and there were perforating ulcers on both feet. After death the posterior tibial nerve on both sides was found diseased, an enormous thickening of the epineurium, and scarcely any change in the perineurium; the nerve fibres were scattered very sparsely, there were only large nerve fibres; the smaller were almost entirely absent.

Mr. Herbert Page referred to the difference between the slow wearing away of the bone in cases of rheumatic disease and the rapid destruction seen in Charcot's cases, during an exacerbation of other symptoms, at gastric crises. He thought regard enough had not been paid to the clinical aspect of the subject.

### SPINAL SCLEROSIS.

J. Babinski (Recherches sur l'anatomie pathologique de la sclérose en plaques et étude comparative des diverses variétés de scléroses de la moelle. Archives de Physiol. norm. et path., Feb. 1885, p. 186), has used Weigert's coloring fluid in the study of sclerosis, combining with it also, in some sections, carmine. He concludes that locomotor ataxia resembles sclerosis in patches much more closely than it does secondary systematic sclerosis.

The habitual absence of secondary degenerations in disseminated sclerosis is not a derogation of the Wallerian law. This apparent anomaly arises from the fact that the axis cylinders are generally preserved in disseminated sclerosis. In cases where they are not entirely preserved, there arises, as in other destructive affections of the central nervous system, secondary degenerations, whose intensity is in proportion to the number of axis cylinders destroyed.

The destruction of the medullary sheaths in disseminated sclerosis far from being dependent upon a mechanical cause, upon a compression of the nerve fibres by the newly formed connective tissue, is rather allied to a vital phenomenon and arises chiefly from the nutritive activity of the cells of the neuroglia and the lymphatic cells. The nature of the degeneration of the nerve fibres, analogous to that which is noticed in the central end of a divided nerve near the section, the persistence of a large number of denuded axis cylinders, the intensity of the changes in the walls of the vessels, the frequent complete disappearance of the myelin in the centre of the islets, form histologically the essential features of disseminated sclerosis. The nature of the degeneration of the nerve fibres, analogous to that which is observed in the peripheral end of a divided nerve, the absence of denuded axis cylinders, the slight severity of the vascular lesions, the persistence in the midst of the sclerosis of a large number of fibres with myelin, gives the secondary systematic sclerosis its distinctive characteristics. By the possible persistence of a certain number of denuded axis cylin-

<sup>1</sup> British Medical Journal, December 20, 1884.

ders, by the severity of the vascular changes, by the sometimes complete disappearance of myeline in the sclerosed columns, tabetic sclerosis resembles, histologically, disseminated sclerosis rather than secondary sclerosis.

#### POLIO-MYELITIS ANTERIOR ACUTA.

David Drummond (On the Nature of the Spinal Lesion in Polio-myelitis Anterior Acuta, or Infantile Paralysis. *Brain*, April 1885, p. 14) had the fortune to examine the cord of a girl five years old, who died six or seven hours after the commencement of an attack of infantile paralysis. At the autopsy the cord between the third and fourth cervical nerve presented appearances suggesting red softening. After hardening and preparing the anterior cornua, anterior white column, and the middle and anterior portions of the posterior cornua were seen to be intensely congested, the capillaries distended with blood corpuscles, many spots of extravasation were seen. The anterior cornua seemed most seriously affected. The cells of these cornua were swollen, granular and rather ill-defined; the majority had lost their nuclei, their processes were no longer visible. The cells that presented the most obvious changes were more or less surrounded with dilated and blocked capillaries and minute haemorrhages; some seemed to be imbedded in blood corpuscles. In most sections one loin seemed to have suffered more than its fellow.

This is the earliest observation after the beginning of the disease, and confirms the theory that it is of an inflammatory nature. The author also notices that a sudden congestion, not passing into inflammation will explain many cases of temporary spinal paralysis in infants.

The necessity for early antiphlogistic treatment is emphasized, as cold to spine and affected limb, leeches, hypodermic inject of ergotin.

#### SPINAL CONCUSSION.

Duménil and Petel (Commotion de la moelle épinière. *Arch. de Neurologie*, Jan., 1885) report a case of injury from a fall upon the head, with an autopsy, showing lateral sclerosis and atrophy of cells of the anterior cornua. The earliest symptoms were rather those found in severe cases of so-called concussion of the spine.

The whole subject of spinal concussion is reviewed, and the authors conclude that

(1) Concussion of the spinal cord ought to be admitted in the present state of medical science.

(2) It may be the origin of subsequent inflammatory lesions.

(3) These inflammatory lesions may present the form of systematic myelitis.

(4) Concussion may exist in a latent state and be revealed only by secondary disturbances, varying from simple temporary congestion to incurable sclerosis.

#### LESIONS OF NERVES IN MAL PERFORANT.

Pitres and Vaillard (Altérations des nerfs périphériques dans deux cas de maux perforants et dans quelques autres formes de lésions trophiques des pieds. *Archives de Physiol. norm. et path.*, Feb., 1885, p. 208), have had an opportunity of examining the nerves in two cases of mal perforant. They find that the lesions of the peripheral nerves which cause the plantar mal perforant often extends far above the imme-

diate vicinity of the ulceration. These may attack all the nerves of the foot and of the leg, they may even ascend to the nerve trunks in the thighs.

The extension of the neuritic alterations explains the frequent coincidence of the mal perforant with certain sensitive trophic, vaso-motor, or secretory disturbances which have been often noticed at a greater or less distance from the ulcer on the foot (anæsthesia), analgesia, lancinating pain, sclerosed induration of the skin, abnormal pigmentation, muscular atrophy, gangrene, local sweating, etc., extending over the whole skin of the foot, and even of the leg.

The relations of mal perforant with peripheral neuritis have been now confirmed in a large number of histological examinations. The objection raised by Michaud, according to which the examinations would be without value because in normal conditions the nerves of the foot contain many altered fibres, is not well founded. In the normal condition, in both youth and adults the integuments of whose feet are entirely healthy, the nerves of these extremities have exactly the same structure as the peripheral nerves of other parts of the body.

On the other hand, the terminal filaments of the nerves of the feet are often altered in persons who have corns, bunions, ungual dystrophys, etc., on the feet. All these lesions of the skin and its annexes appear to be true trophic disturbances allied to the existence of a previous slight and partial neuritis, as mal perforant is allied to the previous existence of a deep and extensive neuritis.

Vigouroux (Maladie de Thomsen et paralysie pseudo-hypertrophique. *Arch. de Neurologie*, Nov., 1884) reports a curious case in which both Thomsen's disease and pseudo-hypertrophic paralysis occurred together, each disease showing its own peculiar characteristics uninfluenced by the other.

#### EPILEPSY.

Bourneville and Brion (De l'emploi du curare dans le traitement de l'épilepsie. *Arch. de Neurologie*, Jan., 1885, et seq.) tried curare in the treatment of twenty-one cases of epilepsy at Bicêtre. The formula used was

Curare . . . . .	8 grammes.
Alcohol . . . . .	100
Glycerine . . . . .	10 aa.
Distilled water . . . . .	30
Hydrochloric acid . . . . .	6 drops.

This was used hypodermically. The maximum daily dose was six centigram.

The results they obtained were very different from those reported by some observers. Of twenty-one patients attacked with the most varied form of epilepsy, some adults, some children, treated by this means during three, ten months, or more, they found only one who derived any important benefit from the treatment, another was slightly benefited. In a third, though the attacks were not diminished in frequency their severity was less. They conclude that these results are not very encouraging, and think that curare ought not to be considered as a useful agent in the treatment of epilepsy.

#### NEURASTHENIA.

Anjel (Experimentelles zur Pathologie und Therapie des cerebralen Neurasthenie. *Arch. f. Psych. u. Nervenkr.*, xv, 3, 1884, p. 618) has experimented with reference to the condition of the bloodvessels during

cerebral activity. He considers that every irritation, acting upon the brain, fright, joy, etc., or longer continued mental work is attended with a change in the volume of the blood-vessels. This change is the only objective correlative of cerebral irritation which can be measured by our present appliances.

He recognizes that there are sources of error in his apparatus, which he has tried to avoid.

The method employed was to enclose the forearm in a glass cylinder full of warm water, then by a carefully regulated and delicately acting system of tubes and levers very minute changes in the volume of the forearm were registered on smoked paper.

This plethysmograph showed that in health every emotion and every sensory impression caused a decrease in the volume of the arm which continued during the period of mental activity. Hence he concludes from Mooso's experiments, there is corresponding increase in the amount of blood in the brain.

When the experiment was tried upon neurasthenic patients the author was surprised to find that the arm showed no change in volume during mental activity. The disturbance caused by fitting the apparatus produced such extreme dilatation of the cerebral vessels that it was necessary to wait until the normal condition had been at length restored. Then it was found that very slight mental activity caused the volume of the arm to vary. The diminution continued only a short time, and was followed by an increase; these alternating changes were repeated several times at irregular intervals and continued after the mental activity ceased.

A slight increase in the vascular tone, as after a meal or a glass of wine, caused the change in volume to become more permanent as in health.

The author found that long-continued pain caused the vessels of a healthy person to react like a neurasthenic patient for a short time after cessation of the pain. The same effect was produced by tobacco-smoking in a person not accustomed thereto.

He draws conclusions for treatment, that it is necessary to remove the patient from his former surroundings and activities; to care for slight changes in his daily routine of life so as to give variety. There is no drug which will remove each symptom, an appropriate well-ordered regimen is most successful.

A quiet, pleasantly situated locality should be chosen. The great exhaustion of the nervous system must be compensated by a corresponding ingestion of food. Five or six meals a day are recommended, and that food should be taken in the morning before rising. It is also advised that patients should sleep a part of the time during the day.

#### ETIOLOGY OF NERVOUS DISEASES.

Ch. Féré (Nerve troubles as foreshadowed in the child. *Brain*, July, 1885, p. 230) has written upon an important subject in considering the predisposition to nervous disturbance dependent upon heredity and early disturbances of development, whether during fetal life or in early infancy. After briefly opening the subject by alluding to the influences which may thus early disturb the nervous health, he says: "before we can admit the accidental origin of a nervous affection, it is necessary to eliminate not only the presence of any direct or indirect hereditary condition, whether similar or transformatory, but also that of any

disturbance of evolution capable of bringing about a defective development of the nervous system.

After mentioning many of the slighter departures from the normal condition and influences which may predispose to subsequent nervous trouble, he says: "It is only after a thorough inquiry into the existence of such organic or functional disorders and into the neuropathic trouble of childhood, that one can determine the value of the exciting causes of nervous diseases. Otherwise there is a danger of attributing to traumas or to infectious diseases an importance which they do not possess in reality.

"When we take into account the hereditary tendencies and the early manifestations which betray a disturbance of evolution, we shall see that it is not the predisposition which it is necessary to prove, but it is rather the absence of this predisposition which is to be doubted in the history of nervous diseases."

### Hospital Practice and Clinical Memoranda.

#### CASE OF OPIUM-POISONING. MASSACHUSETTS GENERAL HOSPITAL.

SERVICE OF DR. E. S. WHITTIER.

REPORTED BY CHARLES W. TOWNSEND, House Officer.

This patient was brought to the Hospital at 10.30 a.m., August 24th, 1885, with the history of having taken one and a half to two ounces of laudanum about an hour before, in a fit of despondency following a week's debauch. Examination showed a muscular, well-nourished man, 29 years old, completely unconscious; pupils moderately contracted, giving no reaction to light; respirations stertorous, eight in a minute; pulse strong, regular, 110. Apomorphia gr.  $\frac{1}{2}$  was at once given subcutaneously, and repeated in four minutes without effect. A strong Faradic current was continuously applied to chest and limbs, causing at first a little groaning from the patient but no other signs of consciousness. At 11 a.m., two pints of warm water were introduced into the stomach by a stomach pump and washed out, smelling strongly of laudanum, of a brown color and free from particles of food. At this time, whenever the electric current was stopped, respirations became slower and more superficial, and the face cyanotic. Atropia sulph. gr.  $\frac{1}{10}$  was given subcutaneously at 11.10 and again at 11.30 a.m., the pulse becoming more rapid, 148, and remaining strong and regular; pupils were slightly less contracted after the second dose of atropia. Respirations remained from six to eight in a minute. Stomach washed out again at 11.20, and a third time about midnight, the last time the washings coming out nearly clear. A pint of strong coffee was then injected through the stomach tube.

At 12.30, pulse was 110-156, strong and regular, respirations were reduced to five, and the face growing gradually more cyanotic, notwithstanding the constant application of the strong Faradic current over diaphragm and chest muscles. Artificial respiration—Sylvester method, was then resorted to at frequent intervals, as often as indicated by cyanosis, with the effect of restoring the red color to the face, the battery being constantly applied to the legs at the same time. From 1 to 2 a.m., artificial respiration was made continuously, as an omission of this was followed by rapidly-increasing cyanosis, and no attempt at respira-

tion, or but a feeble one, after the lapse of a quarter to half a minute. At 2 A.M. the patient took fairly deep respirations, five in a minute, of his own accord, and was once noticed to move his lips a little; but from that time till 3.15, artificial respiration had to be resumed at frequent intervals as often as cyanosis showed itself. At 3 A.M., gr.  $\frac{3}{16}$  of sulphate of atropia, and two grains of citrate of caffeine were given subcutaneously. From 3.15 to 5 A.M., respirations were five in a minute, long and deep, and sufficient to aerate the blood, as shown by the good color of the patient. At 5 o'clock, the patient first showed signs of consciousness, opened his eyes, turned his head and tried to speak, and under the constant stimulus of the battery, of slapping and talking, he was so far roused at 6 A.M., as to be able to walk between two men. The walking was continued at intervals till 10.30, when he was put to bed in the ward, the respiration being then 12, pulse 110, temperature, 102.2° and pupils of normal size. Patient vomited freely shortly after returning to consciousness on being given some coffee to drink. Catheterised at 12.30 and 5.30 A.M., about  $\frac{5}{16}$  of urine being obtained the first time and  $\frac{5}{16}$  the second; he passed of his own accord about  $\frac{5}{16}$  at 3 P.M. The skin remained warm from the first, covered with slight perspiration on entrance, which disappeared until he began to walk.

The patient was mildly delirious till 4 P.M., after which he seemed rational, but was nervous and tremulous, and developed a violent delirium tremens two days later, on the evening of which day he suddenly died, apparently from rapid heart failure.

## Reports of Societies.

### PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M.D., SECRETARY.

MAY 9, 1885, the President, DR. A. D. SINGLAI, in the chair.

DR. F. H. DAVENPORT reported the following case of

#### POST-PARTUM HÆMORRHAGE.

In August, 1884, I was asked to attend Mrs. A. in her confinement, which was expected within a few weeks. The physician who had attended her in her two previous confinements wrote the following: "On both occasions she came near dying of uterine hemorrhage. She faints as soon as the shoulders are born; and when you withdraw the body, which I found I had to do with my hands, as there were no more pains, the blood rushes out like a good-sized hydrant stream. I used ergot, ice introduced into the uterus and upon the abdomen, compression through abdomen and kneading. Raised the foot of bedstead, gave hypodermic injections of whiskey, turned out clot after clot, and in about three hours obtained a firmly contracted uterus. Ether acts badly upon her uterine contractions."

August 22d I was summoned at seven o'clock in the morning. I found that she had had slight pains since early morning, and they were now beginning to be more frequent and harder. The progress, however, was slow, and it was not until twelve o'clock that the dilation of the external os was fairly under way. At eleven o'clock I gave ten grains of quinine, and an

hour later ten more. As soon as the os was fully dilated and the head coming down I gave a drachm of fluid extract of ergot, and repeated the dose possibly ten minutes before the birth of the child. The patient nobly seconded me in my desire to have her take as little ether as possible and only inhaled a few whiffs during the last pain. The child was born without any difficulty, and the uterus contracted firmly, giving me ample time to tie the cord and give the child to the care of the nurse.

With the very next pain the placenta came away, and this was followed by an alarming hemorrhage. The uterus became perfectly flabby under my hand placed on the abdomen, and I immediately allowed a stream of hot water, 120° F., to flow into the uterus from a fountain syringe. This was followed by contraction of the uterus which, however, was only temporary. I repeated the hot water, and finding this did not permanently check the flowing I alternated that with the introduction of ice into the uterus. After a few repetitions of the alternate heat and cold the uterus remained firmly contracted, and in from half to three quarters of an hour after the birth of the child the patient could be moved from the cot on which she was delivered to her own bed. Only once, soon after the first gush, did the patient feel at all faint, and that was but momentary. She remarked that this was the only time she had ever heard the first cry of her baby. She did well until about the eighth day, when she had a rise of temperature, due undoubtedly to a slight phlebitis of the left leg. That delayed her getting up until the end of four weeks, and her leg was then somewhat stiff and painful.

I attributed the less profuse post-partum hemorrhage in this confinement to the use of quinine two and three hours before the birth, ergot as soon as the os was fully dilated, and the alternate application of heat and cold to the uterus.

Several German writers have reported cases where hot or cold water alone having failed, the alternate application of both at short intervals has been followed by a prompt cessation of the hemorrhage.

DR. RAYNOLDS agreed with the reader in placing a high estimate on the value of the alternate use of heat and cold in checking post-partum hemorrhage; he believed, too, in the efficacy of electricity, and thought one should have a battery in readiness at every labor. He said that the late Professor Buckingham was thought to have saved two lives by the timely use of electricity in post-partum flooding. Ergotinine, in doses of five to ten drops, administered subcutaneously, was said to be of extreme value, and not injurious to the subcutaneous tissues.

#### THE DIAGNOSIS OF PREGNANCY.

DR. GREEN read the report of a case which had presented unusual difficulties of diagnosis, the report having been prepared by Mr. H. S. Durand, of the Harvard Medical School, who had immediate care of the patient. The case may be briefly summarized as follows:—

A negroess, forty-three years of age, applied at the Boston Lying-in Hospital for out-patient attendance in her seventeenth labor. As the woman believed herself to be pregnant, and gave all the rational signs of pregnancy, no physical examination was made until the element of time came in to throw doubts on the assumed diagnosis. The woman was sure, however,

that she felt vigorous fetal movements, and there had been a progressive enlargement of the abdomen. A careful physical examination was now made, with the following result: The abdomen was symmetrically enlarged to the size of pregnancy at full term, and the umbilicus protruded somewhat. The breasts were large and secreted a watery fluid. The abdominal wall was very thick. Percussion gave tympanitic resonance over the sides and to a less degree in front, but no more than might be expected from intestines distended with gas lying over the gravid uterus. On palpation no well-defined uterine tumor could be made out; but movements resembling those of the fetus in utero were very well marked. The fetal heart was not heard; but the supposed fetal movements were very audible through the stethoscope. Thus far the physical examination threw no improbability on the diagnosis of pregnancy; but examination per vaginam revealed a cervix in no degree softened, and it was decided that the woman was in all probability not pregnant, unless still in the early months. Dr. W. L. Richardson kindly saw the case with Dr. Green, and agreed that the condition of the cervix ruled out advanced pregnancy, although the peculiar pseudo-fetal movements led him to examine the case with extreme care. As the patient objected to taking either it was impossible at that time to determine the size of the uterus; but a course of emmenatives and cathartics reduced the flatulent condition of the intestines and enabled Dr. Green to detect the fundus just above the symphysis pubis. A sound was then passed and the uterus shown to be of normal depth. It was then clear that the case was that of a woman who had passed the menopause, and who, being in vigorous health, has grown progressively obese. The peculiar movements were doubtless caused by a discharge of flatus from one coil of intestine to another.

Dr. RICHARDSON said that the peculiar movements simulating fetal motion made him hesitate in reaching an opinion: he had never felt such movements before, except in a case of pregnancy. His diagnosis was based, like Dr. Green's, on the vaginal examination: the condition of the cervix ruled out pregnancy, unless it was still in the early months.

Dr. REYNOLDS asked the opinion of members as to the value of bi-manual examination in diagnosing pregnancy in the early months.

Dr. CHADWICK said he could usually detect pregnancy at the third month and sometimes at the second month by the bi-manual examination. He introduced his index finger into the anterior cul-de-sac and his second finger into the posterior cul-de-sac, and depressed the uterus with his other hand: in this way he made out the axes of the uterus and from their relative changes formed his opinion, aided by his appreciation of the consistency, mobility and weight of the organ. In the early months the uterus has usually a certain globular shape, which differs from the form of a uterus enlarged by a fibroid. In cases in which the uterus is retroverted and he is able to replace it, if it fails to retrovert in a week, he assumes the woman to be pregnant, even if the uterus is not sufficiently enlarged to enable him to judge by its size.

Dr. RICHARDSON said he believed that the ease of making a bi-manual examination and the accuracy of its results were greatly enhanced by having the patient lie on her back with her legs extended, whereby the abdominal muscles are relaxed: if the patient draws

up the legs and rests the heels on the bed or table, she instinctively supports herself in a manner with her heels and thus renders the abdominal muscles tense.

Dr. F. H. DAVENPORT said that in the majority of cases he was able to determine the existence of pregnancy by the bi-manual examination at the third month, and in many cases at the second month. This was much easier when the patient had been under treatment before, and the size of her uterus was known. When that was the case a very slight increase in size could be readily made out. He thought that an increase in the thickness of the uterus, antero-posteriorly, was the first thing noticed, rather than an increase in the length. In the early months the examining finger feels the body of the uterus through the vaginal cul-de-sac in every direction more easily, and can make out the more globular form. There is also a peculiar elastic feel to the body of the pregnant uterus which is characteristic. It is difficult to describe, but is easily recognized after some experience. It is probably the same sign which has been observed by some Continental writers and spoken of as a softening of the lower segment of the uterus.

Dr. SROOG said he felt very sure that pregnancy existed when he detected the peculiar, elastic resistance without a sense of fluctuation.

Dr. GREEN spoke of the importance of being able to recognize by vaginal examination the existence of pregnancy in the early months in hospital cases and others, in which corroborative evidence, known only to the patient, is purposely withheld from the physician in the hope that his manipulations, or local treatment of some genito-uterine affection, may produce abortion. He alluded to a case in point which he had recently seen at the City Hospital: a woman of suspicious appearance, complained of certain symptoms which might fairly be attributed to a displacement of the uterus, but denied all symptoms of pregnancy. Examination disclosed a retroverted uterus, apparently somewhat enlarged, the fundus imparting a peculiarly elastic feeling to the examining finger. On account of this sensation of elasticity no treatment was instituted, but the patient was kept under observation, and soon after the uterus was found to have undergone spontaneous reposition: it was then very easy to determine the existence of pregnancy from the shape and size of the uterus.

Dr. C. E. STEDMAN asked how much value was to be attached to the violet color of the introitus in the diagnosis of pregnancy.

Dr. CHADWICK said the peculiar violet tint was of great value as a diagnostic symptom when it was present; but its absence did not, of course, exclude pregnancy.

Dr. RICHARDSON had seen the blue color in women who had borne many children.

Dr. CHADWICK said the blue coloration of the plura was of a different tint and was differently distributed. He had seen the blue coloration to which Dr. Richardson had reference in cases after excessive coitus. The peculiar violet tint, which he thought was of value in the diagnosis of pregnancy, was of deepest intensity, or perhaps only perceptible, on either side of and behind the meatus.

#### PUERPERAL ECLAMPSIA.

Dr. F. H. LOMBARD, present by invitation, reported the following fatal case, and showed the uterus and its appendages:

The history of the patient from whom this uterus comes is briefly as follows: She was thirty-four years old, well-built, of robust constitution and plethoric habit. Had been married a little over a year. Had never had any serious illness. Up to a week ago was in perfect health, being at that time about six and one-half months advanced in her first pregnancy. During last Saturday afternoon she felt a slight pain in the epigastrium. In the evening, while visiting neighbors, this pain became so severe that she was obliged to return to her home and go to bed. At one o'clock Sunday morning she had a convulsion, no premonitory symptom other than the constantly increasing epigastric pain, having shown itself in the meantime. At 3 A.M., she had a second convulsion, without having fully recovered from the unconsciousness produced by the first. She was coming out from this second convulsion at 3.30 A.M., when her physician arrived. Pilocarpine was immediately injected under the skin and profuse diaphoresis quickly followed. A tablespoonful of urine was drawn from the bladder and found to be heavily loaded with albumen. She had voided no urine since the previous afternoon. The pilocarpine was repeated once or twice at intervals and continuous sweating kept up by blankets and bottles of hot water. The patient remained in a state of coma and had a third convulsion at 7 A.M., lighter than the first two, neither of which had been severe. At 8.15 coma continuing, with increasing stertor, cyanosis and a sledge-hammer pulse, sixteen ounces of blood were withdrawn from the arm. The patient improved in color and the pulse became less bounding; but otherwise the bleeding had no immediate effect upon the coma. There were no further convulsions, however, and during the forenoon the patient's condition improved so that at 2.30 P.M., when I first saw her, in consultation, she was sufficiently conscious to open her eyes when spoken to, and had been able to be lifted on to the vessel in the hope that the bowels would move.

Although fully determined before reaching the house that the uterus should be emptied at once, on seeing the improvement of the patient I was led to change my decision and agreed that so long as improvement continued it was wisest to wait, standing ready to interfere at the first return of unfavorable symptoms. As the bowels had failed to respond to various cathartics administered during the forenoon, a quarter of a grain of calomel was advised and given by the mouth. Nutrient enemata were given at intervals through the afternoon, and the patient apparently was gaining. The appearance of improvement, however, was illusory, as there was no increased secretion of urine. At 6 P.M., the patient had a slight convulsion, the fourth in order, and the first since 7 A.M. At 8.30 P.M., I was again summoned. The patient was again unconscious, the pulse thready and collapse threatening. Brandy was given subcutaneously and by the rectum, and dilatation of the cervix was begun at once. The cervix yielded rapidly to digital dilatation, and in fifteen minutes fetus and placenta were delivered. Profound collapse followed the emptying of the uterus, and was the result of shock, there having been no hemorrhage. Subcutaneous injections of ether and of brandy every fifteen minutes with postural treatment and hot bottles restored the circulation, and finally brought the patient out of her collapse, which lasted four hours, during most of which time no pulse was perceptible at the wrist.

The next morning the patient had a fair pulse, was able to recognize her husband and to take nourishment by the mouth. Still the kidneys refused to act. A tablespoonful of urine drawn from the bladder showed under the microscope large quantities of fatty degenerated, renal epithelium; numerous hyalin casts (plain and waxy); large numbers of highly granular, with here and there an epithelial cast; spiculated crystals of uric acid. During the afternoon coma again came on, and the patient remained unconscious from this time, death ensuing Tuesday morning at 11 o'clock, thirty-eight hours after delivery. At the autopsy, made by Dr. Gammett, twenty-four hours after death, both kidneys were found to be in a state of marked parenchymatous nephritis. Other organs normal. The uterus and appendages present nothing pathological. When asked how long before death the process in the kidneys, as shown by autopsy, had developed, Dr. Gammett replied that it had probably been going on for a week at least. I will add that the urine, which had been examined by the physician in charge once a month during the pregnancy (as a matter of routine and not because renal trouble was suspected) never showed an abnormal constituent; and the last examination was made two weeks before her death.

Dr. LOMBARD said he would like to submit for the Society's consideration two questions: first, whether it is advisable to give ether to a comatose patient, when it is known that the kidneys are affected and the brain also, if the patient is perfectly still; second, whether it is advisable to empty the uterus without delay when the eclamptic seizure occurs between the fourth and seventh months; of the propriety of this treatment after the seventh month there is less doubt.

Dr. INGALLS could not see why ether should be used when the patient was comatose.

Dr. HODGKIN said he controlled the first symptoms of restlessness with chloroform, which he thought was preferable to ether; but he saw no reason to give an anæsthetic when the patient was in a state of coma; he had no fixed rule about emptying the uterus.

Dr. STONG said that if the patient moved when touched, he would use ether; and he believed in emptying the uterus immediately.

Dr. REYNOLDS spoke of the great value of ether in eclampsia and said it was his firm conviction that convulsions would not recur if all restlessness were quieted by the judicious use of the anæsthetic; he would therefore secure to the woman peace and tranquility, using only a small amount of ether when the patient was quiet, but continuing its use for hours, if necessary, even when the patient was comatose. In reply to a question by Dr. Brown, he said he would use ether notwithstanding the uræmic condition, until it was found that its use was harmful under such circumstances. Regarding the propriety of emptying the uterus, Dr. Reynolds said that when a second or third convulsion has occurred the time for waiting has passed, and the child is to be disregarded; even if viable there is little hope for the child after several convulsions; he was therefore in favor of emptying the uterus at this juncture, whatever might be the time of pregnancy.

Dr. C. E. STEEDMAN, in reply to a question by Dr. E. P. Gerry regarding the value of the subcutaneous use of morphia in eclampsia, said that the morphia treatment was recommended by Dr. G. W. Gay, and he had himself used it with success.

Dr. F. W. Goss was reminded by the case reported of a fatal case occurring under his own observation in which excessive epigastric pain was the chief prodromal symptom: he had reported this case to the Boston Society for Medical Improvement.<sup>1</sup>

#### THE MICROCOCCUS OF VAGINAL DIPHTHERIA.

Dr. H. C. ERNST, by invitation, showed a culture upon "agar-agar," and microscopic preparations of a micrococcus obtained by the courtesy of Dr. W. L. Richardson, from a case of diphtheritic vaginitis at the Boston Lying-in Hospital.

#### RHODE ISLAND MEDICAL SOCIETY.

THE usual Quarterly Meeting was held in Providence, September 17, 1885, the President, Dr. O. C. Wiggins, in the chair.

Drs. Clarence B. Davis and Frank L. Wyman, of Providence, and Dr. John J. Baxter, of Woonsocket, were elected Fellows.

In accordance with notice given by Dr. E. T. Caswell at a previous meeting, the By-Laws regulating admission to the Society were discussed and amended. Hereafter, "examinations for admission to this Society shall be conducted by a Board of five members, to be appointed by the President at the annual meeting. Each year, the senior by appointment shall drop out and his successor shall be appointed for five years. Examinations shall be held in the month of April of each year, and shall embrace the usual branches of medical science taught in recognized medical colleges. The candidate will be required to show that he has an adequate knowledge of the Latin language and has received a good English education." The election of new members will hereafter take place at the annual meeting only.

A communication from the American Medical Association relating to State registration of medical practitioners, was referred to a committee consisting of Drs. A. E. Ham, Eugene Kingman, and C. V. Chapin, for consideration and future report.

Dr. E. T. CASWELL reported a recent case of litholapaxy performed on a man sixty-four years of age. Symptoms of bladder trouble had existed for over two years. Operation lasted one hour. There was no subsequent disturbance. The patient was out in a week, and able to retain urine four or five hours. The stone, which weighed 166 grains, wet, was composed of uric acid with phosphatic shell.

Medical Examiner W. H. PALMER, of Providence, exhibited an ossified ovary found at the autopsy of a young woman who died from heart failure due to fright two weeks after childbirth. The specimen measured 35.5 x 38 mm., and weighed 18.5 grams.

Dr. HUBBERT TERRY read a paper on "Prevention of Lacerations of the Perineum during Childbirth," and exhibited a soft rubber spatula with a shank of thin steel, which had proved useful in distributing the pressure of the child's head uniformly over the perineum, thus preventing a rent in the median line.

Dr. G. D. HENRY read a paper on the "After-treatment of Tracheotomy," considering only the care of patients upon whom the operation has been performed to relieve croup or diphtheria. Tracheotomy, in these cases, is only the first step in a tedious struggle with a

morbid process in the larger air channels; and our attention must be somewhat withdrawn from the first surgical procedure and turned to the diseased mucous surface of the trachea and the constitutional effects of diphtheria. The problem is to treat tracheal diphtheria after an artificial opening has afforded access to the middle and lower trachea.

In cases demanding this operation there is no clinical difference between croup and diphtheria. Recognizing the poisonous and debilitating nature of the disease we must expect to rely largely on stimulants and forced feeding. Milk, alcohol, ammonia, quinine, digitalis, and iron must be pushed to the utmost tolerance of the patient.

Whenever symptoms of obstruction occur, untie the tapes and remove the canula, thus gaining an unobstructed access to the trachea and wipe out the frothy mucus with a swab firmly sewed to a flexible whalebone stick. If there is abundant tough stringy membrane too firmly attached to the trachea to be separated by the swab, the curved forceps will be found a useful instrument.

During the first twenty-four hours following the operation the windpipe can probably be kept clear by these means. As the disease progresses more and firmer membrane is formed, filling the trachea and blocking up the tracheal end of the canula. A violent strangling, cough, rapid respiration and pulmonary oedema follow.

It is because this condition may come on a few hours after the operation and at any time for three or four days afterwards that the medical attendant or a competent trained nurse should remain constantly with the patient for four or five days and nights following tracheotomy.

Steam usually proves a prompt sedative for this excessive broncho-tracheal irritation. For this purpose steam atomizers and portable boilers are worthless. They frighten young patients and are wholly inadequate for producing the large volume of steam required. If the house is heated by steam, the pipe may be tapped and steam carried through a rubber tube to the bedside.

An efficient apparatus may be extemporized by arranging a tent over the bed and slacking line in a pail of boiling water within the tent. After five to ten minutes of hot steam, remove the tracheotomy-tubes leaving an open track into the trachea. Through this passage the surgeon may safely pass a dull copper curette and thoroughly scrape the surface of the trachea down to its bifurcation. By going carefully around the entire circumference of the windpipe and even dipping into the bronchi, if necessary, he will scrape out an abundance of tenacious fetid membrane and mucus which he must be prepared to catch the instant it appears at the mouth of the wound or it will be sucked in again with the first inspiration. The canula or other apparatus for keeping apart the edges of the wound having been thoroughly cleansed and supplied with fresh tapes may then be replaced. The wheezing rapid respiration and strangling cough return, however, sooner or later, to be again relieved by the dense moist atmosphere of hot steam and careful currying of the trachea.

The first one hundred hours following tracheotomy is a period of treacherous and unexpected emergencies demanding the utmost vigilance on the part of the tracheotomist.

<sup>1</sup> See Vol. cxl, No. 39, November 13, 1884, p. 464, of this Journal.

Throughout the history of every case, absolute cleanliness of the patient, the wound, the canula and tapes must be demanded. The night dress and bedding must be changed as soon as soiled. Nowhere in medical or surgical experience is a faithful skilful nurse so absolutely necessary as in the care of a child who has received tracheotomy.

The process of sucking the wound with the surgeon's lips to remove mucus and floating membrane by a sort of aspiration, the writer considered more foolhardy than necessary. Steam, the dull wire curette, the curved forceps and the flexible whalebone swab or cotton-carrier can alleviate the most desperate cases, as the two following instances illustrate.

CASE I. A delicate boy of six years had diphtheria in the fauces and pharynx, followed by croup, and when cyanotic, tracheotomy was done. Hypodermic injections of brandy revived him and he went along well for three days. The writer was summoned hastily at sunset on the third day and found the boy exhausted by a recent struggle, unconscious, pulseless, making occasional feeble efforts at respiration, and rapidly dying from asphyxia. Three drachms of brandy were given hypodermically. The canula, in critical moments always an obstruction, being removed, the curette easily pulled out a large piece of tough membrane which, partially dried, had occluded the trachea and plugged the lower mouth of the canula. More membrane was scraped away with the curette, and half an hour later the moribund patient, resuscitated, drank a wineglass of milk. He recovered.

CASE II. Tracheotomy was performed on a five-year old boy for diphtheritic croup. He did tolerably well for three or four days, and then the trachea and bronchi gradually filled with tough secretion and membrane, which the patient could not expect. Two attending physicians gave up the case as hopeless, and as the patient was choking to death, mercifully gave him ether for sake of euthanasia. The writer, who had been present at the operation by invitation, was sent for after the other physicians had left. The boy was speedily put into hot blankets, a tent thrown over his crib and filled with steam, and brandy administered freely both by hypodermic and rectal injections. Resuscitation was slow, but the heart responded to the stimulus of alcohol, steam softened the gluey exudate and the curette cleared a passage to the lungs. Helped by prolonged steaming and occasional use of the curette the reviving boy coughed up considerable membrane and mucus, and in two hours sat up and drank milk punch. His convalescence was interrupted by an attack of pneumonia, yet he made a good recovery.

Probably neither of these lives would have been saved without the use of the curette. Referring to the hitherto unappreciated value of this instrument in the treatment of tracheal obstruction following tracheotomy, the writer said that he had employed it frequently and had never seen its use cause pain or hemorrhage or strangling.

A light-minded lay contemporary suggests as a suitable locality for lay fever patients Mount Catahdin.

—Among the topics planned for discussion by the Pharmaceutical Congress, sessions of which opened in Brussels on August 31, is that of the proposed adoption of an International pharmacopoeia.

## Recent Literature.

*Face and Foot Deformities.* By FREDERICK CHURCHILL, C. M. Published by P. Blakiston, Son & Co., Philadelphia.

This book is a disappointing one. A casual glance at a few of its paragraphs suggests a medical counterpart of the famous Portuguese Grammar, "English as She is Spoke," which, endorsed by the high authority of Mark Twain, has attained to unexpected popularity.

But the work hardly rises to this dignity, though a few passages may be quoted as worthy of comment. Speaking of injuries of the face the writer adds, "there may or may not be symptoms of concussion; the child should be kept away from school, and have an evaporating lotion applied if there is pain." "He may have fallen down on a sharp stone, or some mischievous playmate may have thrust a knife or pointed instrument into the face, either purposely or accidentally, or the wound may be self-inflicted by playing with swords, guns, etc."

This is, of course, encouraging, and later we find another sentence of a different order of excellence. "The rapidly increasing desire of young ladies to obtain distinction at the competition examinations in science, mathematics, etc., will convince them far more than argument, of the *raison d'être* of that which I have been pleading for — the beautifully perfect structure of the foot, with its double arch, the bones being wedge-shaped, resembling the upper stones of an archway." The rest of the book, however, hardly justifies such a brilliant promise, and the reader has to content himself with a list of the skin diseases of the face, affections of the eyes, extracts from Adams on Club-foot, with the report of a few successful cases.

Perhaps Mr. Churchill in his next book will either give us less that is medical, and more pleasure in "English as She is Spoke," or more of the best surgery of the London Victoria Hospital for Children.

It would, however, be unjust to dismiss this book without due praise of what of excellence it offers. The illustrations are very good, and give an example of painstaking on the part of the publishers which is not too common. The introduction into surgical text-books of practical directions as to the treatment of birth-marks by the cautery will be of use, as well as the method of removal of a navus from the nose. We are glad to see that the author recommends the use of plaster-of-Paris bandages as a means of fixation of club-foot after tenotomy; and in general, the ideas of treatment which he advocates appear to be in the main sensible.

—*Experto Crede.* The North Carolina Medical Journal speaking editorially of the American Medical Association, says: "We do not sympathize at all with the suggestion that a new national society should be formed. Secession is a costly business — it arrays good friends against each other, consumes valuable substance, and is so liable to end at last in striking colors you have pride in, and in grounding your arms to an enemy having the only advantage over you in being more numerous and better fed."

—The gouty patient, on contemplating a meagre micruritic achievement, murmured sadly, "Little drops of water, little grains of sand."

# Medical and Surgical Journal.

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## MILK, ITS PURITY AND LEGAL QUALITY.

At a time when the attention of the public is being so much directed to the question of the quality of the food and drink which it consumes, the composition and examination of that very important, much used, and greatly abused article of diet, called milk, becomes a subject of pressing interest, especially from its important bearing upon the health of our children and invalid population.

Probably there is not a city upon the continent where the entire milk supply as brought into the city receives a sufficiently vigorous inspection to make it reasonably certain that none but pure whole milk is being distributed to the consumers. Yet we have reason to believe that Boston has made a much greater advance in this direction than has any other one of the cities. The amount of work which a really efficient inspection of the entire milk supply of a great city would involve, is much beyond what the uninitiated would suppose. It would be nothing less than the examination, at the very least, of one sample daily out of every dairy of milk which is being supplied to the city, or upon an average, one sample for every ten gallons of milk. This would be for the city of Boston a daily examination of about 1,500 samples of milk. A really efficient inspection like this has thus far only been accomplished by certain single large dairy companies, such as that of St. Louis, Mo., and the Aylesbury Dairy Company of London, England. This last alone during last year, besides a vast number of milk samples inspected, had about 1,600 samples analyzed, that is, a number some twenty-seven times larger than was analyzed during the first twenty-five years existence of the Boston Milk Inspection Office, that is from 1859 to 1884. During 1884-85, however, some 1,000 samples of milk were analyzed at the milk office of the city, and a revolution was inaugurated in the quality of the milk supply of the city. During the present year, the appropriation of the office having been increased sixteen fold, a still greater number is being analyzed with a still improving effect upon the supply as sold in the city. Since a year past the large milk contractors who bring much the larger portion of

the milk into the city, have felt obliged to have all their dairies of milk inspected, and all such have been analyzed as upon such inspection were not judged to be certainly above the present legal minimum limit of quality, that is, of thirteen per cent of milk solids. It should be remembered that we have a double requirement for milk offered for sale in this State. It must not only be pure whole milk from healthy properly fed cows, but it must also be of not poorer quality than to contain at the least thirteen per cent of milk solids. It has been the experience of the present milk inspector for the city of Boston, Prof. J. F. Babcock, as given in a published report, that the healthy properly fed cows of this State, upon the average, give a milk containing 14.55 per cent of milk solids. Dr. B. F. Davenport, the late inspector for that city has reported that he found the average to be 14.50 per cent, while Prof. S. P. Sharples formerly inspector for Cambridge has reported that he found the average to be 14.49 per cent. Thus there seems to have been a common experience with these three experts who have probably had as large an experience as any in the State, that the milk of an average cow contains about 14.50 per cent of milk solids. It was also reported by Dr. Davenport that the common so-called "native cow" gave a milk which contained upon the average 13.75 per cent of milk solids, of which 3.80 per cent was butter fat, and that no sample fell below three per cent in fat. It would, therefore, seem as if the State in placing the minimum limit of thirteen per cent of milk solids, which is something over ten per cent below the actual average product of all the cows in the State, has drawn the line for marketable milk at a fair and just point for the public interest.

As milk has hitherto been sold by measure, a large yield of milk has been the characteristic cultivated by those breeding cows to produce milk for the market, while in cows for private family use quality has more especially been regarded. The result has been what should be expected. Certain breeds of cows have been produced which give enormous quantities of milk, but poorer than the average quality, while upon the other hand other breeds have been obtained which give milk of a very rich quality, but in more moderate quantity. The natural product from this selected breed of "skin-milk" cows should no more be tolerated than the artificially skimmed milk of the average cows. It is the product itself that should be condemned irrespective of the means by which it is obtained, for it is the same thing. Yet some do not seem to see the justice of this; but claim that the natural product of a cow, no matter how unrefined that cow may be, should always be allowed to pass as good, fair milk. That is, to make a quality of milk allowable if it be obtained by one method, which would be condemned if it was produced by another and more simple method. In short, to allow of it if it be only attained by a round-about method of selection in breeding the cow, but to condemn it if it be produced by the simple and direct use of the skimmer, or by "topping" as the milk trade has it.

It is to be noted, however, that many of those producers who keep the "quantity breeds" of cows for their market milk, keep also one or more cows of the rich "quality breeds" to furnish milk for use on their own tables.

The producers as men of business will naturally look out for the quantity of their milk, therefore it is necessary that the State or some other public authority require in the public interests that it also be of fairly good quality as well as the actual product of healthy, properly fed cows, and also that it be distributed to the consumers exactly of the same or average quality. Human nature and greed of gain is very much the same in the country as in the city, and milk needs the strong protecting arm of the law as well in the one place as in the other.

During the late session of the New Hampshire Legislature, certain persons attempted to have that State's standard reduced below that of thirteen per cent of milk solids as at present required, but they were not able to persuade the Legislature to commit that error. The French government uses this same standard in its calculations of the percentage of watering in milk. Most of the other States of our Union have made the mistake of placing their legal standard below that of fairly good whole milk, and have put it down to the level of the poorest known whole milk. The consequence is that such a quality of milk is about as good as the citizens of those States usually receive, while in our own State a more reasonable standard having been adopted, the average quality of the milk furnished to the people is much better than in the other States, and it is greatly to be hoped that the present high standard may ever be maintained.

#### THE HYGIENIC BENEFITS OF A SOJOURN IN MOUNTAINOUS REGIONS.

THE vacation season is hardly yet over, and at the principal mountain hotels of northern New England may still be seen the familiar faces of citizens who have for a time exchanged the busy town for the high land and the wilderness. Hay fever sufferers find here numerous stations which give them exemption from their malady, and where too, the miasma of malaria never penetrates; and if the tubercle bacillus, less shy of moderate elevations yet dreads high altitudes, the phthisically predisposed may find the atmosphere of the White Mountains sufficiently aseptic.

It is only within a few years that attention has been earnestly directed to the subject of altitudes in their relation to prophylaxis and cure of pulmonary consumption. Since the demonstration of the antimicrobial character of the atmosphere of lofty elevations has been made by Miguel and Frenschke — microphytes being rare at 800 metres, and absolutely wanting at 2,000 — greater interest has been attached to these localities in connection with the treatment of early phthisis, and residents of New England are awakening to the realization of the fact that they can obtain the advantages of a mountain climate without

going long distances from home. Less importance is, however, assigned to the mountain air treatment of phthisis in this country than in some parts of Europe; thus among the Swiss Alps we find at Davos, at Engadine, and at St. Moritz sanitary stations fitted up expressly for the phthisical, combining the comforts of a home with the benefits of an hospital, and here, in the midst of the glaciers, multitudes of consumptives spend the summer months. Clinical observations seem to favor this kind of hygiene, but certain conditions are essential to the realization of good results; the patient must be at the very inception of the disease, and the tuberculosis must be of slow evolution, the constitutional reaction must be vigorous, the appetite keen; the invalid ought, moreover, to be able to spend much time in the open air, and endure fatiguing marches; under such circumstances the circulation becomes more energetic, and all the tissues receive a more plentiful irrigation; the respirations first quickened, soon become stronger and deeper, with greater expansion of the thorax and lungs; the muscular and nervous systems improve in tone and vigor; the appetite and weight steadily augment. It is needless to say that mountain climates are contra-indicated in phthisis attended with fever; all authorities recognize this fact.

But while the quality of *asepsis* is of first importance, it is the fortifying action on the constitution which is chiefly sought in the climates of altitudes, and it is for this that the multitudes leave the towns for the seaside or mountains. With the majority of those who, a little "run down," seek in change of scene the needed recuperation, it may be a matter of indifference whether they summer at a maritime or high-land station. For coolness, purity and richness in ozone the climate of the Isles of Shoals may, in its bracing effect on the invalid, be equal to that of any altitude on the continent. Sea air, moreover, has traces of iodine and bromine which under some circumstances may have a stimulant and remedial action. The coolness which alike characterizes both climates is a hygienic element *par excellence*, being largely the cause of the tonic effects experienced.

But there is a notable difference with respect to barometrical pressure between maritime climates and the climates of high elevations. This pressure, at its maximum on the mountains, is at its minimum on the sea level, yet both the mountain and sea air seem alike to arouse the languishing functions. He who ascends Mt. Washington breathes rarefied air, the Star Island visitor breathes air which is relatively condensed, yet in both cases there is increased appropriation of oxygen, and increased elimination of the products of organic combustion with heightening of digestion and assimilation. The lungs in the one instance are in a more *active*, in the other a more *passive* condition. It is not only the fact that the Mt. Washington tourist takes longer, stronger breaths, but the expansion of the chest, the pulmonary ampliation and ventilation, are more complete than in the case of the visitor at the watering place. This implies a more energetic condition of the entire machinery of hematosis; the

force of the respiratory muscles is augmented: certain regions of the thorax, particularly the apices, which are sometimes called inactive regions, because ordinarily taking but a feeble part in the inspiratory expansion, are brought into exercise.

It would seem, then, that the air of altitudes has a specially invigorating effect on the respiratory apparatus and function; moreover, the lowering of atmospheric pressure tends, as Jaecoud has shown, to unload the viscera, producing relative anæmic of these organs — this would be of hygienic importance in states of hepatic, renal, cerebral congestion, etc. — while the peripheral circulation is enhanced, the blood-flow to the superficial parts being greatly augmented.

It might be hence inferred that for tired denizens of the sea-board cities, and especially for jaded professional men, a vacation season at the mountains must be of all hygienic measures the most useful. The present period of the year, when the hotels cease to be crowded, when the weather is cooler and the air no longer laden with moisture, when the forests and highlands are adorned with their matchless September pageantry, is a good one for the busy practitioner who has been unable to leave his practice during the prevalence of summer complaints.

But he who elects to spend his vacation in the mountains has something to do besides quartering himself at a comfortable hotel, lounging about drawing-rooms, now and then indulging in a game of whist, or reading the latest novel, and eating three full meals a day; that is, if he would derive the utmost physical benefit from the change. Remembering that sunshine is vivifying, he will seek the open air. He will become an active pedestrian, climbing the high peaks, exploring the deep ravines, penetrating the tangled forests, admiring here the rushing cascades, and there with baited hook tempting the trout in the quiet pools. He will abjure Ziemssen and commune with nature, endeavoring amid the wild and gorgeous scenery to obtain the mental repose and restoration which, after the cares and the worry of the busy year, he so much needs. We cannot do better than give our emphatic endorsement to what a recent writer has so well said: "When the busy citizen has grown weary under the pressure of study or work, and has lost his ability to eat or sleep, or to take pleasure either in present or anticipated comforts, let him visit the mountains, and inhale the electric air, forgetting for the moment his home cares and adapting his thoughts to the ennobling surroundings. The sojourn in a summer hotel is well and beneficial, but the journey on foot is better, since it gives incessant variety, and ever-changing themes of diversion. After a few days of marching he will cease to complain of sleepless nights or zestless meals, and will find the leathery socks of the village inn more delicious than the choicest triumph of the Parisian chefs. The pedestrian's tour is of high value to men of sedentary habits, giving them a valuable and needed change of habit, expanding their shrunken lungs, and teaching their limbs pliancy and strength.

It is pleasing to see so many of the undergraduates of the New England colleges taking up this form of exercise and visiting the mountains in small squads on active service. In course of time it may be that the White Mountains shall be as favorite walking ground as the Scottish Highlands or Swiss Alps now are, and that the nervous American energy may acquire a legitimate strengthening of solid Anglo-Saxon endurance."

#### MEDICAL NOTES.

— Dr. Simes writes to the *Polyclinic*: "The oldest patient I have ever treated for any form of acute venereal disease, presented himself at the *Polyclinic* suffering with five very characteristic chancroids, situated upon the glans penis and inner surface of the prepuce. He believes he contracted them from a water closet. However, upon questioning him, I find he has a young wife, who, he says, is affected with some disease of the genitals. The healing of the sores, while it has been favorable, has been unusually protracted. His age is seventy-five years."

— A correspondent thus writes: "Regarding the native treatment of diseases in India, one of the most curious things I ever witnessed was a half-clad native shouting through the streets of a country town: 'Does any one want back his sight? — one rupee only!' as if he were hawking fruits or sweetmeats; and to my astonishment, a patient soon presented himself to be operated upon for cataract. There and then, standing in the bazaar, the itinerant oculist took out his penknife and performed the operation in a few minutes, bound up the man's eyes, telling him to keep in the dark for a fortnight, received his fee of one rupee, and shouted his war-cry for more patients. The operation was almost unvaryingly successful; one instance among my servants being a woman of eighty, who had charge of my fowl-house, and had for many days been sightless, except to distinguish light from darkness, and who in this way was successfully operated upon." — *Chambers' Journal*.

— Judge Tucker recently gave his decision in the George S. Dunbar case at Pittsfield. The facts and testimony were reviewed at length in the decision. Dunbar was found dead on a lonesome street at ten o'clock on the night of July 4. By his side was a revolver with a long string attached to the handle. A loop on the handle of the pistol could be adjusted to raise the hammer of the weapon to half-cock; then, by holding the revolver in the right hand at the back of the head, putting the string under the right foot slightly raised, drawing it tight with the left hand and putting the right foot down sharply, the hammer would be worked to explode the cartridge. Dunbar was found shot in the back of the head, and there is a distinct mark of the string on the shoe he wore. He was worth in stock of the gas company, of which he was superintendent, and in other securities and real estate, about \$19,000. He had borrowed on these securities

\$22,000, nearly all of which he had lost in Wall Street speculations. His life was insured for a very large amount in regular life companies, assessment companies, fraternal associations and in accident policies. Judge Tucker finds that the evidence compels him to believe that Dunbar committed suicide.

—Governor Robinson has made the following nominations for the Board of Registration in Pharmacy, established by act of the Legislature the past winter:

Samuel A. D. Sheppard of Newton, five years; Henry W. Whitney of Lawrence, four years; Freeman H. Butler of Lowell, three years; John H. Manning of Pittsfield, two years; Henry A. Estabrooke of Fitchburg, one year; of these Mr. Sheppard is treasurer of the Massachusetts College of Pharmacy and Mr. Butler is a trustee of the college. The others are in no way connected with it and none of them are graduates from it. All of the gentlemen nominated are in business for themselves, and have had from ten to twenty years' experience. Mr. Estabrooke, the youngest, is thirty-five years old; none of them are aged men. The portion of the trade that was especially active in behalf of the bill last winter is represented on the board, and also those who took no active part in its establishment. The board will hold its first meeting for organization on the first Tuesday in October.

#### BOSTON.

—Free vaccination is being performed at the Charity Building on Chardon Street, under the auspices of the Boston Board of Health. The employees of the Boston & Lowell Railroad are also being generally vaccinated, on account of the prevalence of the small-pox in Montreal. The sleeping-cars are not run through from Boston to Montreal but the passengers are obliged to change cars near the Canada line.

—A successful fair in aid of the Carney Hospital was held at the building of the Massachusetts Charitable Mechanics' Association in Boston, September 3. The spacious floors were none too large to accommodate the crowds who attended to show their interest in this cause; and we understand that a substantial pecuniary result was achieved.

—A serious epidemic of diphtheria occurred late in the season at Hotel Wellesley, which has necessitated the closing of the Hotel. Several deaths have occurred among children who were guests of the house. It is fair to say that the management have published certificates from several sanitary experts, based on very recent examinations, as to the absence of any defects of plumbing.

#### NEW YORK.

—It is to be hoped that the Board of Health will promptly take measures to remedy the unsavory condition of affairs at Fulton Market, the great fish depot of the city, as recently revealed by Mr. Bergh, President of the Society for the Prevention, etc. In a communication to the Health department, he calls attention to the filthy state of the basin in front of the market,

in which the fish awaiting sale are kept, as follows: "This basin, which extends the entire front of the market—say, 200 or more feet—is flanked on either side by lengthy piers, which, as may be supposed, almost wholly impede the flow of tide in the river. Into this foul enclosure, as if the stagnant pool were not sufficiently foul already, empties one of the great sewers of the city, added to which the daily excrements of the Union Ferry Company's closets, including the general use of that locality for like purposes by the vagrants of the neighborhood, unquestionably render that reservoir the most unfitting place that can be found to store food for human consumption. And yet, in this disgusting receptacle are to be counted hundreds of enormous crates, holding millions of fish annually, which are eaten by our inhabitants."

—One of the inspectors of the Board of Health (not a medical man), has been sentenced to three months' imprisonment for asking and accepting a bribe.

#### PORTLAND.

—The lecture term of the Medical Department of Bowdoin College has been lengthened to twenty weeks, and the next session will begin on the 1th of next February, closing on the 24th of June. By this arrangement, the closing exercises will occur on the day before the College commencement.

A chair of Public Hygiene has been established, and will be filled by Dr. A. G. Young, the Secretary of the Maine State Board of Health.

—Prof. Henry Carmichael, Ph.D., who has occupied the chair of Chemistry since 1873, has resigned, and Prof. Franklin C. Robinson, for some years the chemist of the College, is to succeed him.

### ❖ Miscellany.

#### A SUBSTITUTE FOR SENEGA.

Of all the well-marked expectorants which are used in the treatment of cases of emphysema, senega root occupies the first place; and although not only here, but in the second stage of acute bronchitis, in chronic pulmonary catarrh, and the later stages of pneumonia, it produces often valuable effects, it unfortunately has a very bad taste, is expensive, and often produces intestinal irritation. Dr. K. Kobert (*Centralblatt für klin. Med.*) has found that this drug contains two glucosides which are in different proportion in different specimens of this drug as found in the market, and he has further found that in the quillaja bark (*Quillaja saponaria Molina*) these two glucosides are present, and in almost five times the proportion in which they are found in senega; and since this quillaja bark is ten times cheaper than senega root, the same amount of active substance is fifty times cheaper than in the case of senega. Moreover, the amount of glucosides present is a constant one, and the bark contains a considerable quantity of sugar, which gives the decoction a sweet taste, and which renders it further free from the disagreeable taste of the senega decoction. On these grounds, Dr. Kobert was naturally led to test its employment therapeutically; and the results of numerous observations have shown

him that patients bear this article better than senega, that it very seldom produces vomiting or diarrhoea, that the sweet taste leads to its being readily taken by children, while its expectorant action stands beyond all question. The mode of administration which he employed is in the form of a decoction of five parts of the bark to two hundred of water, taken by the tablespoonful by adults and the teaspoonful by children. Dr. Kobert states that ulcers, or inflammation of the intestines or stomach are contraindications for the use of this drug, since its rapid absorption by portions of the intestinal tract which have lost their epithelial coating may readily produce symptoms of poisoning. If taken dry, even when mixed with sugar, the powder nearly always produces coughing. It is to be hoped that these results will be generally tested, as a powerful and safe expectorant is certainly greatly needed.—*Therapeutic Gazette*.

### THE TREATMENT OF SOME FORMS OF DIARRHŒA.

THE editor of the *Therapeutic Gazette* (August 15,) gives some timely suggestions as to the treatment of diarrhoea.

The first of these is as to the value of sulphuric acid in the treatment of diarrhoeas of relaxation. "Many years ago," he says, "we learned from the late Prof. Francis Gurney Smith the value of this remedy, especially in combination with the extract of hamatoxylin. The following prescription we have tested almost innumerable times. It makes a very agreeable and efficient mixture, and may be given if necessary every two hours. Of course it should be varied, especially in the opium it contains, to suit individual cases.

R Acid. sulphur. aromat., f ʒ iii;  
 Extr. hamatoxylin, ʒ iii;  
 Tr. cinnamon,  
 Tr. opii camph., ʒā f ʒ iiss;  
 Syr. q. s. ad f ʒ vi. M.  
 S.—Tablespoonful, as required, in a little water.

A second remedy, still less frequently used than sulphuric acid, but of great service in non-inflammatory diarrhoeas, is carbolic acid, or, perhaps preferably, creasote. This remedy is especially useful in cases of lenteria, with which there is such excessive nervous irritability of the bowels that food when taken passes right through. But it is also often very serviceable in ordinary summer diarrhoeas. A very valuable combination, useful especially in sudden violent attacks, is afforded by the following prescription. It may be administered every half-hour at first; of course care must be exercised not to give the maximum dose too frequently.

R Chloroform, f ʒ iiss;  
 Oil. eucalypti III;  
 Creasote, ʒā f ʒ i;  
 Tr. opii, f ʒ iiss. M.  
 S. Shake well. Dose, 20 to 30 drops.

In some cases, especially of more chronic or persistent diarrhoeas, of which we have been speaking, where there is excessive acidity of the intestines, a combination of creasote with chalk or bicarbonate of sodium is very useful. Not rarely the addition of the creasote to an ordinary astringent cough-mixture affords excellent results.

In regard to dysenteries, there are only two remedies which have in our hands given satisfactory results. One of these is calomel, and the other ipecacuanha. Of the two the vegetable drug is the more universal in

its application, although in the sporadic dysenteries, as seen in this climate, calomel is usually efficient. The objection to the use of ipecacuanha is the distressing vomiting which it is so prone to produce. The amount of vomiting is, however, very greatly affected by the method of administration. Some practitioners are accustomed to begin the treatment of dysentery by a large dose of the ipecacuanha in powder and endeavor to obtain tolerance after repeated vomiting. We have found that in many cases, vomiting can be altogether avoided and the desired results achieved by giving the ipecacuanha in doses of five grains every half-hour, in pill form in combination with opium, or, better, by preceding each pill fifteen minutes by a dose of opium. In very bad cases with pronounced so-called bilious symptoms,—that is, excessively-coated tongue, epigastric tenderness or sense of weight, sick stomach, and vomiting,—it is probably preferable to begin the treatment by giving the five-grain pills every fifteen minutes until free vomiting is set up."

### INCISION OF THE PERICARDIUM IN PURULENT PERICARDITIS.

At a recent meeting of the Moscow Russian Medical Society, Dr. Ekaterina A. Mikhailova communicated (*Médec. Obozr.*, Fasc. v., 1885) an interesting case of purulent pericarditis of traumatic origin, treated by tapping and incision of the pericardium, which is summarized in the *London Medical Record*, August 15.

The patient, a cook, aged 35, who had for many years suffered from cardiac palpitation and rheumatic pain in the right side of the chest, was admitted to the Staro-Ekaterinsky Hospital five days after a fall from considerable height. For the first day after the accident, the patient had remained in an unconscious state; on return of consciousness on the second day, she had tried to get up and to resume her usual work, but had found herself unfit for anything on account of giddiness and intense attacks of palpitation.

On admission, she looked pale, anæmic, and exhausted; the tongue was whitish, moist; pulse small, 90; temperature 39° C. The chest was normally developed, its excursions being equal on both sides, though not energetic. The apex-beat was not visible, and hardly perceptible to the touch. The cardiac dulness commenced from the third rib; its left border passed slightly beyond the nipple line, the right reached the median line, and the lower extended downwards to the sixth rib. The heart-sounds were feeble, but otherwise normal. A dull area was detected over the posterior aspect of the right side of the chest, extending from the scapular angle down to the lower border of the lung. Auscultation revealed there entangled vesicular respiration. The patient could not lie on her right side, on account of dyspnoea being increased.

For the next eight days, the patient's state remained much the same; on the ninth there appeared intense dyspnoea, and cyanosis of the lips and nose; the pulse became much smaller and intermittent, 120; the urine contained much albumen, pus-corpuscles, and hyaline casts. On examining the patient on her back, the cardiac dulness now commenced from the lower edge of the second rib, extended on the left to the anterior axillary line, and went on the right slightly farther than the right edge of the sternum, the lower border remaining at the sixth rib. The apex-beat could not be felt

any more: the heart-sounds were clear, but very feeble and intermittent. On the fourteenth day, oedema of the subcutaneous tissue in the precordial region was noticed.

The cardiac symptoms steadily growing worse, on the fifteenth day aspiration with Dieulafoy's apparatus was performed in the fourth intercostal space, and 120 cubic centimètres of fluid drawn off. The first 80 cubic centimètres consisted of pure cream-like pus, the remaining 40 almost entirely of blood. Immediately after the puncture, the patient was in a state of semi-collapse, but on the next day there was noted a slight improvement in the subjective symptoms. On the seventeenth day, the cardiac dullness reached up as far as the clavicle, the pulse became scarcely perceptible, the dyspnoea extreme: the lungs were full of mucous râles. To satisfy the vital indication, incision of the pericardium was decided upon and performed by Drs. P. P. Minin and Hindenburg. It measured about two centimètres in length, its spot being close to the left edge of the sternum, in the fourth intercostal space. About two fluid pounds of fetid blood-stained pus escaped. After washing out the pericardial cavity with boracic water (at 38° C.), a drainage-tube was inserted, and the carbolic gauze applied. Striking relief immediately followed: the dyspnoea diminished, the pulse became regular and 90; the cardiac dullness normal. However, in spite of three successive subcutaneous injections of ethereal tincture of valerian, the cardiac action remained low, and eighteen hours after the operation the patient died.

Analyzing the details of the case, Dr. Mikhailova arrives at the conclusion that she had to deal with an instance of idiopathic purulent pericarditis caused by injury. Pointing to the fact that in her case (as in the case of Partevsky, for which see the *London Medical Record*, Feb. 1883, p. 33) the operation was resorted to too late, the author states her belief that incision of the pericardium in cases of purulent pericarditis may be followed by a favorable issue only when it is undertaken in presence of a healthy cardiac muscle. On the other hand, however, she seemingly admits Professor Rose's dictum that, as a rule, incision of the pericardial sac in purulent pericarditis has the same therapeutic value as tracheotomy in certain affections of the respiratory organs.

At the *post mortem* examination, there were found fatty degeneration of the cardiac muscle, dilatation of the cardiac cavities, considerable old fibrinous thickening of the pericardium, fibrino-purulent exudation, with admixture of blood in the pericardial sac, right hydrothorax, total obliteration of the left pleural cavity, oedema of the lungs with purulent bronchitis, marantic thrombosis of the pelvic veins, and of the vena spermatica interna dextra, ischemic necrosis of the right kidney; the same, but in a less advanced stage, in the left kidney. A search for bacilli in the heart and pericardium gave negative results.

#### PAINLESS EXECUTION.

CAPITAL punishment possesses some Grecian attraction for the amateur philanthropist. Those who are not prepared to abolish it altogether, are anxious to so modify its methods as to replace the deterrent image of grim death by the almost seductive oblivion of a judicial euthanasia. To this end the mysteriously sub-

tle power of electricity has been oftentimes invoked. An English surgeon recently recommended that as the condemned criminal left his cell "a powerful current should be turned on" to a brass plate let into the floor of the corridor, so as to substitute a rapid and painless demise for the horrors which have now and again even recently disfigured the ghastly operations of the hangman. The idea was doubtless conceived in a kindly spirit, but the directions are too vague to be of much practical value; and good authorities are as doubtful as men who have not themselves submitted to the *experimentum crucis* can well be, as to whether death by electricity is by any means the painless process which the popular mind conceives. A more merciful method is suggested by an American physician, who suggests the "hypodermic administration of morphine as a substitute for hanging in the execution of criminals"; taking the ground that while hanging is often rapid and painless, it is sometimes slow and cruel; and being of opinion that the medical profession should suggest to the State a method of killing free from objectional features. This last idea is, we fear, impossible of realization. The morphine plan would certainly fulfil some of its requirements; and it is scarcely probable that the most calculating criminal would set to work to contract and foster the "morphia habit" with the view of rendering himself physiologically unable to pay the last debt of justice in the manner legally prescribed. But it is not well that any suspicion of secrecy should enter into the administration of public justice; and the law of this country would assuredly and rightly look askance at the suggestion that it should even seem to adopt the methods of the poisoner.—*Medical Times and Gazette*.

#### AGAINST THE WET-NURSE.

DR. SAMUEL S. ADAMS, of Washington, argues in the *Archives of Pediatrics* strongly against the current medical opinion that a wet-nurse is the best substitute for a mother in bringing up a child.

He speaks of the low moral tone of most of the women obtainable, who at best, seek such a position in order to make money, abandoning for that purpose their own children. In case of twins, the supply of milk afforded is insufficient and a constant excitation of the lacteal glands, while perhaps increasing the secretion, diminishes its quality. The difficulty of being sure of the physical health of the woman is referred to, and the temptation to an easy fraud in passing off when examined by the physician, a healthy borrowed child for her own sickly one, as evidence that the milk is of good nutritive quality. The writer continues: "She (the nurse) must be temperate, of gentle disposition, neat and cheerful; so she may be when she is nursing the foster-child if some one is watching; but once out of sight, how are we to know what vices she may not indulge? She must be of a loving disposition. If she have such a disposition, is it not reasonable to suppose that her own child will be her first care? If she do not love her own, she may, and probably will, tuck it snugly away in a basket on somebody's doorstep, or put it in a foundling asylum. If she does this with her own, how can we expect her to be gentle, kind, and loving with another's?"

"Supposing, however, that we could control her moral nature and habits, is it not more probable that her suf-

ferings will be very great? She may not live near the foster-child, and in that case must undergo the fatigues of paying frequent visits to each infant. It is not reasonable to expect that such a woman will allow her own offspring to suffer, and consequently it is more than likely to get the lion's share of milk, while the foster-child is permitted to suffer and become puny and sickly. If she is carefully guarded, and the foster-child gets its full supply, rest assured the little one at home spends sleepless nights, and pines and sickens. Does not this naturally produce anxiety of mind and loss of rest, and impair the nutrient value of her milk?

"It may be claimed that my objections do not hold with regard to a woman who has lost her own child. This may, in a measure, be true; but even in these cases, there remains the uncertainty as to antecedents and many of the other objections heretofore mentioned, and these impel me to the selection of cow's milk as the best substitute for the mother's, and as offering the surest guarantee against transmissible vices of constitution and the many unknown and unknowable dangers of wet-nursing, even in its best form.

"We are told that a wet-nurse's diet should not be changed; that if she has been accustomed to coarse food, a change to rich and highly-seasoned diet will disturb digestion and thereby render her milk harmful. It is difficult, if not impracticable, to keep a close watch over her diet, and every one knows how great is the temptation to indulge in rich and highly-seasoned food on the part of those who are accustomed only to the commoner and coarser varieties."

#### BURIED SUTURES.

MR. C. B. KEETLEY describes under this head sutures which are completely covered by the skin, and do not involve that structure at all; they are strongly recommended to be used in all operations in which deep structures are involved, and where rapid union is required. The use of these sutures enables operations such as excision of the hip to be performed without the use of drainage-tubes in the after-treatment of the wound. The method of applying these deep sutures is thus explained by the author. Suppose an operation to be performed with the object of uniting the two ends of a deep nerve that has been divided. After the ends of the nerve have been united, whatever muscles or aponeuroses had been divided in cutting down upon the nerve would be restored to their original relationships, and kept there by aseptic animal sutures; then the wound in the deep fascia must be separately sewn up, and finally the wound in the skin must be closed with catgut, or silver, or whatever is preferred. The results to be expected from this method of procedure are these:—

(1) There is no need for drainage-tubes.

(2) The sutured muscles and aponeuroses are eventually restored as regards functions.

(3) Deep, rough, and depressed cicatrices are avoided.

(4) Necrosis of bone and sloughing of soft tissues are avoided.

The author also states that he has found these sutures very successful in dealing with sebaceous cysts of the head. Having dissected out three from the scalp of a gentleman, the remaining cavities were obliterated by two sutures in each, passing them well through

the floor of each small wound. No cutaneous sutures were used at all; the skin-wounds did not gape. A little salicylic acid dissolved in ether, and a little powdered salicylic acid, were placed over the wound. The patient went about his usual business, and a fortnight afterwards the scab was removed, leaving three sound linear cicatrices. — *British Medical Journal*, May 2, 1885.

#### THE EXTERNAL TREATMENT OF NIGHT-SWEATS.

The *Therapeutic Gazette* (August 15,) remarks concerning the treatment of night-sweats by external applications, that Nicolai (*Gazette Médicale de Paris*, June 6, 1885) obtained very good results in the case of night-sweats of phthisical patients, and others, by the employment of eight grammes of chloral dissolved in two tumblersful of a mixture of equal parts of brandy and water. Every evening before going to sleep, the patients are washed off with a sponge soaked with this solution, and if that does not serve to control the sweating, the shirt in which the patient sleeps is soaked with the same solution and then dried. The effect of this treatment is claimed to be especially satisfactory in cases of children, not suffering from phthisis, in whom night-sweats are present. Sometimes four rubbings with this solution are sufficient to entirely arrest the night-sweats for several weeks.

The tincture of belladonna is also highly recommended by Radakow for the suppression of the night-sweats of phthisis by external friction with a mixture of four grammes of the tincture of belladonna with thirty grammes of water, the friction to be made about two hours before the ordinary onset of the sweating. The fluid is to be poured into the palm of the hand and then rubbed over the entire body, with the exception of the head and the extremities, and the manipulation may be continued until the skin becomes quite moist. This treatment has been employed by Radakow in fifty cases, and he claims that it has not failed in a single instance, although sometimes localized sweatings appeared on the parts which had not been bathed with the tincture of belladonna.

#### JAUNDICE AND PAIN IN BILIARY COLIC.

Mr. Lawson Tait, in the *Lancet*, July, 1885, offers some suggestions as to the reason why, during the passage of gall-stones, there is frequently no jaundice. In fifteen cases of cholecystotomy there has been no history of jaundice, and Mr. Tait has found that the occurrence of jaundice, either in the skin or in the urine, during and after the passage of gall-stones, is of extreme rarity, and not, as has been believed, common. Mr. Tait believes that the explanation of his fact lies in the following anatomical conditions of the cystic and common ducts. The common duct is not so long (3 inches) as most text-books assert, and is much less rigid and more easily dilatable than the cystic duct, which is larger than as usually described, namely, one inch. Hence, we can understand how a stone, if not of very great size, will cause intolerable agony while passing through the unyielding cystic duct, and without a trace of jaundice ensuing, the gall-bladder alone being its propellant force; but the moment it enters the common duct the extending impulse will be increased by the influence of the whole exerting force

of the liver, so that its passage through the common duct is more rapid. The chief symptom then, that of pain, is due to the slow passage of the calculus through the unyielding cystic duct, whilst its rapid passage through the easily distended and much larger common duct gives no time, in the majority of instances, for the production of jaundice, which only takes place after long-continued obstruction of this the common duct.

#### FATAL POISONING BY WHITE PRECIPITATE.

POISONING by means of the Ammonio-chloride of Mercury (White Precipitate) is rather rare. The following case is therefore of interest. It is reported by E. Head Moore (*British Medical Journal*).

The patient was a man of fifty-two years, who had been intemperate but had for many months totally abstained from alcoholic drinks; but on the occasion of his wife giving birth to a dead child, the pressure of grief (?) proved too much for him, a protracted spree being the result. When in this inebriated condition, he "took some acid he had from his battery," which proved to have been only a few drops of sulphuric acid, which caused no bad symptoms; but he took, also, about forty grains of white precipitate. He was found suffering great pain, vomiting food freely, with cold clammy perspiration; pulse soft, feeble and rapid; bloody stools, and anxious expression.

There was none of the specific effects of mercury apparent, the symptoms being purely those of an irritant poison. The treatment consisted in frequent doses of white of egg, which was generally quickly vomited, and doses of five minims of tincture of opium with ten minims of tincture of hamamelis, every quarter of an hour, which appeared to allay both the pain and vomiting. The patient, however, never rallied, and died in about five hours after taking the poison.

### Correspondence.

#### THE QUESTION OF A VITAL PRINCIPLE.

MR. EDITOR, — As Dr. Prince boasts of having gained his ideas from men eminent for their knowledge, it is remarkable that in his reply to my paper he should have confined himself almost entirely to simple denial and to abuse. I stated in my paper that I did not intend to discuss the nature of the vital principle in the different orders of living beings but merely to show that there is one; that is to say, something besides matter pure and simple. I fail to see why this should make the task of disproof more difficult, the question being simply whether material forces are, or are not, sufficient to account for vital phenomena. Although Dr. Prince announces that he shall discuss the most essential principles involved, the only part of his reply that is at all argumentative is directed against my first proposition founded on the unity of living organisms and especially against the point that there is absolutely nothing in matter to account for the phenomena of growth, reproduction, etc. Dr. Prince remarks: "It is one of the canons of science, that we must not multiply causes without showing the inadequacy of existing ones. Before, then, introducing a vital principle to account for vital phenomena, we must show the impossibility of material forces producing these results." This is true and well said. It enables us to come at once to a definite issue.

My proposition is stated in the following syllogism:

<sup>1</sup> This Journal Sept. 10th, 1885.

Essentially contradictory phenomena (like any other effects) cannot have a common cause.

The phenomena of living and non-living matter are essentially contradictory.

Therefore they cannot have a common cause.

If these premises be granted the conclusion cannot be denied. No one, I think, will dispute the first premise. To do so would be to destroy physical science. The validity of the second premise, that vital and non-vital phenomena are contradictory is, I conceive, the point at issue. The following are some of the respects in which living and non-living matters differ essentially.

(1) *Non-living matter* once at rest remains so till disturbed by some external influence. When in action it tends to transmit its energy to other matter. *Living matter* does not remain at rest, it moves by internal agency and much, probably most, of its activity is exerted on itself.

(2) *Non-living matter* is the same throughout. *Living matter* has distinct parts with particular functions.

(3) *Non-living matter* grows only by accretion, the addition of similar particles. *Living matter* grows by assimilating foreign substances.

(4) *Non-living matter* remains unchanged. *Living matter* grows, becomes old and dies, presenting a regular cycle of changes.

(5) *Non-living matter* cannot reproduce its kind. *Living matter* can.

(6) *Non-living matter* suffers from the influence of the external world. The magnet loses power by use, water wears away the rock. *Living matter* is benefited by action if not excessive. The brain, the eye, the ear gain power by use. Even the resistance of the outer world makes bone, muscle and skin stronger.

Other important distinctions might be mentioned, but these are sufficient to establish the minor premise, and that being done the conclusion is inevitable, that vital and non-vital phenomena cannot have a common cause. The forces of matter being sufficient to account for non-vital phenomena, it follows that something else than matter is needed to account for the vital ones. This shows the impossibility of Dr. Prince's theory, which seems to be that greater complexity of activities can bring forth effects of a higher order, such as (according to his theory) a more complicated watch might think, or perhaps under favorable circumstances, reproduce little watches. Dr. Prince tells us that: "The fact that certain phenomena are observed associated with matter is *prima facie* evidence that these phenomena are due to the forces inherent in matter." I should be glad to know why. Put into syllogistic form his proposition is as follows: —

Phenomena are due by *prima facie* evidence to forces inherent in that with which they are associated.

Vital phenomena are associated with matter.

Therefore they are by *prima facie* evidence due to forces inherent in matter.

Let us change the minor term and see what results. For instance, the phenomena of motion are associated with a machine.

Therefore they are due by *prima facie* evidence to the forces inherent in the machine, or, the phenomena of uniforms are associated with soldiers, therefore they are by *prima facie* evidence due to the forces inherent in soldiers.

Dr. Prince declines to discuss my second argument based on sensation, observing, truly enough, that it would take too much space. This evasion of it, however, is hardly consistent with his promise to discuss "the most essential principles involved."

The third argument, based on the freedom of the will, he dismisses with a sneer. This is not surprising, as he must know it is unanswerable. Whatever some men may say in their writings, no one in practice doubts the freedom of the will. What man does not know that he is free to reply to an adversary or not? Who does not choose his arguments knowing that he is free to take one and to reject another? The fact of the freedom of the will is as certain to our consciousness as that of any objective phenomenon. It cannot, however, be reconciled with materialism and

with various theories of the day by which the half educated are deceived. As the argument cannot be answered it must be ignored.

I would say, in conclusion, that if Dr. Prince felt called upon to take the part of Professor Hammond, he was bound to show some fallacy in my criticisms. He may have thought, however, that the expressed opinion of the author of "*The Nature of Mind and Human Automatism*" is in itself so conclusive as to render demonstration superfluous.

THOMAS DWIGHT.

P. S. After the above had been sent to the *Journal*, my attention was called to Mr. John Fiske's latest work, "*The Destiny of Man*," from which I beg leave to make one or two short extracts, in refutation of Dr. Prince's confidence that he represents modern science.

"That it (consciousness) cannot possibly be the product of any cunning arrangement of material particles, is demonstrated beyond peradventure by what we now know of the correlation of physical forces," p. 42.

"The only thing which cerebral physiology tells us, when studied with the aid of molecular physics, is against the materialist as far as it goes. It tells us that during the present life, although thought and feeling are always manifested in connection with a peculiar form of matter, yet by no possibility can thought and feeling be in any sense the products of matter. Nothing could be more grossly unscientific than the famous remark of Cabanis, that 'the brain secretes thought as the liver secretes bile,'" p. 109.

"Viewed upon this side, (the metaphysical one) it is easy to show that Atheism is very bad metaphysics, while the materialism which goes with it is utterly condemned by modern science," p. 13.

## HELMHOLTZ'S PHYSIOLOGISCHE OPTIK. ITS BIBLIOGRAPHY.

At the request of Dr. Henry D. Noyes, of New York, we give insertion to the following request for contributions to the bibliography of the new edition of "*Helmholtz's Physiologische Optik*."

BERLIN INSTITUTE OF PHYSICS, August 6, 1885.

Dear Dr. Noyes, — If I remember rightly, I told you at our last meeting, which I recollect with great pleasure, that a new edition of the "*Physiologische Optik*" of Prof. Helmholtz, was being prepared. At present, the work of printing has begun. The bibliography will be printed last, and in a separate chapter. It is to be enlarged and to be brought up to the present time. At the request of Prof. Helmholtz, I have taken charge of this part of the work. On account of the enormous increase of the literature of physiology during the last twenty-five years, it is very difficult to make it complete. In order to be as thorough as possible, I have published a request asking authors to favor me with a notice of their publications relating to physiological optics. This has appeared in several French and German ophthalmological journals. Would you have the kindness to procure the insertion of a similar call in some of your American journals?

My address, to which letters may be sent, is Dr. Arthur Koenig, No. 16 Neue Wilhelm Strasse, Berlin.

Any communications on the above subject will place me under great obligations.

Most sincerely yours,

ARTHUR KOENIG.

## REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 12, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	646	292	25.65	14.70	15.30	1.35	3.80
Philadelphia . . . . .	927,995	388	175	22.26	11.44	9.36	4.12	6.76
Brooklyn . . . . .	644,523	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	423,800	180	70	25.20	19.60	17.56	4.24	2.12
Baltimore . . . . .	408,520	—	—	—	—	—	—	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	94	30	14.17	15.26	7.36	3.27	3.27
New Orleans . . . . .	234,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,510	79	25	24.13	17.78	6.85	3.81	7.02
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	30	8	26.66	20.00	16.66	—	—
New Haven . . . . .	62,882	20	9	30.00	10.00	20.00	—	5.00
Nashville . . . . .	54,100	19	6	36.82	10.52	21.04	—	10.52
Charleston . . . . .	52,286	40	17	15.00	7.50	7.50	—	2.50
Lowell . . . . .	71,447	24	10	16.61	12.48	16.64	—	—
Worcester . . . . .	69,112	18	11	33.33	5.55	22.22	—	5.55
Fall River . . . . .	62,574	31	15	32.25	3.25	16.13	9.69	3.23
Cambridge . . . . .	60,995	—	—	—	—	—	—	—
Lawrence . . . . .	45,516	6	—	16.66	50.00	—	16.66	—
Lynn . . . . .	44,895	19	6	47.34	15.78	36.82	15.52	—
Springfield . . . . .	38,000	18	5	16.66	16.66	5.55	5.55	5.55
Somerville . . . . .	31,350	—	—	—	—	—	—	—
Holyoke . . . . .	30,515	14	5	21.42	35.70	—	7.11	—
New Bedford . . . . .	20,114	13	3	15.38	7.69	15.38	—	—
Salem . . . . .	29,593	6	0	16.66	—	—	—	—
Chelsea . . . . .	24,547	8	2	25.00	35.53	—	—	—
Taunton . . . . .	22,693	12	4	16.66	—	16.66	—	—
Gloicester . . . . .	21,400	5	5	20.00	—	—	—	—
Haverhill . . . . .	20,985	6	2	33.33	—	16.66	16.66	—
Newton . . . . .	19,121	5	0	20.00	20.00	—	—	—
Brocton . . . . .	18,323	3	0	33.33	—	33.33	—	—
Malden . . . . .	15,373	2	—	—	—	—	—	—
Newburyport . . . . .	13,947	5	1	—	20.00	—	—	—
Waltham . . . . .	13,568	6	2	33.33	—	16.66	—	—
Fitchburg . . . . .	13,433	4	1	50.00	—	—	—	—
Northampton . . . . .	13,165	5	4	—	—	—	—	—
88 Massachusetts towns . . . . .	—	71	29	25.38	14.10	16.61	3.64	3.23

Deaths reported 1,774: under five years of age 730; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 464; diarrheal diseases 428, consumption 254, lung diseases 100, diarrheal diseases 238, typhoid fever 32, diphtheria and croup 74, whooping-cough 23, malarial fevers 20, cerebro-spinal meningitis 10, scarlet fever five, puerperal fever two, measles two, smallpox one. From whooping-cough, New York 14, Philadelphia and Providence two each, District of Columbia, Worcester, Fall River, Holyoke and Chelsea one each. From malarial fevers, New York 11, District of Columbia four, Philadelphia three, New Haven and Charleston one each. From cerebro-spinal meningitis, New York six, Philadelphia two, Philadelphia and Fall River one each. From scarlet fever, New York, Boston, Charleston, Gloucester and Waltham one each. From puerperal fever, New York and Philadelphia one each. From measles, New York and Providence one each. From smallpox, Boston one.

In 109 cities and towns of Massachusetts, with an estimated population of 1,320,533, (estimated population of the State 1,355,104), the total death-rate for the week was 18.16 against 17.19 and 18.27 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,966,446, for the week ending August 29th, the death-rate was 18.4. Deaths reported 3,133; infants under one year of age 997; acute diseases of the respiratory organs (London) 201, diarrhoea 374, measles 89, whooping-cough 85, fever 49, scarlet fever 27, diphtheria 23, smallpox (London five, Manchester one) six.

The death-rates ranged from 13.7 in Bolton to 27.5 in Preston; Birkenhead 19.6; Birmingham 17.9; Bradford 17.3; Hull 17.4; Leeds 18.6; Leicester 14.6; Liverpool 20.3; London 17.5; Manchester 21.5; Sheffield 18.4.

In Edinburgh 16.0; Glasgow 21.2; Dublin 20.1.

For the week ending August 29th in the Swiss towns there were 32 deaths from diarrheal diseases, consumption 28, lung diseases seven, whooping-cough four, typhoid fever two, diphtheria and croup one. The death-rates were: at Geneva 12.1; Zurich 9.7; Basle 12.1; Berne 24.0.

The meteorological record for week ending September 12th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.		Thermometer.		Relative Humidity.			Direction of Wind.		Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.			
Saturday, Sept. 12, 1885.																			
Sunday, ... 6	30.109	58.4	68.7	46.7	68.0	42.0	74.0	61.3	N.W.	W.	W.	4	8	8	C.	C.	C.	—	—
Monday, ... 7	30.189	58.6	67.7	49.3	84.0	51.0	76.0	70.3	N.W.	S.W.	W.	3	11	6	O.	O.	C.	—	—
Tuesday, ... 8	30.078	59.8	66.1	52.0	76.0	62.0	86.0	74.7	N.W.	S.E.	S.W.	1	14	8	F.	O.	R.	—	—
Wednesday, ... 9	29.701	56.3	78.1	50.5	100.0	92.0	96.0	96.0	E.	E.	N.E.	2	11	11	R.	O.	O.	—	—
Thursday, ... 10	30.063	51.4	58.4	45.8	96.0	48.0	76.0	73.3	N.	E.	S.	13	14	4	R.	C.	C.	—	—
Friday, ... 11	30.231	53.6	63.3	44.5	70.0	54.0	79.0	67.7	N.	E.	W.	3	9	8	C.	C.	C.	—	—
Saturday, 12	30.173	57.0	66.2	47.1	81.0	73.0	62.0	72.0	N.W.	S.E.	W.	6	8	10	C.	C.	C.	18.0	0.91
Mean, the Week.	30.078	56.6	66.9	48.0				73.6											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 12, 1885, TO SEPTEMBER 18, 1885.

CAMPBELL, JOHN, colonel and surgeon. Retired from active service September 16, 1885. S. O. 212, A. G. O., September 16, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 19, 1885.

MURRAY, J. M., past assistant surgeon. Resignation to take effect January 1, 1886.

ROSS, J. W., surgeon. To special duty at New York.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE FOUR WEEKS ENDING SEPTEMBER 19, 1885.

VASKANT, JOHN, surgeon. To proceed to New Orleans, La., September 16, 1885.

HUTTON, W. H. H., surgeon. When relieved, to proceed to Mobile, Ala., September 16, 1885.

LOXO, W. H., surgeon. Granted leave of absence for ten days, September 1, 1885. When relieved, to proceed to Detroit, Mich., September 19, 1885.

FISCHER, C. S. D., surgeon. To proceed to Norfolk, Va., September 16, 1885.

SANTILLI, H. W., surgeon. When relieved, to proceed to San Francisco, Cal., September 18, 1885.

GODFREY, JOHN, surgeon. When relieved, to proceed to Louisville, Ky., September 16, 1885.

GOLDENROTH, C. B., passed assistant surgeon. When relieved, to proceed to St. Louis, Mo.

#### DEATHS.

Died in North Attleboro, Mass., September 17, 1885, James Wendell Foster, M.D., M.M.S.S., aged seventy-two years.

Died in Malden, Mass., September 16, 1885, William Henry Aiken, M.D., M.M.S.S., aged thirty-six years.

#### BOOKS AND PAMPHLETS RECEIVED.

Women's Medical College of the New York Infirmary. Seventeenth Annual Announcement, June, 1885.

Fowles' Manual of Chemistry, Theoretical and Practical. A New American from the Twelfth English Edition, Embodying Watts' Physical and Inorganic Chemistry. With 168 Illustrations. Philadelphia: Lea Brothers & Co. 1885.

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## Original Articles.

## THE CLIMATIC TREATMENT OF PHTHISIS.

BY HAROLD WILLIAMS, M.D.

DURING the past thirty years, a gradual change of opinion has come about amongst medical men in the prognosis of pulmonary phthisis—a change which is due to the advancement of medical knowledge; first, with respect to the diagnosis of the disease, and second, with respect to its treatment; the former, since by an earlier recognition we are enabled to make an earlier application of our treatment; the latter, because of the improvement in that treatment.

The treatment thus applied, may, for convenience, be divided into the medicinal, general and local; the hygienic and the climatic; and when recovery results, exactly how much is to be ascribed to medicine *per se*; how much to a careful regulation of the hygiene of the patient; or how much is due to climatic treatment, if the climate cure should happen to have been applied, it is impossible to conclude, though in passing I would say, that in my own opinion, a due regulation of the hygiene of the patient is of more value than all other methods of treatment combined, medicine and climate simply being regarded as useful adjuvants to the hygienic treatment.

These brief preliminary remarks, therefore, bring us to the subject of our paper, "The Climatic Treatment of Phthisis," one of the most perplexing questions in the treatment of disease. It has been considered meteorologically, physiologically and illogically, clinically, empirically, and sentimentally. It is governed by no fixed laws; it is elucidated by few published clinical observations, and it is complicated by the utmost conflict of testimony and opinion, as any one may speedily convince himself by a few hours' perusal of the testimony in favor of the different health resorts.

In the mass of literature which the reader will then find before him, he will see that stations, possessing all the extremes of different climates, are alike recommended by their respective advocates; and the conclusion is forced upon the investigator, either that these advocates are prejudiced in their views, or that it must be to some common quality or qualities that all these localities are alike indebted for their vaunted reputations.

I shall not attempt to enumerate these health resorts, for their name is legion; let me simply content myself with saying that I have in my possession a list of one hundred and sixty-eight different island districts and towns, all of which are alike recommended for the treatment of pulmonary phthisis—localities which present every phase of difference in therapeutic climate, and I shall leave it to each one of you to infer the difficulty of deciding the question—"Where shall I send my phthisical patient?" But before we come to an analysis of those different factors which combine together to make up climate, I desire to call your attention to two facts which have hitherto escaped notice in the present context, as directly bearing upon the present question, the idiosyncrasies of certain persons for or against the sea or mountains being disregarded for the present.

The first of these facts is, that with or without treatment, certain cases of phthisis naturally tend to recovery, in proof of which I cite the cicatrized lungs of persons dying from other diseases as found in the autopsy

room; also those cases familiar to each one of us in practice, of recovery from those physical signs which we are accustomed to associate with phthisis—of recovery, too, which often occurs under the most unfavorable circumstances. I, myself, can recall the case of a man with well-marked signs at the apex of one lung following upon copious hæmoptysis, who was completely restored to health while living in one of the most crowded and unhealthy localities in this city, and I am sure I need not remind you of the two cases reported by Dr. E. G. Cutler<sup>1</sup> in a recent number of the Boston *Medical and Surgical Journal*.

This rule, that certain cases of phthisis tend to recovery, I think may be regarded as an axiom; and the same holds good of its converse, that certain cases of phthisis tend to progressive advancement in spite of all that treatment can accomplish to the contrary. To express this more plainly, I may say that some cases will inevitably recover, while others will as inevitably die, notwithstanding the treatment which may be applied to them, so that recovery or death in any given case should not be ascribed to climate alone, in disregard of other factors.

The second consideration which I would urge upon you, is the importance *per se* of any change of climate; a change which is often accompanied by a change of scene, of habits, of exercise, of food, of dress, of thought, of companionship and of surroundings; such changes are generally pleasurable changes, and "states of pleasure are concomitant with an increase of some or all the vital functions." In my opinion, much of the gain which is derived from a change of climate, is due not so much to the curative properties of that climate as may be attributed to the effect of the change.

But in spite of these facts, that some cases tend to recovery while others as necessarily tend to decline, and that the mere change of residence is valuable in itself, yet this does not preclude the possibility that a given change of residence may be better than another; that some classes of health resorts may be more efficacious than others, and for other reasons in addition to that change; and it therefore becomes our duty to examine the evidence which is adduced in support of these different groups of health resorts.

In a general way, these health resorts may be divided into four principal divisions; the sea itself, island and sea-board stations, inland stations, and mountain stations; and it may be said that the sea air, by which I mean the air of the sea as experienced upon shipboard, and mountain air as experienced at an elevation of 6,000 feet, represent the extremes of therapeutic climate. Between these extremes, the inland stations like Aiken and the Adirondack region; and the island and sea-board stations, like the Bermudas and St. Augustine, lie, each possessing in a degree, the peculiarities of the extreme to which it is most closely allied.

Besides the common attributes of sunshine, winds, rains, etc., varying with the different local circumstances of each place, the meteorological peculiarities of these extremes may be summarized as follows:

Sea-air differs from the other groups in that it contains:—

*First.* The maximum amount of oxygen and the highest degree of atmospheric pressure.

*Second.* It contains the maximum amount of aqueous vapor.

*Third.* It contains the maximum amount of ozone.

<sup>1</sup> Boston Medical and Surgical Journal, March 26, 1886, p. 295.

*Fourth.* It contains the minimum of organic impurities.

*Fifth.* It contains small quantities of saline particles, iodine and bromine.

*Sixth.* It presents more regular variations of barometric pressure.

*Seventh.* It presents the minimum diurnal variations of temperature.

Mountain air, on the contrary, contains :—

*First.* The minimum amount of oxygen and the lowest degree of atmospheric pressure, both diminishing in direct ratio to the height above the sea.

*Second.* It contains the minimum amount of aqueous vapor.

*Third.* It contains an excess of ozone.

*Fourth.* It contains a diminished amount of organic impurities.

*Fifth.* It presents great and irregular variations of barometric pressure.

*Sixth.* It presents the maximum diurnal variations of temperature.

*Seventh.* It is lower in temperature.

*Eighth.* It is characterized by greater "diathermancy" of the air, since by diminished density and humidity, it offers less obstruction to the passage of the sun's rays.

Some of these distinctions are, of course variable, though nearly enough exact for purposes of comparison, the only inaccuracy being in the local surroundings of the individual stations. For example, if we have a mountain resort in a valley, like Davos Platz, crowded by consumptives and badly drained, the air of that resort would probably contain much of those organic impurities most to be dreaded. Furthermore, the position of a locality with respect to neighboring heights, soil, direction and character of winds, latitude, and neighboring bodies of water, must, in a measure, modify some of these general rules.

Now these meteorological differences, although at first sight appearing of radical physiological importance, are in truth of little value in the treatment of phthisis, so far at least, as is demonstrated by our present knowledge. On the contrary it is probably due to qualities common to all groups that all are indebted for their reputations, as a brief review of these considerations will show us.

*First,* as regards the increased quantity of oxygen at the sea level and the converse diminution at altitudes, it has been shown by Dr. Parkes that so long as the oxygen does not sink below fourteen per cent, as much is absorbed as when it is in its natural proportion,<sup>2</sup> a fact which would vitiate alike all theories based upon an increase or decrease of the oxygen in the atmosphere, since in none of the climates recommended for the treatment of phthisis does the oxygen sink below fourteen per cent. With regard to the consideration of the difference of barometric pressure, however, more attention must be paid, though like the variation in the quantity of oxygen, it seems to me of little practical importance. That an immediate change from a low to a high level is often a dangerous experiment for a person suffering from phthisis no one can deny, although I believe that the effects of such changes with respect to therapeutic heights have been greatly exaggerated. But be this as it may, the effects of sudden and extreme changes are not our present consideration. We are speaking now not of sudden de-

leterious changes, but of permanent favorable changes, slowly accomplished.

As none of the advocates of low levels urge the consideration of increased pressure, I shall confine my attention solely to the effects of diminished pressure, since it is largely upon this meteorological consideration that the advocates of high altitudes base their claims.

The nearest approach to a theory, that I have been able to find, as to the effect of diminished pressure upon phthisical patients, is that advanced by Dr. Denison, which I quote as follows:—

"With the atmosphere, let us say, one-fifth rarified, respiration is deeper and more frequent. Here the density of the air in the lungs during inspiration would seem to be lessened in proportion to the greater quantity of air which has to be breathed. This increased approach to a state of vacuum in the lungs tends to draw the blood quickly into the pulmonary vessels which movement of the circulating fluid is aided by the accompanying increased action of the heart."<sup>3</sup> This increased capillary circulation in the lungs acts, Denison claims, in two distinct ways: first, by being in "opposition to stasis of blood which is an early stage of inflammation," and second, that by the pressure these expanded vessels exert upon the intercellular tissue, they crowd outwards the products of inflammation.

Now this theory seems to me untenable both in its data and its conclusions. In the first place it assumes that respirations are increased in force and frequency at therapeutic altitudes, whereas upon this point there is conflict of testimony, Jourdanet<sup>4</sup> asserting that respirations are lessened, while Coindet maintains that they are increased, thus showing that the question of increased respiration has still to be settled. But even supposing the respirations are increased both in force and frequency, such increase would seem, not to *lessen* the density of the air breathed, thus causing a vacuum in the lungs, but, on the contrary, it would seem rather to *increase* the density of the contained air. For the greater the quantity of air in the lungs, the greater would be the distension of the elastic chest walls, and consequently the greater the pressure exerted upon the air contained, thus increasing its density. So that if we admit that the respirations are increased this increase should be regarded as the probable factor by which the organism accommodates itself to diminished atmospheric pressure rather than as a means of causing a vacuum, as Dr. Denison claims in support of his theory. Moreover, Dr. Denison claims that this increased pulmonary circulation is also supplemented by increased action of the heart, whereas Jaccoud says that the acceleration of the cardiac pulsation is only temporary and ceases at the end of a few days.<sup>5</sup> But for purposes of argument, admitting that the air in the lungs *does* approach a state of vacuum, Dr. Denison has yet to show the advantage of this state, even provided that it did increase capillary circulation. For to say that "stasis of blood is an early stage of inflammation," is but a partial statement of the case, while to claim that the pressure of the dilated vessels upon the intercellular tissue crowds out the products of inflammation is purely conjectural, and a simple statement of what he desires to prove. Without stronger evidence than that afforded by this theory alone in favor of diminished

<sup>2</sup> Rocky Mountain Health Resorts, 1880, page 32.

<sup>3</sup> The Alpine Winter Cure, Wise, pp. 25-28.

<sup>4</sup> Pulmonary Phthisis, Jaccoud, page 201.

<sup>1</sup> Parkes' Practical Hygiene, 1883. Sixth ed., p. 429.

pressure, therefore, it seems to me that we are not justified in sending our patients to the mountains.

Or again, in speaking of the doctrine of immunity from phthisis, which I shall allude to later on. Dr. J. Schrabner in his address before the Vienna Meteorological Society, translated by Dr. Geddings of Aiken, says:—"that the altitude at which this immunity commenced, varied with the latitude, being higher the nearer we approach the equator," a fact which would seem to demolish the theory of diminished pressure alone, as an agent of value in the treatment of phthisis. Moreover, when we consider that artificially increased pressure is a method of treatment at present in vogue (Waldenburg's method), as well as is diminished pressure (high altitudes), it seems to me that we must admit that the effects of pressure upon phthisical patients are by no means clearly understood.

With regard to the effects of a difference in quantity of the aqueous vapor in the atmosphere, the advocates of high altitudes have much to say, while the advocates of the sea say little. Of the former, all assert their belief in the importance of dryness of the air although none have given sufficient reasons for upholding that belief.

Here it must be understood that we are dealing with the question: "Does an extreme dryness of the air exert a more favorable curative influence upon the phthisical than does extreme moisture?" and not with that greater question of the development of phthisis because of soil-moisture. We must remember, that, notwithstanding how great the effect may be that soil-moisture exerts upon the development of phthisis,—an effect which is probably due to the fact that the exhalations of damp ground are inconsistent with hygienic perfection, and to its affording a suitable soil for the development of germs,—that the question now before us, is of the effects of dryness or humidity of the air upon the disease, already established, upon which subject the physiological evidence is again vague and conflicting.

For example, the statement, "The watery vapor abstracting an undue amount of heat from the respiratory track and giving rise to catarrhs, coughs, or perhaps inflammation" <sup>6</sup> is met by the assertion, "Freedom from colds because of humidity." <sup>7</sup> Or again the statement, "the natural consequence of this dryness (of the air) is the abstraction of so much water from the respiratory tube that the lungs are *proportionately colder*, the consequence of which may be that some antipyretic effect is produced" <sup>8</sup> is met by the experiments of Beneka who has shown that heat is lost more readily at the north sea than at high altitudes <sup>9</sup> all of which go to show the unsettled state of the medical mind upon the effects of humidity. How the importance of aqueous vapor as a factor in the cure of phthisis should have gained ground I do not know. I can simply say that I know of no evidence proving that importance.

*Fourth.* With respect to ozone and "its effect upon man, little is known." <sup>10</sup> A fact of considerable importance, when we reflect that patients are daily sent to the Adirondacks, to Aiken, and to the New Jersey and Georgia pines because of the increase of ozone which is said to follow in consequence of the turpentine

exhaled from the trees. <sup>11</sup> In this context I would say that those who rely upon this theory repose their faith upon broken reeds, since, not only is it claimed by Brown "that ozone is nearly or quite inoperative" <sup>12</sup> in the curability of disease, but also since it is known that turpentine has the peculiar property of preventing the further formation of ozone. <sup>13</sup> In regard to this question of atmospheric electricity a curious claim has been advanced by Denison, who says: <sup>14</sup>—"You lie down to sleep on the ground as only a tired camper can, and rise in the morning from your *negative electric* bed, to stretch yourself in the *positive electric* air." As the "positive electric air" is caressing the "tired camper" quite as much while he is sleeping as when he is stretching (unless he should have covered up his head with his blanket), I conclude that it is the stretching which Dr. Denison intends to inform us is of use, though why an invalid need go to Colorado, in order to stretch himself in the open air is not so evident.

*Fifth.* Sea-air contains a small quantity of saline particles of iodine and bromide, which, says Yeo, <sup>15</sup> "may not be without real influence on some organisms."

*Sixth.* Mountain air presents less regular variations of barometric pressure, and an increased diathermancy. Upon these points of difference nothing is proved: of the former, it is claimed, that variations of barometric pressure exert considerable influence on the circulation of the air contained in the soil—the so-called ground-air—an air which is likely to be contaminated with carbonic acid, marsh gas and occasionally sulphuretted hydrogen; <sup>16</sup> and of the latter, it is claimed by Denison <sup>17</sup> that since mines are unhealthy because of the absence of sunshine, and since the power of the sunshine increases with increasing altitude, therefore "the beneficial effects of sunshine increase with increasing altitudes." Denison's syllogism disregards latitude, and if true, would go to show that Colorado was less suited for consumptives than all points between it and the equator if of equal altitude, since the altitude being the same the effects of the sun's rays must be increased as we approach the equator, as is shown by the increasing altitude of the snow-line.

*Seventh.* The sea air presents the minimum of diurnal variation of temperature; a factor which seems to me greatly in favor of the sea, inasmuch as the important effect upon health of sudden and great changes of temperature by promoting or checking perspiration is generally admitted. Moreover, it must be borne in mind, that these changes, however great they may appear with us, are still greater in many of the mountain stations and less upon the sea itself. The annual range at Fort Sully, for example, is 150° F., <sup>18</sup> whereas in the Eastern or Atlantic States it is 100°. Again, the range at Denver for the month of March, 1880, was 83°, <sup>19</sup> whereas in Santa Barbara, the maximum variation for the month of January, 1879, was 23° F., <sup>20</sup> while again, according to the report of the Challenger, the diurnal range of the temperature of the air over the North Atlantic on a mean of 126 days was 3° 21', <sup>21</sup> figures which are taken from the data at hand, simply

<sup>6</sup> *Practical Medicine*, Loomis, page 294.

<sup>7</sup> Brown, *Tr. Rlt. Ist. m. Soc.*, 1880.

<sup>8</sup> Brown, *op. cit.* also *Eng. Brit. vol. xviii*, p. 113.

<sup>9</sup> Denison, *op. cit.*, p. 75.

<sup>10</sup> *Health Resorts*.

<sup>11</sup> *Trippe, op. cit.*

<sup>12</sup> Denison, *op. cit.*, page 22.

<sup>13</sup> *Rattray Phil. Med. Times*, 1880-81, xl, p. 358.

<sup>14</sup> *Fiske, N. Y. M. Record*, 1881, xxvi, p. 328.

<sup>15</sup> Denison, *The Planet N. Y.*, 1883 84, p. 135.

<sup>16</sup> *Eae. Brit.* Vol. xvi, p. 117.

<sup>17</sup> *Eae. Brit.* Vol. xvi, p. 117.

<sup>18</sup> *Eae. Brit.* Vol. xvi, p. 117.

<sup>19</sup> *Eae. Brit.* Vol. xvi, p. 117.

<sup>20</sup> *Eae. Brit.* Vol. xvi, p. 117.

<sup>21</sup> *Eae. Brit.* Vol. xvi, p. 117.

<sup>6</sup> *Wise, op. cit.*, page 20.

<sup>7</sup> *Yeo's Health Resorts*.

<sup>8</sup> *Jacoud, op. cit.*, 211.

<sup>9</sup> *Deutsches Archiv. für klin. med.*, March, 1874.

<sup>10</sup> *Trippe, Tr. of the Soc. Med. Off Health*, 1882-83, p. 20.

to show the variations of temperature. And in this context I would say that such tables of temperature as are usually given are of little practical value in the selection of a health resort. It is the *diurnal range* that we wish to know, and in such reports the diurnal range is carefully avoided.

*Eighth.* Mountain air is lower in temperature, a factor which again seems to me in favor of the sea, since the coldness of the mountains is opposed to the principles of hygiene in so far as it admits of less open air exercise and prevents a suitable ventilation of the houses; the evil effects of which latter are augmented by the herding together of consumptive patients in hot, ill-ventilated rooms during the major portion of the twenty-four hours. I know of no better illustration of this than is afforded by Hassall, who writes: "Few invalids, who go to Davoz . . . spend more than four or five hours in the open air. . . . In his rooms, he breathes the rarified air, heated by stoves, rendered impure by the number of persons congregated together in a small space, all breathing the same air."<sup>22</sup>

*Ninth.* Both sea, and to a slightly less degree, mountain air, contain the minimum amount of organic impurity; the sea, because there exists no source of origin, the mountains, because of the paucity of population; the lowness of temperature, the presence of snow and the prevalence of winds.

Thus, then, to sum up the meteorological differences between the air of the mountains and the air of the sea, it would seem that the sea air possesses certain possible advantages over that of the mountains in that it is warmer and purer, and that it presents slighter variations both of temperature and humidity.<sup>23</sup> But this it must be remembered, is the air over the sea itself, air that can only be prescribed through the medium of ocean voyages, a prescription open to the grave objections of idiosyncrasy against the sea; sea-sickness; anxiety at leaving friends, fears of dangers, lack of companionship, variety and exercise; and above all, inferiority of food. Added to which is the difficulty of selecting a voyage which shall extend over a sufficiently long period of time. Thus, though it would appear that the sea-air is theoretically somewhat better than other climates for such consumptives as can avail themselves of it, we cannot but recognize, in view of these ulterior considerations, that it is available but for few.

Island and sea-board stations resemble most nearly the sea; differing from it both with respect to variations of temperature and humidity, and purity of the air; the latter being probably dependent upon the density of population, the age of settlement, the character of the soil, and the prevalence and direction of winds. Inland stations, on the other hand, resemble the mountains or the sea according to their altitudes and consequent humidity and diurnal and annual ranges.

Physiologically speaking, therefore, it may be said that mountain air is no better than island or sea-board air because it is colder and more liable to sudden and excessive changes of temperature, while, on the other hand, it may be contended that island or sea-board air is no better than mountain air because of its diminished purity; the factors of difference in each class thus becoming, in a comparison, factors of equalization. And in this context I would allude to the idiosyncrasies of individual patients for or against the sea or mountains,

I think there can be no doubt that some people feel better at the sea than at the mountains, or *vice versa*, in the same way that they manifest a different tolerance of drugs, and I believe that these individual preferences should be consulted in the successful treatment of phthisis by climate, although no definite rule can be laid down with this respect unless it should be that in general people above the middle age do better at the sea.<sup>24</sup>

Clinically considered I again find the evidence vague and incomplete. I am aware of but three statistical reports of any value in favor of the high altitude treatment; those of Spengler,<sup>25</sup> concerning cases at Davoz Platz, 5100 feet above the sea; those of Denison,<sup>26</sup> of cases occurring in Colorado, Wyoming, and New Mexico, and those of Ch. K. Williams,<sup>27</sup> also of cases at Davoz. Of the island, seaboard, and inland resorts I can find no statistical report whatever of completeness. From the reports of mountain treatment no conclusion can be drawn.

In Spengler's statistics of 323 cases, 73 recovered or about one-fourth, as compared with the one-sixth of recoveries cited by Loomis<sup>28</sup> as the result of mixed treatment. Yet we are informed by Ch. K. Williams that among the patients at Davoz "there is a limited amount of disease (and that too in an incipient form)."<sup>29</sup> From this it would appear that a large number of Spengler's cases were of incipient phthisis, or selected cases, and from such material it is evident that no conclusion can fairly be deduced. 190 of the 323 are claimed to have been improved, but temporary improvement belongs to the natural history of phthisis, as is well known to every practitioner of medicine. Above all, Spengler's observations were made during one and a half years, a period of time far too short to enable us to arrive at valid conclusions. Denison's statistics consist of 260 records, 58 of which are excluded, 34 for reasons which seem to me insufficient. Of the 202 remaining cases, the observations extended only over an average period of one and three-fourth years, thus representing "an analysis of 50 years, spent by 202 consumptives in Colorado," as Denison more attractively puts it. But actual results are not given. Dr. Denison merely speaks of improvement, and temporary improvement, as I have said, belongs to the natural history of the disease. Moreover, improvement is often exaggerated especially when recorded by so enthusiastic a partisan as Dr. Denison. Williams' statistics present similar objections. The illogical argument in favor of certain localities may be briefly stated as follows: In the locality A phthisis is unknown, therefore the locality A offers the greatest hope of recovery for persons suffering from phthisis. Such an argument is of course absurd, especially in view of the present light thrown upon the cause of the disease by Koch in his renowned discovery. We do not argue that because typhoid fever is unknown in a certain town, that town is especially adapted for the treatment of cases of typhoid, and should we so argue I think it would be safe to infer that this town would not enjoy its reputation for any considerable period of time. Moreover, to say that it is because of the climate alone, that the inhabitants of a certain Swiss

<sup>22</sup> Loomis, op. cit. p. 206.

<sup>23</sup> Peters, *Edinb. No.*, p. 1880-81, xxvi, p. 1166.

<sup>24</sup> Denison, op. cit.

<sup>25</sup> Lund, *Lancet*, 1879, II, 191-233.

<sup>26</sup> Loomis, op. cit. p. 197.

<sup>27</sup> Williams, *Lond. Lancet* op. cit.

<sup>28</sup> Hassall, *Lond. Lancet*, 1879, II, p. 152.

<sup>29</sup> The Ocean as a Health Resort. Wilson, p. 231.

hamlet enjoy their immunity from phthisis, is illogical in the extreme. Who can say that such immunity is not due to the rugged habits of the mountaineers? to their hygienic active open-air lives? Or how are we to reconcile such a doctrine with the statement of Parkes<sup>80</sup> that in the Swiss Alps while phthisis is rare among the men who live in the open air, yet it is very prevalent among the women, who, "employed in making embroidery, congregate all day in small, ill-ventilated low rooms?"<sup>81</sup> I, for my part, have no more doubt that it is the open-air life and not the climate, that has granted this immunity to the men than I have that it is the sedentary occupation and impure air *and not the climate* which has proved so destructive to the women. Moreover, upon this subject of immunity the greatest contradiction of statement prevails. For example, the statement, "the exceeding fatality of consumption, etc."<sup>82</sup> in Florida, is answered by the counter assertion that Florida at the time of writing had no "State Board of Health and no registration of deaths outside of the city of Jacksonville,"<sup>83</sup> showing that any statement in regard to the prevalence of consumption in Florida, at that time, must have been purely conjectural; and again, "The investigations of Hirsch have shown that neither the geographical position nor the temperature have anything to do with the prevalence of consumption . . . which is very common . . . in Siberia,"<sup>84</sup> while on the fifty-ninth page of Denison's book we find on the contrary the assertion: "In Siberia phthisis is very rare."<sup>85</sup>

Another form of the illogical argument at present in vogue is: That A. recovered in —ton, therefore we should send B. to —ton. Yet this argument might be as correctly stated by saying: "C. died in —ton, therefore we should *not* send B. to —ton.

The sentimental aspect of the question demands but little notice at our hands. It is hardly necessary for me to call attention of members of this Society to the physiological effects of the perfumed zephyrs, or the health-giving breezes which figure so largely in the descriptions of health resorts found in our medical journals. I have simply alluded to the subject in order to remind you that sentiment is not science and consequently should be shunned while dealing with questions of scientific importance.

Thus, then, to sum up, it seems to me we must admit that at the present state of our knowledge the meteorological differences of climate have been proved to be of little importance in the treatment of phthisis; and furthermore, it seems to me that clinical evidence would support this conclusion; for the burden of proof lies with those advocates who plead in favor of special climates, and such proof, it seems to me, is yet to be forthcoming.

But the beneficial effects of a change of climate in the treatment of phthisis is a matter of common belief if not of statistical proof, and such beneficial effects I believe to be due to factors common to all groups of health resorts, varying only in degree. These factors are: The change itself; the purity of the air;<sup>86</sup> the increased number of hours of open air exercise permitted;<sup>87</sup> and the improved hygienic surroundings of the patient; and this belief I shall hold until better

evidence is adduced in favor of any of the four groups of health resorts. But before closing, I would say that if these three groups of health stations (sea voyages, the best being now disregarded) are admitted to be similar, yet individually these places are not to be regarded as equal; the superiority which one exercises over another being that it affords greater hygienic advantages.

An ideal health resort for this disease should be sparsely and newly settled.<sup>87</sup> It should possess a pure water-supply and adequate drainage. It should be of a dry and porous soil and should be favorably situated with respect to neighboring heights and marshes and prevailing winds. It should be equable in temperature, and should possess the maximum of pleasant weather. It should not be so hot as to be enervating, nor so cold as to prevent out-door exercise and proper ventilation of the houses. It should afford plenty of amusement; it should not be crowded with consumptives, and it should be sufficiently unfashionable as to admit of hygienic dress.

Above all, it should afford suitable accommodations for the invalid. The house should be carefully situated and thoroughly ventilated; the food should be abundant, palatable, and varied; and the sleeping-room should be large and sunny, and afford sufficient ventilation, and I believe that such a health resort as affords these advantages in the highest degree will be found by experience to be the best locality for a phthisical patient, be the barometric pressure, the aqueous vapor, and "the diathermancy" what they may.

In conclusion, I would say that the views arrived at in the present paper are by no means new, although they have not to my knowledge been similarly stated. For example, Parkes, in his *Practical Hygiene* has said: "The best climates for phthisis are those which permit the greatest number of hours to be passed out of the house,"<sup>88</sup> and again, Sir Joseph Fayrer, President of the London Medical Society, expressed a similar opinion when he said that: "too much importance had been attached to altitude; it was pure air that is of most value."<sup>89</sup> For myself, I believe that more attention has been paid to the meteorological differences of climate than their efficacy has been shown to deserve and that too, to the great detriment of such patients as are unable to avail themselves of them, since, as they cannot be sent to such places as their physicians regard most valuable, they are not sent away at all. To such persons I believe that a consideration of what I have said, must prove of real value. Some changes of climate is possible for all — even the artisan or the laborer can pursue his calling in the country as well as in the city, or upon the sea-board as well as in the interior.

— Dr. A. Seibert recently reported before the New York society of German physicians, the case of a baby, four months old, which he had treated for gastritis, and which for eighteen consecutive days almost uninterruptedly had a temperature of over 106°. The child recovered.

<sup>80</sup> *Practical Hygiene*, p. 129.

<sup>81</sup> Dr. Tallott Jones, N. Y. M. J., Sept., 1879.

<sup>82</sup> N. Y. Krausworthy, N. Y. M. J., Oct. and Nov., 1880.

<sup>83</sup> *Ziemssen's Archiv.*, Vol. v, p. 100.

<sup>84</sup> Denison, op. cit., p. 59.

<sup>85</sup> Fayrer, *Med. Soc. Lond.* *Lond. Lancet*, 1883, i, 506.

<sup>86</sup> Parkes, op. cit.

<sup>87</sup> And it is with density of population that phthisis has become endemic. *Hanover Am. Med. Biweekly*, Jan. 1, 1879.

<sup>88</sup> Parkes' *Practical Hygiene*, quoted in B. M. A. S. J., 1883, xviii, 282.

<sup>89</sup> *Med. Soc. Lond.* *Lond. Lancet*, 1883, i, 535.

## WHAT BECOMES OF INTRA-PERITONEAL LIGATURES.

BY J. C. IRISH, M.D., OF LOWELL, MASS.

SINCE the intra-peritoneal treatment of ovarian pedicles with short ligatures has so universally replaced the older modes by clamp or ligatures brought out at the lower angle of the wound, it has become a question of great interest to learn what becomes of these foreign bodies enclosed in the abdominal cavity. This subject has been extensively investigated by Spiegelberg and Waldeyer, with a series of experiments upon animals. Doran, also, reports ten cases in which he has examined the pedicle at some time after an ovariectomy.

These observers found that a plastic effusion extending from the proximal side of the pedicle to the distal, over the ligature, would establish a vascular connection with the ligatured portion, sufficient to prevent its necrosis. Afterwards, young granulation cells would spring up and insinuate themselves among the individual fibres of the ligatures, separating the threads and unravelling them, and finally, that these fibres would become entirely absorbed.

In exceptional instances, however, the ligatures would slip off the stump, become encysted, and remain without further change.

I have been unable to learn the length of time required for the completion of this process of absorption, or the variations in extent of time that occurred in different cases. The following case, however, demonstrates that complete absorption of the ligatures may take place, as it seems to me, in a very short space of time.

January 13, 1885, I removed an ovarian tumor from a patient at Lowell. The pedicle was ligated in two sections with "Tait's Knot." The ligatures were cut short and enclosed in the abdominal cavity. The patient made a rapid and complete recovery from the ovariectomy. But May 5th, that is four months less eight days after the date of the ovarian operation, she died of acute pulmonary tuberculosis. At the post-mortem examination, a very careful search was made for the ligatures. All trace of them had disappeared from the pedicle. Although it was very improbable, from the manner in which the pedicle had been tied, that they could have slipped off and become encysted, still so thorough an examination of the pelvic cavity was made as to convince us that it was impossible that they had found any place of lodgment there. Therefore, in this instance, the entire absorption of the ligatures had taken place in twelve weeks or less.

## DYSENTERY.

BY THOMAS BUCKLER, M.D., BALTIMORE.

It is not our object to discuss, at this time, the etiology of dysentery, nor to show how the passing of blood and mucus is produced, in hot climates, by the eating of unripe and stale fruits or indigestible food of any kind, but more especially those articles which, not being readily digested, are likely to undergo septic changes, as is the case with food so simple as badly-boiled, half-raw rice. Neither is it our purpose to explain the pathology of colitis, or to show how crude, partially digested matters, passing to the large intestine, set up irritation, erythema, and inflammation of the crypts and follicles in which the morbid action unrelieved, erosion and ulceration commence, on the

eight day. It is presumed that the practitioner understands all these matters of fact, and that catarrh of the colon is also induced, by exposure to inclement weather, and that dysenteric colitis from all these causes, is invariably characterized by the symptoms tormina and tenesmus.

In all parts of the world, there is no disease so badly, irrationally, and unphilosophically treated, as dysentery, hence the fatality, not only of this malady, but also, from abscess of the liver, one of its most common and fatal sequences.

Pus, taken up at the ulcerated ends of the portal veins, is carried directly to the acini and interstitial cellular tissues of the liver, where it reproduces its kind, and a single, or multiple abscesses, of greater or less size result.

The engorged follicular bodies, or glands, imbedded profusely, in the free mucous membrane, pour out, at first, mucus alone, which soon becomes mingled with blood, and after ulceration has taken place, on the eighth day, with pus also.

## SALINE TREATMENT.

The principle of this treatment consists in the use of wet, saline purgatives, whereby the *idiopathic dysentery is converted into a symptomatic diarrhœa*. The saline, acting on the exhalents, unloads the engorged glands, mucus ceases to be secreted, and a profuse watery discharge takes its place. To accomplish this, half an ounce of Rochelle salts—tart. potass—and sodium, or a like quantity of Epsom salt, (sulphate of magnesia) or glauher salts, sulphate of sodium, is sufficient. As soon as the action of the salt is over, give twenty drops Sydenham's tincture of opium, eight of black drops, or a grain of powdered opium. This usually closes the case, or to use the popular phrase, cures (I hate the word cure) it. If, after the effect of the anodyne passes off, tormina, tenesmus and the voiding of mucus from the bowels, are renewed, then, the remedies, as directed above, are to be repeated, and in forty-nine cases out of fifty nothing more is required to be done. Early in the Mexican war with the United States, Dr. S. Tilghman, having obtained the place of assistant surgeon in the army, went directly from the Baltimore Alms House to Vera Cruz, where the troops were dying, at the time, of dysentery, like sheep, of the rot-charbon. Introducing the saline treatment, the patients all recovered, and, three weeks after landing, Dr. Tilghman was appointed chief medical director of the place. Dr. Tilghman wrote me that all he did, was to adopt the saline treatment used at the Alms-house.

## POWDERED NUX VOMICA.

But where the vaso-motor nerves are paralyzed, by blood poison, the mucous and sanguineous discharges, instead of stopping under salines, go on more profusely than before their use; and in rare cases, the tormina, tenesmus, and discharges become more active; the pulse gets small, frequent, and sometimes thready; the extremities become cool, as does also the sweaty surface of the trunk; the patient, often, in a squeaky voice, complains of great weakness, and, if the stools are examined, they will be found to be nothing less than the product of a "bloody flux," all, or nearly all, the mucus having disappeared from them.

In this emergency, a grain of pulv. nuxis vomica, may be given to a child, and five grains for an adult,

with the best results, and the attendant will be astonished, as I have been, at the salutary effect of this agent, often changing, as it does, the entire complexion of the case. I have never ventured to give more than five grains, on two consecutive days. Strychnine, in this condition, does no good, being taken up from the stomach, into the circulation; but given in the form of the powdered nut, the remedy gets down into the intestines, and the strychnine being slowly dissolved out, is used at the place where it is wanted.

#### CAPSICUM FOR PARESIS OF THE HEPATIC NERVES.

I have seen one endemic and one isolated case, besides, where the patients were suddenly seized with slight chilliness, followed by tormina, tenesmus and great weariness. The pulse small, feeble and frequent; the skin cool, covered with an oily sort of sweat, and the stools, altogether the most characteristic sign of this peculiar form of dysentery, were mucus, having the exact color of hickory ashes. In this formidable condition, nothing is required, but to give five grains of capsicum, every three hours. By the time, or before six of these pills had been taken, a profuse flow of bile came away, changing entirely, not only the character of the stools, from gray mucus to bile, but improved the condition of the patient so much, that return of strength, and convalescence, were at once established.

In this epidemic which occurred at Baltimore, in 1848, for the most part, south of Pratt and west of Light Streets, on the alluvial formation, many cases, treated with small doses of *o* ricini, calomel and opium, ipecacuanha, and by other means, were detained in bed for a long time, and a number of them were fatal, whereas the cases, relieved by capsicum alone, were never kept at home longer than three or four days at most.

I presume that capsicum, in this condition, acts as a fillip to the hepatic ganglia, thereby enabling the secretory apparatus of the liver to resume its work.

#### FALSE DYSENTERY: PROPERLY HEMORRHAGIC PURPURA.

There is still another form of disease commonly regarded as dysentery and treated for it, because the patients have sanguinolent stools, containing the coloring matter of blood, but without a trace of mucus. Of these I remember to have seen five cases, all of which were from malarial regions. The first, having some spots of purpura hemorrhagica, on different parts of his body, gave me the key to the treatment of it, and in all the others, in which there was no sign of petechiae or of subcutaneous extravasated blood to be found, except in two, there was icteric coloring of the skin and whites of the eyes. They all recovered rapidly under ten grains of bicarbonate of potassium, given every four hours, with the juice of lemons or lemons, while effervescing, and potato paste, for food. In other words they took the usual remedies for purpura hemorrhagica, and the allied disease, scurvy. If the jaundice, in these cases is deep they might also take, with advantage, at bedtime, fifteen grains of benzoate of sodium, with ten grains of the extract of taraxacum.

There may yet be other forms of dysentery with which my acquaintance has not been made. I have merely spoken of things as they came under my observation.

For dysentery, solids are, as a rule better than

liquids—properly cooked cold rice, boiled fish and tender beef, mutton or chicken, roasted, rather than ice water, beef tea, chicken and mutton broth, or milk.

Cases, malarial in their origin, should be removed and kept supplied with pure fresh air. The treatment of dysenteric ulceration of the colon has already been considered in a paper on the typhoid malady.

#### REPORT ON THERAPEUTICS.

BY FRANCIS H. WILLIAMS, M.D.

IX connection with a report on therapeutics, it is interesting to notice some of the broader views which are, from time to time, suggested in this branch of medicine, rather than limit our attention to the observations and reports which are so abundantly made on single remedies by good, bad, and indifferent observers. Such a paper as that of Dr. J. Mitchell Bruce<sup>1</sup> on "Natural Recovery from a Therapeutical Point of View," will be of interest to many physicians, though but scant justice can be done it here. He says, "when we attempt to formulate our conception of treatment and cure in the light of our present knowledge of pathology and pharmacology, we find that we are compelled to acknowledge a power of natural recovery inherent in the body. This has been acknowledged by many writers in all ages."

The author attempts to demonstrate his reasons for believing "that a natural power of prevention and repair of disorder and disease has as real and as active an existence within us, as have the ordinary functions of the organs themselves; that general therapeutics is therefore as firmly founded as physiology; and that the scepticism of treatment, which is so rife in these days of active pathological research, is thoroughly unsound."

He proposes to inquire what methods nature adopts; how it has come to pass that nature possesses such a power of preventing and treating disease; and how nature's efforts are limited when they demand assistance, and how a knowledge of her methods can be applied in the art of healing.

To learn how the various methods of remedy which nature adopts, a case of obstruction at the aortic orifice with compensating hypertrophy of the left ventricle, is cited as an excellent instance of natural cure. The cause of disease is overcome by or rendered inoperative by a natural provision—the display of greater energy; and the method founded on it is, indeed, constantly practiced in the case of voluntary muscles, and is known as exercise. In other systems than the muscular, this method, in the opinion of the author, is not sufficiently appreciated, and neglect of the exercise of organs and functions, appears to him to be one of the most unfortunate features of the therapeutics of to-day. Rather than bolster up a weak digestion with pepsin, ingluvin and papayin, or by using predigested foods, he prefers an entirely opposite course as being more scientific and more successful, such as the use of alkaline stomachics (acting as an artificial saliva, stimulating the acid gastric juice) before food, in combination with stimulants of the palatal and gastric nerves, such as aromatic bitters, wholesome wines, thoroughly appetizing food, a properly arranged menu, and cheerfulness of company and of the general surroundings at meal times.

He also objects to the habitual use of saline bitter waters as laxatives, as they simply relieve the muscular

<sup>1</sup> Practitioner, April, 1885.

activity of the bowel of its proper work, and render the bowel more languid than before. Senna, castor oil, aloes, cascara and rhamnus frangula, as well as many tonic measures directly or indirectly applied to the bowels, are the proper remedies.

"If we go to another system—how common it is for us to meet with cases of nervous disorder, such as epilepsy, where the patient has been allowed to sink into an almost vegetable existence, through the utter neglect of bodily and mental exercise. Dosed with bromides, over-fed, coddled, with constipated bowels, disordered liver, thick urine, his muscles will hardly carry the patient up stairs, his mind is a blank. Look at the same man a month after proper exercise of mind, muscles, and viscera has been enforced." Other conditions where the same general methods may be employed with advantage, are also outlined.

As regards other spontaneous remedies of nature, vomiting is a conspicuous example, the diarrhoea of indigestion is another instance of the same, as are also coughing and sneezing. All these observations suggest that disease may be prevented or removed by the direct removal of its cause. The success of the surgeon with antiseptics is an instance of how much may be done by following this method, and the physician probably does not take sufficient advantage of the principle. Emetics seem to have less reputation than they deserve, and he condemns the insufficient use made of saline expectorants to increase the secretions in certain forms of bronchitis and asthma, especially if their action is neutralized by opiates which check the flow of mucus and depress the whole respiratory mechanism.

Dr. Bruce does not advocate in all cases a vigorous and active method of treatment. He is also a believer in the method of rest, which he also calls the method of *avoiding the cause*. Rest, he says, is in apparent conflict with the method of exercise; and the discrimination of the proper time and place for either measure, is one of the most severe tests of therapeutical skill.

The interesting discussion of the treatment of chronic Bright's disease, and some of the methods of treatment by removing the effects of disease, cannot be readily given here in outline. In the second part of his paper, the author proceeds to inquire how it is that nature has come to possess the power of preventing or removing disorder and disease.

#### HYOSCINE.

In the January number of the *Therapeutic Gazette*, Prof. Wood writes of the physiological and therapeutical action of hyoscyne. The variety of the opinions held by various practitioners makes this communication the more interesting. The salt employed was Merck's crystallized hydrobromate, or in a few trials, the hydriodate of hyoscyne. "Experiments on animals, which are given in the original article, show that hyoscyne acts upon mammals chiefly as a spinal depressant; that it is a centric respiratory depressant, causing death by asphyxia; that it has very little effect upon the circulation, what influence it exerts being in the normal animal set aside by the asphyxia it produces; that it does not paralyze the pneumogastrics; that in enormous doses, it paralyzes the vaso-motor system; that on the heart itself, its influence is feebly depressant." The drug was also taken by Dr. Stewart, Wm. L. Abbott, and B. M. Free, and finally, by eight patients in the University Hospital, in doses of  $\frac{1}{10}$  to  $\frac{1}{20}$  of a grain, and in five cases of violent mental disease, in doses of about  $\frac{1}{100}$  of a grain.

"The clinical results which, so far, I have had with this drug in cases other than maniacal, are very meagre, but so far as they go, are correspondent with the physiological results, which indicate little value for the relief of pain, but much for the removal of spasm." In the next number of the same journal, Dr. Wood gives a very favorable report of this drug, made to him by Dr. Charles P. Henry, in charge of the Philadelphia Institute for the Insane.

"If there be any symptom which more than another, is characteristic and important in insanity, I conceive that sleeplessness is such. The broadest of therapeutical indications for an injured member or organ is rest. Any drug, therefore, which is a genuine addition to our soporific armamentarium, must be of interest to the medical man charged with the treatment of brain disorders."

"Chloral and the bromides are bulky and offensive to the taste, and many a lunatic will refuse to take them. Morphine, from its readiness of hypodermic use, is serviceable, but is very often contraindicated; and, besides the resistance on the part of the patient, whilst the injection is being given, is very objectionable. For all such cases, hyoscyne is of extreme value. Its minute dose, its tastelessness, makes it capable of admixture with palatable articles of food or drink which would be taken by any patient, except, of course, one who was starving himself, and, for such, it can be injected beneath the skin perhaps more readily and with better results than can morphine. In nearly all the cases in which I have used it, its efficacy has been clear.

In a case of sub-acute mania and in one of acute melancholia 1-48 grain in a little whiskey and water at bed-time gave about six hours' sleep, and marked improvement in the symptoms followed. In other cases it was given subcutaneously and with very striking results. In two cases of destructive mania the injection of 1-96 grain produced drowsiness in from forty to fifty minutes and natural sleep in one and a half to two hours, lasting from five to seven hours, and succeeded by a drowsy stage. Numerous trials were made with the drug in these cases with good results. In a case of destructive dementia the specific effect of the salt (1-96 grain) was slight, it produced great muscular lassitude and the patient's destructive propensity in a great part disappeared. In a case of destructive idiocy 1-96 grain had little effect, but 1-48 grain brought on, after seventy minutes, a profound sleep lasting for six hours.

As regards the constitutional effects, no marked depression of the pulse rate was noticed except in one case when after 1-96 grain, the pulse-rate was lowered from 84 to 48 in two hours' time, the respirations fell from 22 to 18. The extremities became quite cold and the circulation feeble.

No bad result of any kind has been observed to follow the use of the drug.

In commenting upon the relations between atropia, hyoscyamia and hyoscyne, Dr. Wood says that the last two are entirely different from one another, and that hyoscyne is essentially different from atropia.

Paraldehyde—of the drugs mentioned in last year's report, which act as hypnotics, this one seems to have been found useful by a number of practitioners, and among them Dr. Strahan<sup>2</sup> has had quite gratifying success with it.

"As a sleep-producer it stands in the same rank with

\* The Lancet, January 31, 1885, p. 201.

chloral: while in anything like moderate doses it approaches in safety that safest of all sedatives, bromide of potassium. I have employed it over one hundred and fifty times in about twenty-five cases, and have found but two patients who did not respond to medium doses of the drug. One of these was suffering from acute mania, and the other from severe facial neuralgia. I have given it in mania, acute and chronic, melancholia, dementia, and various stages of general paralysis, during those periods of restlessness and sleeplessness so often met with in idiots and imbeciles, and in simple insomnia, and have found it almost invariably a certain somniferent."

Paraldehyde acts more quickly than chloral. When a dose is taken a feeling of warmth, a kind of grateful glow, is experienced, and the patient is often asleep within ten or fifteen minutes. When it does not produce sleep it does not excite, but rather tends to soothe and calm an excited or depressed patient. The sleep induced by paraldehyde is, I think, a nearer approach to natural sleep than that obtained by the administration of any other drug. No headache or other unpleasant symptom is experienced on waking, and the appetite is not injured even by the daily exhibition of the drug for considerable periods, in one of my cases for over three weeks.

The dose is from thirty to ninety minims, but more than sixty drops is seldom required to produce sleep; and this, or even a smaller dose repeated within an hour, is much more effective than a single large dose. It is best given with a bitter tincture in sweetened water. It has a pungent taste, but a drachm when combined with fifteen drops of tincture of orange and an ounce or more of water sweetened with syrup makes a not unpleasant draught, never in my experience causing nausea or vomiting. The drug is given off principally by the lungs, and may easily be detected in the breath for twelve or more hours.

To sum up all that can be said in favor of this drug. It is an equally sure hypnotic with chloral, it does not in any case produce excitement before sleep, it leaves no headache nor other unpleasant symptom on awakening, and it does not affect the appetite. These are all matters of not slight importance, but there is one advantage which the drug possesses over chloral which at once gives it a place among our most useful hypnotics, and that is the absence of any depressing or paralyzing action on the heart; this absence of action upon the cardiac centre permits of its being given with perfect safety to general paralytics and others to whom chloral would only be given with the greatest caution and with constant anxiety as to the result even in small doses. The new drug may not take the place of chloral in everyday prescribing, but it must supplant it in those, unhappily numerous, cases in which the action of the sedative upon the heart is to be feared and yet where sleep is often so much to be desired."

Paraldehyde is still further endorsed as a sleep-producer for the insane, by H. C. Harris, M.D., in the *Medical Times* for May 16. In an experience with one hundred and fifty-two cases of mental disease he has found it the most efficient, safe, and reliable remedy, when a sleep-producer must be given for a length of time. After giving the drug for some time a certain tolerance is observed, but this tolerance does not seem to manifest itself sooner than when other hypnotics are used. Fifty minims is considered a moderate dose,

although seventy-five and in some instances one hundred minims have been given without the slightest effect upon the heart or respirations.

#### ANTIPYRINE.

Since this drug was noticed in a previous report it has been used in our own and other cities with, as a rule, good results. In some cases it has caused vomiting, and quite exceptionally its use has been followed by the appearance of an exanthematous eruption.

Dr. Leon Arduin<sup>3</sup> contributes a study of its physiological and therapeutic action, and after having studied it in a number of diseases he gives a general summary of its therapeutic action.

It is without doubt a certain and powerful antipyretic and acts as such without causing the unpleasant symptoms sometimes accompanying the use of quinine, and it diminishes the frequency of the pulse. It is eliminated by the kidneys, increases the amount of urine and diminishes the amount of urea.

The vomiting which is sometimes caused by it may be avoided by injecting a solution of it into the rectum. The most unpleasant result of its use is the profuse sweating caused by it which may continue for one-half an hour or an hour after its administration. To avoid this it is well to give the drug in small doses, twenty-five to fifty centigrammes.

The results of the study of its physiological action show that it influences without doubt the nervous system, especially the medulla and cerebrum.

As regards the circulation it seems most certain that its action is to diminish the force of the heart-beat, its influence on the blood pressure is not so definitely established, as some observers find this increased and others think that it is diminished.

On the respiration its influence is not great, and upon the urinary secretion its action is obscure.

How does antipyrine reduce temperature? This most important question cannot as yet be satisfactorily answered. Dr. Arduin believes that it is the result of a direct action of the drug upon the *thermogenic centres*. Antipyrine has been found to act as an excellent hæmostatic.

Therapeutically the drug may be used in all febrile diseases where there is hyperpyrexia; in the more severe fevers such as typhoid, in pulmonary phthisis, the persistence of the fever constitutes a new indication. To avoid the production of excessive perspiration it should be administered in small doses. Only a physiological and clinical effect should be attempted; that is to say, it is not necessary to obtain a normal temperature.

Dr. Pusinelli<sup>4</sup> refers to a large number of writers who have used this drug in Germany, and summarizes the more important results of his work as follows:—

(1) Antipyrine acts in all cases, with the single exception of rheumatism, as a safe means of lowering the temperature through several degrees.

(2) The duration of the antipyretic action depends upon the state of the disease and the size of the dose. In severe febrile diseases one gramme acts for two or three hours, two grammes for four or five hours, and three grammes for about six hours.

(3) Before beginning the antipyrine treatment test doses of one half to one gramme should be employed.

(4) In severe febrile diseases, such as in typhoid

<sup>3</sup> Bulletin Journal de Thérapeutique, March 30, 1885, p. 241.

<sup>4</sup> Deutsche Med. Wochenschr., Nov. 10 and 11, March 1885.

fever, croupous pneumonia, erysipelas, etc., when the temperature is very high, doses of two grammes for men, one gramme for women, are indicated, and then only at intervals of an hour, and when the drug can be tolerated in doses of this size. In private practice it should be given every two or three hours. For complete deferescence four to six grammes a day are sufficient.

(5) In diseases with a temperature but slightly above the normal, in chronic diseases, especially in phthisis with hectic fever, it is often necessary to give only a single dose of from one to two grammes, in order to get rid of the fever for from six to twelve hours, or even longer.

(6) In the fever of acute articular rheumatism the remedy is sometimes contraindicated. An action on the joint disease was not observed.

(7) Against intermittent fever antipyrine is powerless; it is sometimes useful in cutting short the duration of the fever at its acme.

(8) In none of the diseases treated with antipyrine did it have a truly specific effect, as for example, quinine in intermittent fever. Still the course of the typhoid fever when treated with antipyrine is perhaps shorter and milder. In croupous pneumonia there is a marked improvement in the general condition and dyspnoea without any action on the local process in the lungs. Further in phthisis, especially with strongly remitting fever, freedom from fever of several days' duration with improvement in the general condition is often shown.

(9) As a rule antipyrine is well borne; collapse or chills were never noticed; pulse and respiration were not unfavorably affected; and on the kidneys the drug seems to have no harmful action.

(10) The only unfavorable symptoms were due to an occasional exanthema, vomiting and sweating. Vomiting was noticed especially in women, rarely in men. By giving the antipyrine in enemata the vomiting may be largely avoided, but it is sometimes even then to be noticed. The perspiration is only seldom unpleasant to the patient, and it may be overcome by the simultaneous administration of atropia.

(11) Over quinine antipyrine has the great advantage of ready solubility in water, and it is able to reduce high temperatures, so that for a long time a perfectly normal temperature can be had; this quinine cannot do.

(12) Compared with kairin and hydrochinin, antipyrine is to be preferred on account of its continued action on the fever, and as it does not cause collapse and chills.

#### DEATH AFTER THE USE OF ANTIPYRINE.

As we have seen, this remedy is one which may as a rule be administered without giving rise to unpleasant symptoms, although vomiting and an exanthematous rash may follow its use; collapse, in one or two cases, and a single death have followed its administration. An outline of what is given of the fatal case in the *Lancet*<sup>6</sup> is as follows:—

A woman of thirty-five who had miscarried in the fifth month. She had suffered soon after her miscarriage from pain in the lower part of the abdomen, vomiting, headache, and shivering, and later on from diarrhoea. She became progressively weaker, but

never lost consciousness. She was kept on milk diet, and the vagina was syringed.

She was sent to the hospital as a case of enteric fever. She was admitted to the hospital in a very weak state, six weeks after her miscarriage.

In the hospital the case was thought to be of a puerperal nature.

She was admitted on January 15th, was given five grains quinine three times a day. On the 17th the temperature was 103.6°, pulse 132, respiration 36.

On the 17th, at three o'clock in the afternoon, the quinine having been discontinued, she was given thirty-five grains of antipyrine, followed three hours later by seventeen and one-half grains.

The temperature at three o'clock was 103°, pulse 132 and very feeble.

At six o'clock the temperature was 98.4°, pulse 108, skin cool and moist. At eleven in the evening she answered questions intelligently and made her wants known; her condition was much the same as at six o'clock: temperature 98°.

On the 18th, after a restless night, with some diarrhoea and vomiting, the temperature was 98°, pulse 120. The patient much collapsed.

Stimulants were given, but the patient died at 11 p.m., thirty-two hours after taking the antipyrine.

The following is the result of an examination the day after death:—

Brain and its membranes much congested, the superficial veins being especially dilated, with a few hemorrhages. Pericardium normal, heart free from valvular disease, but somewhat softened; a few old adhesions of the pleura; but no excess of fluid. Lungs much congested, but otherwise normal. No peritonitis. Liver normal. Spleen much enlarged, weighing three pounds, and softened. Its middle third was occupied by a large infarct, broken down into a cavity in the centre. Kidneys also enlarged, and each contained two or three conical infarcts. Intestines intact in their whole length. Uterus contracted and empty.

In view of the very weak state of the patient and other conditions of the case given above, it does not seem necessary to fear antipyrine as in any sense a dangerous drug. It has now been used in hundreds of cases with only one fatal result; on the other hand it is imperative that every fatal or unfavorable case of a recent remedy should be widely known in order that the profession may be aware of all possible risks when they are using a new substance.

#### THALLINE.

This is also an antipyrine, one of many. Dr. Jakseh<sup>6</sup> gives a very enthusiastic account of a new drug which he has used in about eighty cases, but until it has had time to prove itself better than some of those now in use, it seems hardly proper to consider this aspirant for antipyrine power.

It is well to note in this connection<sup>7</sup> the views of Professor Nothnagel on the abuses in treating typhoid fever, and other fevers, on the theory that the fever is to be reduced at all cost. He considers fever one of those beneficent functions that are compensatory in their nature, and the interesting researches of Metchnikoff, according to which microorganisms are prevented from propagating themselves by an elevated temperature were referred to. A reduction or entire

<sup>6</sup> February 28, 1885, p. 302.

<sup>6</sup> Wiener Medizinische Wochenschr. Nov. 29, 1884, No. 48.

<sup>7</sup> Therapeutische Gazette, 1885, p. 135.

abatement of the febrile temperature does not shorten the duration of a disease a single day.

#### ANÆSTHESIA BY CHLOROFORM AND AIR.

M. Aubeau,<sup>8</sup> in the hospital St. Louis, in the service of M. Peau, has used a mixture of chloroform vapor and air in 115 cases.

The proportions used were those suggested by P. Bert, 7 to 10 parts of chloroform vapor in 100 parts of air. The ages of the patients varied from eleven months to seventy years, and the duration of the narcosis from six to eighty-two minutes. For children seven parts of vapor in one hundred of air, were sufficient, but in adults the anæsthesia came on too slowly, and eight parts in one hundred seemed a better proportion. From 80 to 110 litres of this mixture were needed.

The advantage of this method seems to be that the first stage there is not irritation of the mucous membrane, and but little excitement was produced except in the case of those addicted to alcohol. Complete anæsthesia was produced in seven to eight minutes, and vomiting or coughing were seldom produced.

### Reports of Societies.

#### PHILADELPHIA PATHOLOGICAL SOCIETY.

MEETING September 10th, 1885. DR. J. HENRY C. SIMES, vice-president, in the chair.

DR. GEORGE DOCK exhibited to the Society a patient suffering from secondary epithelioma, and related the following history:—

The case occurred in the practice of Dr. W. W. Keen, of St. Mary's Hospital, to whom Dr. Dock acknowledges his indebtedness for the opportunity of recording it.

Mary C., aged 70 years, married, born in Ireland, applied for treatment November 29th, 1884. Her personal and family histories seemed to be unusually good. No traces of constitutional disease can be found. She uses alcoholic liquors in moderation and has smoked a clay pipe for the greater part of her life. Filling the right submaxillary region and extending up over the inferior maxilla, was a tumor, the distinct outlines of which included a space about three inches in diameter. The lower part was very prominent, standing out as a flattened node one and one-half inches in diameter and about three-fourths inches high, the whole height of the tumor being one and one-half inches. The growth was hard, immovable on the lower jaw; the surface was smooth and red, changing to a dull purple on the nodular elevation. On the summit of this growth was an opening leading upwards and inwards three quarters of an inch. The skin around the opening was everted and the surface of the crater-like cavity, covered with large and small granulations which exuded a thin, gray, offensive pus. The neighboring lymph glands were not enlarged. The general condition was good.

The patient stated that the growth first appeared six months before admission to the hospital as a "kernel" below the jaw. She applied various poultices and salves to it. The tumor grew rapidly for the following four months, when it opened, discharging a

large amount of pus; after that there was no apparent increase in size. The patient could assign no cause for the tumor, except a scald, received about one year before, on the lower lip near the angle of the mouth on the right side. This was followed by an ulcer, which was removed at the Episcopal Hospital in February, 1884. About two months before the appearance of the enlarged gland, Dr. J. M. Bradford, resident physician at the Episcopal Hospital, states that the ulcer was noted as epithelioma.

On December 3d, 1884, Dr. Keen removed the tumor together with a margin of healthy skin and the submaxillary salivary gland. The external plate of the inferior maxillary appearing roughened, it was cut away. The cavity of the mouth was not opened. By the use of hare-lip pins and sutures, the edges of the large wound, four and a half inches in diameter, were approximated almost perfectly. The dressings at first were carbolized; afterward iodoform was used. In the fourth week after the operation, a small, red, indurated, sometimes painful spot appeared in the skin, just posterior to the wound; a few days later the patient was discharged.

Microscopic sections made through various parts of the growth showed the structure of squamous epithelioma everywhere. The salivary gland was invaded. No trace of the lymph-gland could be found, and the supposition was that it had ulcerated away completely.

The patient was lost sight of until the beginning of May, 1885. She stated that after leaving the hospital, the small swelling alluded to, increased rapidly in size, and in a few weeks was larger than the one removed. She used no irritating measures, but the tumor broke down and ulcerated away, leaving a large granulating surface. On examination I found an ulcer on the side of the neck extending from one inch to the right of the median line to beyond the angle of the jaw, irregularly circular in outline, and containing islands of epithelioma. There was a small opening into the cavity of the mouth midway between the angle and the symphysis of the jaw, and just inside of the inferior border of that bone. The symphysis was drawn to the right about half an inch. There was a hard tender swelling on the gum above the inner edge of the opening, covered with small dark red nodules. In June the inferior maxilla was still more atrophied and had separated at the point of swelling and opening before mentioned. The adjacent ends of bone and gum were covered with a small fungous growth.

The process of atrophy and new growth is still continuing. The left alveolar process approaches the median line of the oral cavity and the point of the chin is on a line dropped from the outer angle of the right eye. The ulcer on the neck is healing, but the new growth in the mouth is rapidly enlarging, so that the tongue cannot be extruded. There are no enlarged lymph glands, but within a few days the patient has complained of pain in a gland in the subclavian region. The general condition is very poor; the patient lives on liquid food and takes morphia to produce sleep.

[The patient and the microscopic sections were then examined by the members of the Society.]

DR. T. D. DEXN exhibited the contents of a cyst recently removed from the back of a cow.

DR. GUY HISSDALE exhibited a specimen of enlarged prostate. The specimen had recently been presented to the Mutter Museum of the College of Physicians by Dr. J. L. Stewart, of Erie, Penn., and

<sup>8</sup> Fortschritte d. Medicin, 1885, 121. Compt. rend. d. l. Soc. de biol. 1885, 13 Mars.

was removed from a man aged seventy-five years, who, sixteen years previously had first come under Dr. Stewart's observation. At that time he was a strong, well-developed man, who had never been sick before in his life, but was then suffering from retention of urine, which had existed for seventy-two hours. It was found to be impossible to introduce a catheter owing to an enlarged prostate estimated to be larger than a hen's egg. Circumstances rendered it necessary to force an instrument through the gland, and five and a half pounds of urine were drawn off. A train of most unpleasant symptoms followed, and for weeks there was profuse suppuration with complete incontinence and great prostration. After about thirty days improvement began and continued to complete recovery. Three months afterward the patient seemed perfectly well.

Attacks of cystitis and retention became frequent, and for sixteen years only once did an interval of over three months pass without an attack, the usual time being about twenty days. During this time Dr. Stewart introduced the catheter 1194 times. Pain was intense during the later years when four or five ounces of urine had collected in the bladder. Meantime, the prostate continued to increase in size, and in November, 1884, was believed to be of the size of a large orange. On the night of the 27th of May, 1885, the patient had his last attack. Dr. Stewart not being at hand, two other physicians did not succeed in introducing an instrument. Just before 9 A.M. of the following day, the man was attacked with the most excruciating pain followed by a severe chill. At this time it is believed by his medical attendants that rupture of the bladder occurred, and the early date of this accident is accounted for as being the result of the contracted condition of the bladder. From this time there was no acute pain, but a severe aching followed by prostration. At 9.30 A.M. the bladder was aspirated, one ounce of urine coming away. Dr. Stewart catheterized him on the third day, drawing about a tablespoonful of urine. The patient died on the morning of the fourth day. His mind was clear and his voice strong to the last.

The *post-mortem* examination was not made by Dr. Stewart personally. It is stated that there was a rupture of the anterior part of the bladder near the fundus and that the cavity of the abdomen was filled with urine.

The specimens were not removed in such a way as to make this evident.

The specimen, as presented, consists of the prostate gland laid open by a cut in the vertical line and having attached to it the bladder, the walls of which have been cut in several directions. These walls are thick and have apparently undergone fatty degeneration, as had also the kidneys which accompanied the specimen, the pelvis of which were thickly overlaid with fat. The long diameter of the prostate, after being in alcohol for three months, is three inches; the shorter diameter two or three quarters inches. The third lobe is one inch long, from over-distention and through it the catheter passed and still remained in position. The bladder walls, when replaced, indicate a very small internal capacity.

DR. J. M. BARTON stated that but one case of rupture of the bladder from over-distention had come under his observation. It occurred in a German who had an impermeable stricture of eight years duration; no urine what-

ever passed; the contents of the bladder were removed several times by aspiration, while attempts were being made by filiform and other bougies to pass the stricture. As these failed, perineal section was suggested to the patient and his friends, but refused, and the doctor was told that they would send for him when they needed him. Three days later Dr. Barton was sent for; he proceeded to the house accompanied by Dr. S. W. Gross. The man was in a dying condition; the bladder tumor which before was very prominent had disappeared. Aspiration over the pubes and a trocar inserted by way of the rectum both failed to reach any urine.

On post mortem examination a small rent was found in the upper part of the bladder, but the specimen could not be secured.

In old cases of prostatic obstruction, Dr. Barton had several times found on post mortem examination that the patient had thrust the instrument through the "third" lobe; in one case several such openings had been made and had kindly healed.

The committee on morbid growths reported regarding Dr. Mitchell's specimen of cancer of the stomach exhibited at the last meeting in June, as follows:—

(a) *Stomach.* Microscopic sections across the wall of the stomach show an active proliferation of the epithelium of the mucous membrane, pushing its way into the wall, infiltrating it and forming alveolar spaces. The wall is further infiltrated with young cells, which for the most part replace the normal structure of the part. The process has probably been a chronic catarrh with great hypertrophy, passing gradually into a carcinomatous type.

(b) *Omental Nodules.* Sections of these show an indistinct alveolar structure filled with epithelial cells and a small celled infiltration of the adipose tissue. The appearances are those of a carcinoma, secondary, probably, to the growth in the stomach.

The committee reported regarding Dr. Nancrede's specimen of hamatocoe of the testicle as follows:—

Sections exhibit layers of more or less well-developed connective tissue, through which are scattered numerous young connective tissue cells. No evidence of sarcoma tissue is present. The growth should be classed as a chronic connective tissue hypertrophy and as the sac contained blood the specimen is of chronic hamatocoe.

#### AMERICAN GYNÆCOLOGICAL SOCIETY.

Tenth Annual Session, held at Washington, D.C. September 22, 23, and 24, 1885.

##### TUESDAY, MORNING SESSION.

The Society was called to order by the President, WILLIAM T. HOWARD, M.D., of Baltimore.

The Roll was then called, and the members of the Washington Gynecological and Obstetrical Society and other physicians present were invited to take seats with the Society.

##### ADDRESS OF WELCOME.

By SAMUEL C. BUSEY, M.D.

MR. PRESIDENT AND FELLOWS:—I offer you the greetings of fellowship and bid you welcome, guests of the Washington Obstetrical and Gynecological Society. The acceptance of the invitation to hold your tenth annual meeting in this city, and your presence here to-day, confer a distinguished honor upon our

young Society, now just completing its third year of existence, and affords an opportunity for its members to meet and make the acquaintance of men, who, by their brilliant achievements in the sciences of obstetrics and gynecology, have won world-wide reputations, and added lustre and renown to American medicine.

We extend to you the hospitalities of fraternity, and, by our presence at this opening session, attest our professional regard and obedience to parental precept and authority.

It is a special gratification to know that the youngest of your natural offspring will enjoy the honor of commemorative union on this tenth anniversary of a society, which, in the past decade, has contributed so much to the advancement of obstetrics and gynecology, and to the cure and alleviation of the afflictions of woman.

On the roster of Fellowship, the names of Atlee, Buckingham, Peaslee, Sims, Trask, Wallace and White, are marked with the asterisk of death. Others have come to fill the places of the lamented dead, and the future gives promise of even greater progress and higher excellence in the aims of conscientious and scientific medicine.

Then, here, at the nation's capital, on this auspicious occasion, in the unity of a common purpose, let us join with you in that faith and devotion to duty which has been crowned with such marvelous success and rich rewards. You must lead; we will follow. And, when you have completed the labors of the present meeting, and the new and renewed friendships shall be interrupted by your return to the scenes of your daily work, if our gratitude as pupils shall be the measure of your pleasure as instructors, your second advent will not await the expiration of another decade.

The first paper was entitled

#### THE NATURAL HYGIENE OF CHILD-BEARING LIFE,

By SAMUEL C. BUSEY, M.D., of Washington, D.C.

The hygiene of pregnancy, said Dr. Bussey, relates to the preservation of the health of woman during those periods of her life-history intervening between conception and the commencement of labor.

With conception begins the existence of a new being, and during the succeeding period of utero-gestation, the product of impregnation passes through all the stages of development and growth from a fructified ovule to the complete organization of a being equipped for an independent life. Not only is a new being created, perfected, and endowed with the attributes of human life, but important and complex changes take place in the generative organs as well as in the entire organism of the mother.

These processes of transformation, development and growth, are physiological; nevertheless, they are terminated by more or less violence and injury to both mother and child. The unavoidable mortality, however, is small. The death rate of lying-in women is too high to be accepted as the inevitable result of purely physiological and developmental processes.

The hygiene of pregnancy, the speaker said, has a much broader significance than a classification and detailed description of the disorders of pregnancy and the methods of prevention. In this wider range of investigation, the cycle of physiological and developmental processes during the reproductive age, demands equal, if not paramount consideration with the pathological disturbances of utero-gestation. The concurrent succession of natural phenomena and results which with

such uniformity subdivide the course of normal child-bearing life into epochs which distinctly mark the evolution, climax, and decadence of productivity, point with unerring certainty to the operation of general laws of the female economy. These laws must constitute safer guides of sanitation than the artificial methods suggested by personal experience and observation. The hygiene of pregnancy must be considered as a natural science, based upon a knowledge of cause and effect and the laws of nature, if the highest success attainable is to be reached, and the author limited the discussion to the consideration of these fundamental principles.

Dr. BUSEY considered in sequence the processes of waste and repair, of growth and development, of organization and construction. He declared that there was no border-line of health. We cannot define where the physiological ceases and the pathological begins.

Puberty, matrimony, pregnancy, parturition, lactation, the post-pregnant restoration of ovarian activity, and the menopause, have each their physiological characteristics and may each be associated with a variety of pathological conditions. The speaker then paid a glowing tribute to Nature's care of her complex and beautiful handiwork and asserted that the natural causes of the diseases of pregnancy are few, the acquired, numerous and multifarious. The child-bearing period of woman's life, said the Doctor, begins at puberty and ends with the expiration of the years of maturity. Then succeed in continuous progression, those changes which mark the decline and decay of organic life. Nature's code of hygiene of pregnancy is not, however, limited to the later years of the child-bearing period. The fertility increases from the commencement of the child-bearing period until the climax is reached, and then declines to its extinction. The age of greatest safety of pregnancy coincides with the age of greatest fecundity. Beyond and under, the mortality increases with the increase and diminution of age, but the rate is higher with the increase beyond than with the diminution below the age of maximum safety or least mortality.

The manifest conclusion, said Dr. Bussey, from these general laws governing the child-bearing age is, that the age of nubility should correspond with the ages of maximum fecundity, fertility, and least mortality.

The speaker then went on to say that puberty and nubility are not simultaneous. He dwelt on the importance of the period of adolescence and deprecated too early pregnancies. He thought Nature prescribed the fifth quinquennial as the period during which the laws of fecundity, nubility, and survival find their natural complement in relatively highest gradation of perfection. He considered first pregnancies the most dangerous, and thought the danger increased by too early and too late primiparity.

The period of lactation, he said, is an important epoch in child-bearing life. He spoke of the gradual developmental and retrogressive changes in the mammary glands, and declared that to functional irregularities and derangements caused by artificial interference with the processes of evolution and involution must be traced many of the tumor diseases to which the mammary glands are so liable. The extinction of the procreative function in woman protects the remaining vital forces from the decay of coming age. If, however, the seeds of disease have been sown during the child-bearing period, the change of life may increase their activity.

The speaker then compared the mortality of epidemics with the aggregate of the mortality of child-bearing

in the same time and thought the latter greater. He believed the time would come when in this special department of hygienic custom, based upon the laws of life and nature would supersede the practices of the well meaning but misguided.

State interference might prove a dangerous expedient — more potent for evil than for good. Yet, if the age of majority of women could be made to correspond with the first year of the period of maximum fecundity, popular prejudice and love of custom, which have popularized the age of majority as the minimum age of nubility, would, sooner or later, conform fashion to the law. But the age of majority should not be too far advanced.

Spinster matrimony, he contended, finds its protection in the decadence of fecundity and fertility; in the increasing incapacity of the uterus to carry an ovum, with longer disease; and in the greater disparity in the ages of the bride and bridegroom. Beyond these immunities the consignment to suffering and death must follow the law pertaining to the later years of reproductive life. He spoke of the instinctive dread of spinster life and the intuitive designation of thirty as its initial year.

He deprecated precocious matrimony, and considered it the sequel of precocious puberty. Moreover, he said, if it entails harm, the root of the evil must find its radicle in too early puberty. In this country, and in the higher walks of life, the ratio of precocious puberty is manifestly on the increase. Whether equally so among the middle and lower classes he did not know, but if not, it soon will be, because the sedulous cultivation of the faculty of imitation is rapidly obliterating class distinction.

In this, as in other departments of medical science, the discovery of abuses is far more easy, said the speaker, than the ascertainment of cause and the application of correctives. Whenever medicine confronts popular prejudice, established habit, and the instinctive beliefs of woman, it encounters obstacles not easily surmounted. The aesthetic obligations of civilized society and the masterly antagonisms of human depravity bid defiance to medical science and the laws of nature. If, then, he said, I suggest that precocious puberty is one of a series of grievous evils growing out of the organization of society, you will be prepared for a confession of failure to point out a method of reform.

#### DISCUSSION.

DR. CHADWICK, of Boston. — I have made a few investigations in regard to the early appearance of menstruation with reference to women of various nationalities in this country. In the examination of over four thousand cases it was found that American women menstruated earlier than women of other nationalities examined. Furthermore, American women of American parentage, began to menstruate earlier than American women of foreign parentage. Scarcely enough observations in reference to the menopause have been made to justify absolute conclusions, but I find to my surprise that the menopause is appearing later in American women. If this is corroborated, the conclusion would be that the child-bearing period is greater in American women than in women of other countries. The fact that the child-bearing period is increased both at the beginning and the end, I should take as an indication of added vigor. There is no

question of the fact that the number of children to a family is diminishing, but this can be accounted for by social influences, and is common to all civilized communities.

DR. REYNOLDS, of Boston. — I agree entirely with the statement made by the last speaker, and I believe that in the community in which I live, the women of the upper and middle classes menstruate earlier than they did twenty-five years ago. I believe that this indicates an activity of function which will prolong it beyond the average period of cessation.

A point of interest is in reference to the diminution of sexual power. I question whether this is not more dependent on individuality than on sex. This is, however, a most perplexing and obscure question.

#### PUERPERAL DIPHTHERIA.

By DR. HENRY J. GARRIGUES, of New York. — This is a disease not referred to in the majority of text-books. It is one of the forms of puerperal fever, or rather one of the different diseases included under that term. It is distinguished by the appearance of diphtheritic exudation somewhere in the genital tract of the puerperal woman. It is accompanied by well-marked general symptoms, imperils life, and calls for active treatment. The paper is based upon twenty-seven cases treated in hospital practice and two cases occurring in private practice.

#### PATHOLOGICAL ANATOMY.

The characteristic feature of the disease is the diphtheritic infiltration which is usually of light pearl-gray color. Generally appearing in small spots and coalescing or extending by involving new areas. The exudation is firmly adherent to and imbedded in the underlying tissue. It is most marked at the points where the canal becomes narrow. This may be explained by the more frequent occurrence of lacerations at this point. The posterior wall of the vagina is more commonly attacked than the anterior wall, which is probably due to the fact that it is bathed with the discharges from the uterus. The exudation may, however, appear on entirely healthy portions of mucous membrane, which have not been the seat of laceration. The surrounding parts are more or less swollen. The connective tissue of the pelvis is infiltrated with serous fluid, and is sometimes the seat of ecchymosis. The skin is sometimes the seat of a dusky erythema, consisting of minute spots, disappearing on pressure and not elevated. In one case petechia as large as hempsed existed. These were not affected by pressure. The same patient later developed erysipelas.

In five cases, ending fatally, autopsies were made. The uterus was much enlarged, sometimes reaching almost to the umbilicus two weeks after labor.

The cervix may be torn, showing diphtheritic patches or a thin gray film. In two cases, large portions of the cervix sloughed and the vagina became gangrenous. The tissue of the uterus is friable and may be almost diffident. The diphtheritic exudation may affect the Fallopian tubes. In some cases the muscular tissue of the uterus is scooped out as in dissecting typhus, of which I have described several cases. This occurred in four of the cases of puerperal diphtheria. In one case the mass thrown off was four inches long, two inches wide, and one inch thick. These masses have a pear shape, their outer surface is of a gray color, the inner surface flesh color. They

are perforated with a number of holes leading into uterine sinuses. Under the microscope these masses are shown to consist of smooth muscular fibre in a more or less advanced state of fatty degeneration. The connective tissue is increased. Lesions were also found in other organs and occasionally in the joints.

Difficult labors and a previous weakened condition of the patient predisposed to the development of the condition. The real cause of the disease is, however, an infection from the outside. I have never been able to convince myself that the poison passed from one patient to the other, but it seems to be in the air of the ward. When a ward has been fumigated with sulphurous acid there would not be a seriously sick patient for weeks. That the poison coming from the outside is also shown by the fact that when the prophylactic treatment, to which I shall refer, is adopted, the disease does not develop.

The first symptom which shows a deviation from a normal course is usually the occurrence of fever, which mostly appears from two to four days after delivery. Sometimes there will be a chill or chilly feeling. The temperature rises gradually, as a rule. It has ranged from 100.6° to 107°, the average being from 102° to 104°. Anorexia, vomiting, coated tongue and diarrhoea witness the disturbance of the gastrointestinal canal. The patient complains of pain in the epigastrium and one or both groins, sometimes extending into the legs. Examination shows the uterus larger than it should be, and quite tender. Tenderness is often also found in the groins and some swelling may also be observed. The lochial discharge is often scanty and offensive, but in some cases it has been normal. In those cases in which there was expulsion of the tissues of the uterus, there has been a purulent discharge until expulsion has been accomplished. The diphtheritic patch commonly appears from three to seven days after delivery. It continues to spread for several days, and usually stops in from three to eight days after the beginning of treatment. In one case the diphtheritic patches also appeared on the tongue, indicating that the disease is identical with the ordinary form of diphtheria attacking the throat. The irritation of the nervous system is evidenced by headache, stupor, and delirium. There is alteration of the renal secretion, and sometimes there is painful micturition. Three patients had albuminuria. In two cases jaundice bore testimony to the perverted condition of the blood. The sweet breath and profuse sweats of septicæmia were observed twice. One patient developed painful arthritis of the elbow joint. When once the diphtheritic process was arrested, the patients recovered rapidly.

There is scarcely any difficulty in the diagnosis. When the injections of bichloride of mercury are employed, they cause a yellow discoloration of abraded surfaces. This is strictly limited to the abraded surface, and is unaccompanied with general symptoms. When the chloride of zinc is applied to the affected surface in the treatment of the disease, a slough is caused, having the color of the deposit, and the physician is sometimes at a loss to determine whether or not the disease is spreading. The point is decided by noting where the application is made and by observing the edge of the deposit. The diphtheritic deposit has a scalloped outline, while the outline of the slough is smooth.

As to prognosis, five out of twenty-nine cases

died, giving a mortality of 17.2 per cent. Another of the cases might have survived, for she lived thirty-two days and died from rupture of the uterus while an assistant was using an intra-uterine injection. The post-mortem showed the walls of the uterus to be extremely thin. The duration of the cases ending in recovery is usually about two weeks. In those cases in which a portion of the uterus is scooped out the organ is left in a weakened condition, which in future pregnancies may predispose to rupture of the uterus.

In the way of prophylaxis, it is recommended to limit the vaginal examinations during labor as much as possible. The finger or hand should not be introduced into the uterus unless absolutely necessary. The delivery should be so accomplished as to avoid as much as possible wounding of the genital canal. Instruments should be used with care. The most important element in the prophylaxis is the use of bichloride of mercury as an antiseptic. Everything coming in contact with the patient should be washed in the solution of corrosive sublimate, one to two-thousand. After this treatment was introduced only one case appeared in six months, and that was due to carelessness on the part of a resident who delivered a woman immediately after removing a macerated foetus from another patient.

After the disease appears the treatment must be energetic. The only treatment that has given me satisfaction is that with chloride of zinc. The affected parts are touched with a solution consisting of equal parts of chloride of zinc and distilled water. This is rather painful, and an anæsthetic may be used. A warm solution of corrosive sublimate, one to two-thousand, is used for intra-uterine injection where this is required, and subsequently a suppository of fifteen grains of iodoform is introduced. If this is done the process need not be repeated more than once in the twenty-four hours. The vagina is to be douché every three hours. The parts should be examined every day, and if the process is not arrested the chloride of zinc is to be repeated. If the disease is limited to the vagina and vulva, the intra-uterine treatment is omitted. Extract of ergot is also given, with the hope of causing contraction of the uterus. Morphia, quinia, and digitalis are used as indicated. High temperature is combated with sponge bathing, salicylic acid, and, if necessary, the rubber coil and ice water. Carbolic acid is also given, sometimes combined with the compound tincture of iodine. If the temperature is not very high, warm poultices are preferred to the ice bag and coil. Where there is diarrhoea, warm poultices are also considered preferable.

Samples of the occlusion bandage, to be used after labor, were exhibited. They consisted of a pad of absorbent cotton wet with the corrosive sublimate solution, over this a piece of oiled muslin or rubber cloth, and over all another piece of absorbent cotton and a piece of muslin or flannel to attach it to the binder.

#### DISCUSSION.

DR. Lusk, of New York. — Ten years ago I had 150 cases of this affection under my care, of this number twenty-eight died. The epidemic could be traced to a patient brought into the hospital after a long labor. She was suffering at the time from syphilitic ulcers of the vulva, which was excessively inflamed. I extracted the child with forceps and the inflamed

perineum tore. Soon after this the diphtheritic deposit appeared, and the whole ward was infected. The first cases were the result of transference from the patient, for the question of contagion was not recognized as it is now. After a time great care was taken to avoid every possible source of contact, but the disease continued and could be only explained on the supposition that the air of the ward was filled with germs. In my first cases the treatment consisted in the application of equal parts of the solution of the persulphate of iron and compound tincture of iodine. The disease usually began with a certain amount of mildness and gradually became more severe. Of the first twelve cases only two died, while in the second set of twelve cases only two recovered. In the progress of the epidemic the entire system seemed to be affected, even before the advent of labor. Since the adoption of Dr. Garrigues' suggestion, with reference to the use of corrosive sublimate injection, I have not seen a case of puerperal diphtheria in the course of three and a half years. I have neither had a death from fever nor any cases of fever, the old-fashion milk fever even being absent.

Dr. WILSON, of Baltimore. — I have always been adverse to using bandages of any kind after delivery, preferring to have the napkins placed under the patient so as not to obstruct the free flow of the discharge and to use frequent washing of the vagina with antiseptic solutions.

Dr. RICHARDSON, of Boston. — During 1882 and 1883, I spent most of my time fighting this puerperal fever with ill success, until the appearance of Dr. Garrigues' paper. After adopting the use of the pad and the corrosive sublimate solution for the hands of the attendants and nurses, the hospital has been entirely free from the disease. There has been no death since we adopted these measures and there has been only one or two cases which made us at all anxious. I agree entirely with what the reader of the paper has said.

There is one point in regard to the use of the corrosive sublimate injections. I have found that even so weak a solution as one to five thousand will sometimes cause salivation. Where I meet with this I use iodoform as has been suggested.

Dr. BURNS, of Brooklyn. — I would inquire of Dr. Garrigues whether he has noticed any vaginal deformity following this affection? I have seen one case in which such deformity occurred. A lady, after her fifth confinement, was taken with tenderness, fever, and so on, and on the fourteenth day had a copious hæmorrhage. On examination, I found the entire posterior and outer surface of the vagina almost completely detached. Acetic acid was applied and the bleeding checked. An examination after the healing of the parts had taken place, showed the vagina much shortened and narrowed in its upper part, the cervix being obliterated. The anterior portion of the cervix was in contact with the recto vaginal septum. I told the patient in reply to her inquiry that it was not likely that she would conceive. My prediction turned out to be false. In the following confinement, she was in labor twenty-four hours before there was the slightest appearance of an opening through which a fetus could escape. There was bulging of the presenting portion of the uterus, and into this I made an incision and the child was delivered readily, the patient making a rapid recovery.

Dr. GARRIGUES. — I think that the endorsement of Drs. Lusk and Richardson would be sufficient to induce others to try the occlusion pads. During the year preceding the introduction of the new method of treatment the mortality was nearly seven per cent. During the next, with the new method of treatment, the mortality was one and a half per cent. During the second year, it was less than three-fourths of one per cent. In the institution in which these observations were made there are a number of disturbing elements, one of the most important being its connection with a large general hospital. In this new method of treatment the antiseptics are applied only to the outside in normal cases. Only in abnormal cases are vaginal and intra-uterine injections employed.

In reply to the objection of Dr. Wilson, I would say that the pads used are absorbent. In hospital practice the pad is changed every four hours. In private practice, three times a day is sufficient.

I have never had salivation from the use of corrosive chloride. The nearest I have come to it has been fetid breath and diarrhoea.

I have only seen two of the cases subsequently to recovery when in labor. In one there was great shortening and narrowing, but during pregnancy there was softening, and the labor was quite easy. The second patient is pregnant, and the vagina appears to be in good condition.

In reply to a question, the speaker stated that the use of the pads, prevents all offensive odor.

#### AFTERNOON SESSION.

The first paper was that of Dr. Joseph Tabor Johnson, entitled,

#### FOUR CASES OF OÖPHORECTOMY, WITH REMARKS.

CASE I. Miss M., had suffered severely from chronic oöphoritis and menstrual epilepsy. She was at this time twenty-nine years of age and had suffered for fourteen years. There was constant pain in both ovaries, but most of the suffering was on the left side. For two weeks out of every month she was under the care of an attendant, her education had been neglected and she was in an almost beastly condition. She had been under the care of skillful physicians, and almost everything had been tried. Oöphorectomy was therefore decided upon and performed August 17, 1882. Both ovaries and one fallopian tube were removed. For several months she had no period and no spasms. Gradually her menses returned and with them the convulsions in milder form. She is now menstruating with more regularity than before the operation.

CASE II. Miss W., age twenty-one, from being in alliance she had been reduced to the necessity of earning her own living. Five years before coming under observation she took a severe cold at the monthly period. Since then she has suffered from chronic oöphoritis. She also had leucorrhœa and a displaced uterus, for which she was treated without material benefit. I treated her for three months without benefit, and then removed the ovaries. She made a rapid recovery, and has since been free from pain.

CASE III. Miss S., age twenty-four, had been a great sufferer from dysmenorrhœa and reflex symptoms. She suffered with burning pain in the abdomen and bled for ten days preceding menstruation. For several months there had been no flow, but the distressing symptoms continued. Both ovaries and tubes were re-

moved. She made a rapid recovery, and continues healthy.

CASE IV. Mrs. —, age forty, the mother of three children, had suffered with pain in the left ovary for twenty years. She had a lacerated cervix and perineum which had been restored without improving the other symptoms. She had been under treatment for ten years, but was practically bedridden for three weeks out of every month. She wished to have the ovaries removed, but I advised her to wait five years longer until the menopause would accomplish the same result. She however insisted on the operation, and I performed it last February. She did well for three days, when vomiting set in and she died exhausted on the sixth day.

The speaker then referred to the great importance of an early diagnosis in such cases in order that the operation might be performed before numerous adhesions had taken place and before the general condition had become so depressed, referring to the statistics of various operators in confirmation of his statements. He thought that many cases which are now lost from prolonged operations necessitated on account of the numerous adhesions, might be saved if there were means by which an early diagnosis could be made.

#### DISCUSSION.

DR. R. S. SUTTON, Pittsburg.—We all admit that a woman with a cystic tumor of the ovary is doomed to death, if the tumor is not removed, but when she is suffering from some disease of the ovary which does not give tangible evidence of its presence, the surgeon has often difficulty in deciding as to the question of operation. It may be that under ether and with bimanual palpation it is utterly impossible to detect any evidence of disease of the ovaries or tubes, and yet the ovaries may be at the bottom of the trouble. Is the woman to be allowed to go on suffering because we cannot obtain evidence of disease that will justify an operation? It is better to give the woman the benefit of the doubt and open the abdomen and examine the organs. I do not believe that any one can tell the exact condition of the ovaries before opening the abdomen. It has now come to be the practice in obscure conditions in women for which no explanation can be found and in which it is probable that the ovaries or tubes are at fault, to make an exploratory operation. As a rule exploratory operations are safe. I have yet to open the first abdomen and fail to find disease of the ovaries or tubes.

Here is a specimen which I removed from a woman sent to me for operation for a lacerated cervix. There were symptoms which I could not refer to the conditions of the cervix. On careful examination, I found evidence of disease of the ovaries. I removed both ovaries, one contained a dermoid cyst and the other had undergone cystic degeneration.

DR. BAKER.—This operation opens up a large field of usefulness to the gynecologist and of benefit to women, but there is great danger of the pendulum swinging too far and the operation being performed too frequently. I would not discourage the operation in properly selected cases. An operation which gives such brilliant results in properly selected cases is almost certain to be carried too far. The greater skill is shown in curing these patients without the removal of organs. We shall come to a better understanding as to when the operation should be performed and when

not, by studying the organ itself very carefully in those cases in which it has been removed. In all descriptions of the operation, there should be an accompanying report of the microscopical examination.

The question of early diagnosis has been referred to, and this is a matter of the greatest importance. The ovaries and tubes are not the easiest organs to examine. Even where the ovaries are adherent to surrounding tissues it is often extremely difficult to determine this fact. Exploratory operation may be the only way of determining this fact. Where exploratory incision has been made and the organs found healthy so far as their gross appearance is concerned, I say that they should be put back and the abdomen closed, even if the woman suffers excruciating pain with the menstruation. I believe if the same perseverance and good judgment was manifested in these cases as in others, we should be able to cure many of them without operation.

I cannot agree with the author of the paper in regard to the increased danger from the presence of adhesions. The only death that I have was in a case where there were no adhesions, and the operation was performed with ease. In many of the other cases there have been extensive adhesions.

DR. EMMETT, of New York.—What I have to say is rather in the form of a protest. I am not an advocate of the operation, and I think that more harm than good has been done by its performance. There are cases where the operation must be done. Where there is salpingitis, with the tubes filled with pus, the operation is certainly indicated. That the operation should be done, as it frequently is, for the relief of so many symptoms, is I think, a reproach on the profession. I cannot advocate the opening of the abdomen for the purpose of making a diagnosis. If the diagnosis cannot be made beforehand, I do not think it justifiable to run the risk of opening the abdomen.

For three years, I have been looking for cases in which I considered the operation indicated, and I have seen but two such cases. One was a typical case in which there had been several attacks of peritonitis following gonorrhoea. I found both tubes as large as my wrist and presenting the twisted appearance described by Tait. The history indicated the existence of pus. I urged an operation, but the patient refused. She was seen by Dr. Thomas, who also recommended operation. She insisted upon staying in my private hospital. For five months there was no improvement. The treatment consisted of hot water injections, keeping the bowels regular, applications of iodine daily, and attention to the general health. After several months, the tubes began to diminish in size, and in the course of a year the accumulation entirely disappeared and she left the hospital apparently a well woman.

The second case was similar. She also refused an operation. She is now no worse and in some respects better than she was some years ago.

DR. LISK.—Great caution must be exercised in the performance of this operation. I recently saw a lady who had pelvic inflammation following the use of the stem pessary. There is now thickening of the broad ligaments. She visited a gynecologist who advised the removal of the ovaries. I can find no evidence of disease of the ovaries or tubes. In many of the operations which I have seen there has been no evidence of disease in the ovaries or tubes removed. I do not condemn the operation. I have operated in four cases in

which there was distinct evidence of disease of the tube, with good success.

DR. WILSON.—I think that many cases have been operated on which should have been left alone, but there are many cases which nothing but an operation will relieve.

DR. E. W. JENKS.—I am aware of several cases in which the operation has been performed without benefit. Where the ovaries and tubes are diseased, there can be no question as to the propriety of its performance.

In many of these cases of so-called hystero-epilepsy, which are often nothing more than hysteria, I consider the removal of the ovaries and the stopping of the prospect of the patient becoming a mother, a positive wrong. The exploratory operation is not free from danger, as I know of four deaths under these circumstances in which no disease of the ovary was found.

DR. T. A. REAMY, of Cincinnati.—One woman was sent to me with dysmenorrhœa and hysterical symptoms with the request that I should remove the ovaries. It was a well marked case. Five months treatment of the cavity of the uterus with change in her surroundings and general treatment resulted in entire recovery. I have had several other striking cases.

It is the exception to find the ovary healthy in women after the age of forty. I have been making these observations for ten or twelve years.

DR. EMMETT.—This operation is sometimes done for dysmenorrhœa. I think that it should never be done for this condition. I consider dysmenorrhœa a neuralgic condition, the result of anæmia. When the dysmenorrhœa is relieved by operation, it is because the general nutrition is improved by the removal of the ovaries.

DR. SUTTON.—I agree with Dr. Baker that where in an exploratory operation, the ovaries and tubes are found to be healthy, that they should not be disturbed.

DR. MAXX.—Dr. Emmet has made the statement that dysmenorrhœa is a neuralgic condition and is not an indication for the operation. Although it may be neuralgic, I think that the neuralgic condition may become so firmly established that it cannot be relieved without taking out the seat of the neuralgia. In two such cases I have thought the operation indicated. In one the patient was free from pain only three days of each month. I advised the operation, which was performed by Dr. Clark of Niagara. The patient completely recovered.

The second case was my own. The woman had suffered for a number of years with excruciating pain. The ovaries were enlarged and tender. The whole abdomen was tender. The ovaries were removed and the patient entirely recovered her health. I cannot admit that there are no cases of ovarian dysmenorrhœa which can be relieved by the operation. I however think that they are rare.

DR. JOHNSON.—I did not recommend the operation except under well marked indications. I agree with those who fear that the operation may be performed oftener than necessary. Its use in nervous and neuralgic conditions is not always as beneficial as in some other conditions, as myoma of the uterus for example.

(To be continued.)

—The Lynn Hospital is being enlarged at an expense of \$1,000.

## Medical and Surgical Journal.

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### THE BOSTON WATER SUPPLY.

THE Boston Water-Supply was formerly supposed to be one of the best and purest in this country. It may very possibly have been such, it certainly has not been such during the last six or eight years. The defilement of Pegan Brook by the inhabitants of the town of Natick, the pollution of Beaver Dam Brook and of Course Brook, by the town of Framingham, and the Women's Prison at Sherborne respectively, and of Farm Pond by the Framingham Station of the Boston and Albany R. R., have introduced sources of disgust as well as of positive danger into the Lake Cochituate and Sudbury River supplies, which have been clearly recognized but only recently proceeded against with any degree of vigor.

With the incorporation of Charlestown within the city limits, another source of supply, that of the valley of the Mystic River, was accepted, burdened with equally serious drawbacks. The water-shed of the Mystic is a very thickly-populated district, in which the extensive tanning industry finds its home. The drawbacks incident to the Mystic supply have long been patent, but have been allowed to continue with very little interference or supervision since the building of an inadequate sewer to remove waste products—either because it was supposed this source of supply would be given up, or because the offending interests were too complicated or too powerful to be dealt with under the existing laws. The Legislature having two years ago amended the law so that these cases of pollution are now referred directly to the court for a decision instead of to a jury, there is more encouragement to invoke legal protection, and of this advantage was promptly taken by the late Water Board. The best protection, however, in these questions of water-supply and drainage, which are among the most important and difficult our thickly-settled communities will be called upon to face, must be found in an enlightened and intelligent public opinion and conscience.

It is not a question of the welfare of any one individual or of any one community at the expense of others, but all are concerned in the happy solution of these problems of pure water and good drainage.

The consequences of an epidemic of typhoid fever, of cholera, of diphtheria, make themselves felt directly and indirectly in a hundred ways, far beyond the immediate centre of the affliction—whether that be in a crowded city, in a populous town or a sparsely-settled country district. It is the old fable of the belly and the members in a modified form.

Public attention has been called again to this subject by the appointment, last May, of a committee of the Suffolk and Norfolk District Medical Societies to visit the sources of water-supply of Boston, and report the result of their observations.

An informal report of these investigations from the secretary of this committee to the Mayor of the city found its way into the daily press, having been referred by the Mayor to the Water Board, and has given rise to animadversions and comments from various quarters; the most satisfactory and important sequel, however, being a concise and business-like report upon the subject from the Water Board to the Mayor of Boston, the Board having promptly obtained a list of the various points of pollution and entered upon the task of abating them as far as lies in its power.

There is therefore fair ground to suppose that the disinterested action of these medical men will not be without some practically useful results. But we must confess it would have been probably more effective, and certainly more acceptable if it had come before the public in the form of a simple statement of the existing facts—and possible consequences—which can neither be questioned nor denied. Those who offer such a statement deserve well and only well of their fellow citizens. It may be left to individuals to advocate pet theories, and to the responsible authorities to devise remedies.

Though we know only too well that the ideal is scarcely attainable in the water-supply of a large city, that is a poor reason for not struggling toward it. One thing is pretty certain, and should be borne in mind by the public, that drinking-water may receive and convey the poisons of such diseases as typhoid fever and cholera, and yet neither the chemist nor the microscopist be able to detect them. A chemical examination may sound the note of warning, but cannot give assurance of entire safety. On the other hand the most stinking water is not necessarily the most dangerous, for a water with comparatively little or no odor may carry in a larger measure the possibilities of future harm.

A State Commission has for some time had under consideration the general question of the disposal of sewage as a protection to water-supplies. It will report to the State Legislature at the beginning of the coming year. It is to be hoped this commission may see its way to recommend measures at once theoretically sound and practically feasible, and such as may commend themselves to the wisdom of the Legislature. In the meantime the city of Boston, and other neighboring cities and towns are exposed to risks which they may continue to run with impunity, but which are by no means imaginary.

It is idle to pretend that the inhabitants are proud of the water furnished them by the city of Boston as a beverage—though certainly very much better than it has been in the past—when a dozen or fifteen different spring waters find a profitable sale through the streets.

#### SUMMER INSANITATION AND AUTUMNAL FEVERS.

WITH the returning summer tourists, are coming back to the cities the train of invalids which experience teaches us but too well to look for among those who have been residing at many of the country and seaside resorts.

Cases ranging from the lighter diarrhoeal disturbances up through febrile attacks of varying degrees of severity to well-marked types of typhoid are met with, to be sure, throughout the summer months, but as the nights grow cooler and the sun's rays less direct the character of the maladies becomes more serious and the typhoid elements more marked. It is, therefore, by no means a rare experience that the first use to which the long-closed city house is put on its reopening is that of a hospital for some of its unfortunate occupants. Besides the annual crop of abdominal fevers which, like other products of the soil, ripens in the autumn, diphtheria, which knows no season, sometimes reaps a fearful harvest when large numbers of children, as for instance in one of the summer hotels near Boston, have been brought within the range of some source of infection.

It is generally recognized by the public that the domestic sanitation of the great majority of country houses is very defective, even for the usual number of occupants of these houses, and is therefore almost sure to be inadequate when the number of the occupants is doubled. Yet it is safe to say that in selecting quarters for the summer hardly one person in ten extends his investigations into the sanitary conditions of his proposed domicile, further than by a general question if the drainage is "all right." The eligibility and accessibility of apartments, the table, the scenery, and the society engross all the personal inquiry of the applicant, and if unsavory odors and disagreeable water make themselves noticed after a few days they are dismissed as temporary annoyances that must be put up with. One can't expect during his summer pleasuring, to have all the comforts of home, it is said. The consolation that it is only for a few days or a few weeks may be applied to any other disadvantage of the summer abode. But to drainage and water-supply the word "temporary" is not applicable, any more than to a dose of poison. However ephemeral the exposure, the results may be permanent.

Yet this carelessness in the selection of the summer house is by no means to be wondered at in those who pay so little attention to matters of sanitation even in their permanent residences. The verbal assurance of the enterprising agent as to the state of the plumbing, together with bright stop-cocks and a high polish on the wood which carefully sheaths all the pipes from

sight, is enough to satisfy the average purchaser or tenant, and provided the rooms are sufficient in number, size, and dimensions, the bargain is completed. As has been said, no prudent man would think of buying a piece of property without securing a perfect title thereto. And while no one grudges the fee paid to a competent conveyancer for the assurance that the money invested will not be thrown away, very few think it worth while to obtain the opinion of the sanitary expert as to the security for the life and health of the occupants of the house.

Of course it is to be admitted that no amount of caution will avert all cases of zymotic infection. Persons have occupied the same house in perfect security for many years only to fall victims at last to the unperceived breaking of a pipe or a cesspool. An exceptionally rainy season may carry surface water into a spring never before thus contaminated.

The vicissitudes of travel may unavoidably expose one in more than a single sense to the "perils of waters." But it seems reasonable to believe that a not inconsiderable part of these maladies which form such a gloomy ending to the holiday season might be avoided, if people would only exercise in matters of sanitation some of the caution which they show in the other affairs of life.

#### AN ANTI-VACCINATION RIOT AT MONTREAL.

THE repugnance of the French population at Montreal to vaccination and isolation as protection against small-pox at last forced the authorities into making both measures compulsory, and this step has just been followed by a riot. Monday morning a mob attacked officials putting up placards on houses and the office lately opened in the east end by the Board of Health, and demolished the windows. That night an immense crowd demolished the glass in the *Herald* office on Victoria Square, the paper having advocated systematic vaccination and revaccination. They also peppered all the windows of the City Hall where the central health office is situated, doing much damage there. Their next movement was on the private mansion of Alderman Grenier on St. Denis Street, who is obnoxious as a member of the Board of Health. They smashed his windows, and at a late hour have proceeded to demolish the windows of the city medical official vaccinators, all of whom are French Canadians, in the east end. The damage on the whole is very large, and must be paid by the city.

The mob set fire to a quantity of shavings they gathered up against the dwelling of a Dr. Laport, at the east end. The fire, however, was soon extinguished by the fire brigade. Revolver shots were freely fired at the police. The opening of the Theatre Royal has been indefinitely postponed on account of the epidemic. At high mass in the Roman Catholic Cathedral, a papal decree was read, which is considered as applying to the small-pox epidemic in Montreal, and which was issued by His Holiness Pope Leo XIII, under the date of the 20th of August last. The decree alludes

to the ravages of epidemics and plagues among the faithful throughout the world last year, and impresses upon Roman Catholics the efficiency of prayer in crushing these regrettable calamities.

We are glad to learn that some of the Roman Catholic clergy are heartily endeavoring to promote proper sanitary measures.

#### MEDICAL NOTES.

—The *Western Druggist* lifts up its voice in lamentation and protest against what it calls the "abominable chirography" of many physicians. It adds: "A physician who cannot or will not write a clear legible hand, should be debarred from practice, or at least be required to have in constant attendance a capable penman. A Department of Penmanship is the crying need of the hour in our medical colleges. There is very little practical difference between bad prescription-writing and downright malpractice."

—The composition of Mrs. Allen's Hair Restorer ("not a dye") is given according to two formulæ in the *Therapeutic Gazette*. Masset gives it thus:

R. Sulphur precip.	17 parts.
Poly. cort. Cinnamon	2 "
Glycerin, pur.	320 "
Plumbi Acetat.	265 "
Aque	630 "

According to Wittstein it is:

R. Flor. sulph. lot.	56 parts.
Plumbi Acetat.	8 "
Glycerin pur.	100 "
Aq. arom.	200 "

—We notice in the columns of a daily contemporary some melancholy instances of the failure of panaceas to cure their own manufacturers. Four or five patent medicine doctors have ended their lives in pain and disease. According to this authority Dr. Pierce of Buffalo is a paralytic; Helmbold, an irresponsible and demented person; the name of Jayne is perpetrated in a line of insane children; Dr. Schenck was for years before his death blind; Ayer, cursed more seriously than either; Warner is a confirmed invalid.

#### PHILADELPHIA.

—The City Council, in order to ascertain the actual degree of contamination of the city water supply, appointed several months ago a Commission, consisting of Prof. J. W. Mallet, of the University of Virginia, Prof. T. G. Wormley, of the University of Pennsylvania, and Prof. Wm. H. Greene, of the Philadelphia High School, to make an examination. Samples of the water taken from different points along the course of the Schuylkill, and from the Delaware (which supplies the northeastern part of the city), gave a very favorable showing. The results in brief were: No traces whatever of poisonous metals, as lead, copper, mercury, or arsenic were found, and no inorganic substance which in itself or in the quantity found could be harmful. The degree of hardness is slight. Organic matter, which is always present in river waters, does not exist in proportion above normal, or such as to make the water unwholesome. It must be remembered, however,

that a less amount than found might become injurious by furnishing the conditions for the development of disease producing germs. Two samples, 3 and 4, were found better than the standard, and three inferior, 4, 5, and 7, ranked in the order named, but none were harmful. Comparing the results with the figures for other large cities, Philadelphia's water is found to occupy a medium position; Chicago and Baltimore water is better, New York (Croton) about the same, and Boston and New Orleans worse. The report continues: "A suggestion of practical value is furnished by the comparison of water from the lower or down stream pumping stations (as for instance, Nos. 5 and 7), on both the Schuylkill and Delaware, with that taken from these rivers higher up. The evidence is very apparent of pollution going on within the limits of municipal authority. The importance of providing for the exclusion from the rivers of sewage and foul drainage water of any kind lies, not merely in the direct consequent reduction in the amount of impurities in the water people drink, but to a much greater extent in reducing the chance of the living germs of noxious organisms finding their way into the water, there to be nourished by and to render dangerous dead organic matter which of itself might be harmless enough. In the event of such an epidemic as one of cholera gaining but a first foothold in some parts of the city, this consideration would at once acquire a degree of importance scarcely to be overestimated." Active measures have been already instituted to correct some of the evils referred to in this report, especially the contamination of the Schuylkill by sewage within the city limits by the mills, hotels, and breweries along its banks. An intercepting sewer is being pushed forward in order to carry away the drainage of some settlements up the river, but it cannot be completed for several years, and will cost millions of dollars. In the meantime, the health of the city has been remarkably good during the summer.

—At a recent meeting of the County Medical Society, Dr. C. K. Mills read a paper entitled "Some Points on the Treatment of Hysteria." He discussed especially the value of operations such as oophorectomy, the management of grave hysterical or hysterio-epileptic attacks, the danger of not recognizing the co-existence of organic disease with hysteria in convulsive and maniacal cases, and the best methods of using "moral" treatment. Ground was taken that oophorectomy should only be performed in rare cases where well-marked objective signs of disease of the ovaries or violent nymphomania were present. Cases were cited. The lecturer held that there was no warrant for the oophorectomy in the case of young girls in whom the menstrual function had not been established.

Hysterio-epileptic attacks were considered as of three classes: (1) the purposive or voluntary; (2) the non-purposive or involuntary; (3) those which were partly purposive and partly involuntary. Great mistakes were made by tyros, in treating cases apparently the same as really the same. Threats, pure moral measures, sometimes heroic procedures, inhalation of ammonia, compression of the nostrils by the Hare method, etc.,

could sometimes be used in the purposive cases with success; but even these required for their successful use, tact and judgment on the part of the physician. Nitrite of amyl by inhalation and strong nerve pressure, he regarded as most valuable in the severer involuntary and partly-involuntary cases. He mentioned instances of anæmia, brain tumor and abscess, and acute mania, treated as purely hysterical, and in which death occurred. He believed that harsh measures should only be employed after much consideration and by a well-planned method.

—At the same meeting, Barrett's new Chloride of Silver Galvanic Battery and a milliamperemeter were exhibited by Dr. Mills and their advantages discussed by him and by the members of the Society. The battery, which is manufactured by John A. Barrett, 13 Park Row, New York, was shown to be the most portable, and at the same time most reliable, medical battery that has yet been invented.

—Students are commencing the fall term at each of the schools, and clinics have again begun at the hospitals, of which there are many. Indeed, in clinical advantages, the schools of Philadelphia are very highly favored.

—A very promising young physician of this city, Dr. F. K. Musser, died with cerebral meningitis last week, after extreme suffering. At the autopsy, a tumor was discovered at the base of the brain, surrounded by considerable congestion. From the fact that morphine had been taken in an ordinary dose to relieve pain shortly before he died, it was thought possible that the drug might have caused death, but the autopsy showed the cause of death to have been that mentioned.

#### CHICAGO.

—The Faculty of Rush Medical College has determined that, after the present college year—which ends next March—it will require, as an additional condition of graduation, a course of practical instruction in the laboratory of physiology and pathology. This course will include the practical use of the microscope, cutting, staining and mounting of specimens, study of the simple tissues of the body and of urinary sediments. This college has for about ten years required a course of practical work in the chemical laboratory.

#### ♦ Miscellany.

##### HOW SHALL THE PRACTITIONER DISINFECT HIS HANDS.

A THOROUGHLY efficient disinfection of the physician's hands, remarks the *Therapeutic Gazette*, is more than a matter of personal cleanliness; it is an absolutely required, though often neglected, protection of his own person and the safety of his family, friends, and patients. There being no dissenting voice as to the necessity of this by no means irksome precaution, the only question that can arise in this respect is, What method of disinfection insures the greatest success? The present state of bacteriology must convince even the most sceptic and conservative physician that soap and water exercise not the slightest influence

over the microbial organisms, and that the true antiseptic agents have to be resorted to.

Forster, of Amsterdam, made some special researches in this field (*Pharm. Centralblatt*, May 28, 1885) with the view of ascertaining the relative worth of carbolic acid, boric acid, chloride of zinc, and iron. He gained the conviction that the ordinarily used two and one-half per cent solution of carbolic acid, and even Billroth's plan to wash the hands in muriatic acid and ten per cent phenol in glycerine, were insufficient to sterilize the hands, that is, prevent microbial growth on them. The only procedure which Forster found absolutely reliable was the one recently recommended by Koch, of Berlin, which consists in a solution of corrosive sublimate having a strength or seven to fifteen grains to two pints of distilled water. The simplicity of the manœuvre and its unquestionable prophylactic power will go far to recommend Koch's wash to the American practitioner.

#### THE ANTIDOTE TO DATURINE.

The *Medical Times* reports that a Hungarian physician, being called to a child of four who was in a comatose condition from having eaten, as her playfellows said, two handfuls of the ripe berries of the thorn apple (*Datura Stramonium*), and in whose vomit the berries could be plainly detected, gave pilocarpine hypodermically, thinking that as that had proved successful in atropine poisoning it ought to be useful in datura poisoning also. He began with the fourteenth of a grain, and as no effect was produced, he increased the dose to a seventh. As improvement was now evident this was repeated. Altogether in five hours he gave six-sevenths of a grain, and by that time the child was convalescent. No physiological symptoms of pilocarpine were produced until the last dose was given, which was followed by profuse secretion of saliva and perspiration. The author therefore concludes that five-sevenths of a grain of pilocarpine had been required to neutralize the daturine, its own physiological action not coming into play until that was completely effected. He thinks that this case sufficiently demonstrates that pilocarpine is antidotal to daturine.

#### COCAINE IN SEA-SICKNESS.

SEA-SICKNESS is the latest malady to yield to the influence of cocaine, according to a preliminary report on some observations upon "cocainum muriaticum," by Dr. Manassein, of St. Petersburg, (*Berl. Klin. Wochenschr.*, August 31, *Lancet*, September 5). This writer had read of the value of cocaine in uncontrollable vomiting of pregnancy, and thought it might be useful in sea-sickness. He therefore went this summer on a sea voyage in order to test its efficacy. Among his fellow passengers were two, a man and woman, who were especially prone to the malady. He administered to each of them every two or three hours a teaspoonful of the following solution: Muriate of cocaine (0.15) rectified spirits of wine (in sufficient quantity), and distilled water (150.0), beginning the administration on starting. That it had a prophylactic effect seemed clear, for in spite of very rough weather for a period of forty-eight hours, both the individuals were for the first time in their lives free from sickness, and enjoyed a very good appetite the whole time. To a child six years old, who began to be attacked with sea-sickness

on rising in the morning, the treatment was so effectual that it was able to play about during the day in spite of the storm. The child took one teaspoonful in two doses during the first half-hour, and then half a teaspoonful every three hours. Another case was that of a girl, eighteen years of age, who had been sick for twenty-four hours before the drug was given. The case being a severe one, she had a double dose every half-hour, with "truly magical effect": for after the second dose the patient was able to assume a half-sitting posture, and after the sixth dose she jested and began to complain of hunger. During the rest of the voyage she remained well, although there was much rolling of the vessel. Similar good results attended the use of the drug in three milder cases; and had it not been that his supply ran short, Dr. Manassein would have been able to make more extended observations. Still, from the experience of these few cases he thinks it justifiable to infer that in the drug we have a certain and harmless remedy against sea-sickness. In the same communication he mentions that he had found "cocainum muriaticum" of great service in arresting the collapse of two severe cases of simple cholera, and thinks it desirable to try its action in cases of Asiatic cholera.

#### EFFECTS OF VERY LOW TEMPERATURES ON LIVING ORGANISMS.

MR. J. J. COLEMAN and Professor M'Kendrick have, as we learn from the *Medical Press and Circular* (September 16), made some remarkable experiments on the effects of low temperatures on living organisms, particularly microbes, using for this purpose the cold-air machinery invented by Mr. Coleman, which, in its ordinary working delivers streams of air cooled to about 80° below zero (= 63° C.), but by certain modifications as low temperatures can be secured as have yet been produced in physical researches. The experiments consisted in exposing for hours to low temperatures putrescible substances in hermetically sealed tins or bottles, or in flasks plugged with cotton-wool. The tins or flasks were then allowed to thaw, and were kept in a warm room, the mean temperature of which was about 80° F. They were then opened and the contents submitted to microscopical examination. The general result may be stated thus: The vitality of micro-organisms cannot be destroyed by prolonged exposure to extreme cold. It is clear, therefore, that any hope of preserving meat by permanently sterilizing it by cold must be abandoned, for the microbes, which are the agents of putrefaction, survive the exposure. Some of the experiments on which this conclusion rests are briefly described. Meat in tins, exposed to 63° C. for six hours underwent (after thawing) putrefaction with generation of gases. Trials with fresh urine showed that freezing at very low temperatures of 63° C. for eight hours did not sterilize the urine. Samples of fresh milk exposed to temperatures of from zero to -80° F. for eight hours curdled, and showed the well-known *Bacterium lactis*; and so far as could be observed, freezing did not delay the process after the flasks were kept at a temperature of 50° F. Similar results were obtained with oil, meat juice, vegetable infusions, etc.

It is probable that the micro-organisms were frozen solid. One cannot suppose that in these circumstances any of the phenomena of life takes place; the mechan-

ism is simply arrested, and vital changes resume their course, when the condition of a suitable temperature is restored. These conditions led the author to examine whether any of the vital phenomena of higher animals might be retained at such low temperatures. They ascertained that a live frog might be frozen through quite solid in about half an hour at a temperature of  $-20^{\circ}$  to  $-30^{\circ}$  F. On thawing slowly, in two instances, the animal completely recovered. After long exposure, the animals did not recover. In two cases frogs were kept in an atmosphere of  $-100^{\circ}$  F. for twenty minutes, and although they did not revive, yet, after thawing out, their muscles still responded feebly to the electrical stimulation. One experiment was performed upon a warm-blooded animal—a rabbit. The cold-blooded frog became as hard as a stone in from ten to twenty minutes, but the rabbit produced

in itself so much heat as enabled it to remain soft and comparatively warm during an hour's exposure to  $-100^{\circ}$  F. Still its production of heat was unequal to make good the loss, and every instant it was losing ground, until, at the end of the hour, its bodily temperature had fallen about  $56^{\circ}$  F. below the normal, but was still  $143^{\circ}$  F. above the surrounding temperature. When taken out the animal was comatose, and reflex action was abolished. Placed in a warm room, its temperature rose rapidly, and the rabbit completely recovered.

It is remarked in this connection that the inability of microbes at low temperatures has been also demonstrated by Pictet and Young, who found that various bacilla can survive  $-70^{\circ}$  C. for 109 hours. After such exposure the *Bacillus Anthracis* retained its virulence when injected in a living animal.

## REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 19, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	659	302	28.20	12.60	15.60	1.65	5.55
Philadelphia	927,995	361	137	21.28	12.04	5.81	5.81	6.72
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	423,800	186	65	16.20	13.25	10.80	3.78	1.08
Baltimore	408,520	171	70	28.32	17.70	7.08	4.13	10.03
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	98	20	19.28	17.34	5.10	1.02	2.04
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	100	45	28.00	16.00	11.00	3.00	4.00
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	43	14	30.20	13.98	16.32	2.33	4.66
New Haven	62,882	13	4	15.38	15.38	7.69	—	—
Nashville	54,400	26	8	26.95	15.40	11.55	—	7.70
Charleston	52,286	39	15	10.24	12.80	2.96	—	—
Lowell	71,447	27	11	22.20	7.40	18.50	3.70	—
Worcester	69,442	18	6	16.66	5.55	—	—	11.11
Fall River	62,674	27	18	44.44	7.40	18.50	—	7.40
Cambridge	60,905	27	10	25.90	14.80	11.10	3.70	11.10
Lawrence	45,516	13	3	7.69	7.69	—	7.69	—
Lynn	44,895	12	4	—	33.33	—	—	—
Springfield	38,090	10	2	30.00	10.00	10.00	10.00	—
Somerville	31,350	4	2	25.00	25.00	—	25.00	—
Holyoke	30,515	6	3	33.33	16.66	16.66	—	16.66
New Bedford	30,144	12	3	8.33	8.33	8.33	—	—
Salem	29,503	12	2	8.33	25.00	8.33	—	—
Cleves	24,347	8	5	50.00	8	25.00	12.50	12.50
Taunton	22,693	9	3	22.22	11.11	22.22	—	—
Gloucester	21,400	7	2	28.56	14.28	14.28	14.28	—
Haverhill	20,905	9	7	44.44	22.22	22.22	—	—
Newton	19,421	7	0	14.28	—	—	—	—
Brockton	18,323	3	0	—	—	—	—	—
Malden	15,273	3	2	—	25.00	—	—	—
Newburyport	15,947	4	1	—	—	—	—	—
Waltham	15,568	7	1	—	—	—	—	—
Fitchburg	13,433	7	2	28.56	14.28	14.28	14.28	—
Northampton	13,165	—	—	—	—	—	—	—
88 Massachusetts towns	—	65	18	12.32	10.78	7.70	3.08	1.54

Deaths reported 1,388: under five years of age 785; principal infectious diseases (smallpox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 483, consumption 296, lung diseases 113, diarrhoeal diseases 221, diphtheria and croup 161, typhoid fever 61, malarial fevers 38, whooping-cough 27, cerebro-spinal meningitis 17, scarlet fever seven, puerperal fever six, smallpox two, measles one. From malarial fever, New Orleans 10, Baltimore nine, New York eight, District of Columbia six, Philadelphia and Charleston two each, New Haven one. From whooping-cough, New York 18, Philadelphia three, Baltimore and District of Columbia two each, New Orleans and Providence one each. From cerebro-spinal meningitis, New York six, Philadelphia and Fall River three each. From scarlet fever, District of Columbia, Providence and Fall River two each, Philadelphia one. From puerperal fever New York two, Philadelphia, Bal-

timore, Nashville and Charleston one each. From smallpox, New York and Haverhill one each. From measles, New York one.

Cases reported in Boston: typhoid fever 39, diphtheria 19, scarlet fever 11, and measles three.

In 408 cities and towns of Massachusetts, with an estimated population of 1,387,885, (estimated population of the State 1,855,104), the total death-rate for the week was 17.76 against 18.46 and 17.19 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,986,146, for the week ending September 6th, the death-rate was 18.4. Deaths reported 3,050: infants under one year of age 963, acute diseases of the respiratory organs (London) 159, diarrhoeal diseases 351, measles 74, whooping-cough 62, scarlet fever 49, fever 24, diphtheria 21, smallpox (London) three.

The death-rates ranged from 8.4 in Hoaddersfield to 25.3 in Cardiff; Birkenhead 20.2; Birmingham 17.8; Bradford 18.0; Leeds 17.5; Leicester 22.2; Liverpool 23.9; London 15.8; Manchester 24.6; Nottingham 17.3; Sheffield 17.8; Sunderland 23.3. In Edinburgh 16.7; Glasgow 24.2; Dublin 22.8.

For the week ending September 5th in the Swiss towns there were 27 deaths from diarrhoeal diseases, consumption 27, lung

diseases nine, typhoid fever nine, smallpox five, puerperal fever one, measles one, whooping-cough one.

The death-rates were: at Geneva 16.2; Basle 24.2; Berne 20.7; Zurich 11.6.

The meteorological record for week ending September 19th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Sept. 19, 1885.																			
Sunday, ...13	30.022	62.1	70.7	52.3	88.0	72.0	86.0	82.0	W.	S.W.	W.	6	15	16	C.	O.	C.	—	—
Monday, ...14	29.812	73.5	84.3	61.6	80.0	55.0	87.0	74.0	S.W.	W.	W.	17	11	6	C.	F.	C.	—	—
Tuesday, ...15	29.794	73.2	82.5	66.1	87.0	41.0	77.0	68.3	W.	W.	W.	17	15	6	C.	C.	F.	—	—
Wednesday, ...16	29.910	62.4	74.1	56.5	66.0	49.0	70.0	61.7	W.	N.	N.W.	9	16	10	F.	F.	C.	—	—
Thursday, ...17	30.226	59.1	67.4	50.4	62.0	40.0	79.0	60.3	N.	N.W.	W.	10	6	6	C.	C.	C.	—	—
Friday, ...18	30.072	67.2	77.9	53.2	74.0	46.0	77.0	65.7	W.	W.	W.	17	15	7	C.	F.	O.	—	—
Saturday, ...19	29.010	65.8	77.0	56.5	68.0	49.0	69.0	62.0	W.	W.	N.	10	20	8	C.	C.	C.	00.0	0.00
Mean, the Week.	29.978	66.2	76.3	56.6				67.7											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 19, 1885, TO SEPTEMBER 25, 1885.

##### PROMOTIONS.

McPARLIN, T. A., lieutenant colonel and assistant medical purveyor. To be surgeon with rank of colonel, to date from September 16, 1885.

IRWIN, B. J. D., major and surgeon. To be assistant medical purveyor, with rank of lieutenant colonel, to date from September 16, 1885.

POPE, B. F., captain and assistant surgeon. To be surgeon with rank of major, to date from September 16, 1885.

##### APPOINTMENT.

MORRIS, EDWARD R., to be assistant surgeon with rank of first lieutenant, to date from September 17, 1885.

AINSWORTH, F. C., captain and assistant surgeon. From Department of Texas to New York City, for duty as recorder of the Army Medical Examining Board. S. O. 214, A. G. O., September 18, 1885.

SHANNON, WM. C., captain and assistant surgeon. Granted leave of absence for four months, to take effect about October 1st. S. O. 215, A. G. O., September 19, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING SEPTEMBER 26, 1885.

DUNGAN, J. S., medical director. Waiting orders.

##### OBITUARY.

William Augustus GUY, M.B. Cantab, F.R.C.P., F.R.S. The death of this writer who was in the front rank of statisticians and philanthropists, occurred at his residence, Gordon Square, London, on the 10th instant, in his seventy-sixth year. Dr. Guy was born of a line of medical ancestors at Chichester in 1810. He received his early education at Christ's Hospital, passed through his medical curriculum at Guy's Hospital, and took his M.B. degree at Cambridge in 1837. In 1838 the Medical Society awarded him the Fothergillian Medal for an essay on asthma. Appointed in 1838, he filled the Chair of Forensic Medicine in King's College for many years; in 1842 he was attached to the Hospital in charge of out-patients; from 1846 to 1858 he was Dean of the Medical Department, and in 1860 became Professor of Hygiene. He was admitted a Fellow of the College of Physicians in 1837, the thirty-four, and repeated held the offices of Lecturer, Examiner, and Censor in that institution. He was an active worker in the Statistical Society, and, in addition to numerous contributions to its journal, filled the offices of Honorary Secretary, of Vice-President, and of President. In 1829 the Swiney Prize was awarded him for his researches in Forensic Medicine. In 1876 he was a Vice-President of the Royal Society.

##### CORRECTION.

In the report of an accidental puncture of a distended pericardium, JOURNAL, September 17th, page 276, it should have been stated that the needle was inserted in the *axillary*, not the "mamillary," line.

##### SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, October 5th, at 8 P. M. Readers: Dr. T. A. De Blois, "The Rapid Fatality of Tuberculosis involving the Pharynx." Dr. J. P. Ayer, "Cases of Glycosuria." H. L. BURRELL, Secretary.

NEW YORK STATE MEDICAL ASSOCIATION, FIFTH DISTRICT BRANCH, BROOKLYN. — The first annual meeting of the Fifth District Branch will be held in Brooklyn, at the Mansion House, Hicks Street, between Clark and Pierrepont Streets, at 11 A. M., on Tuesday, October 13, 1885. Order of business: Reading of the minutes, appointment of nominating committee, report of the executive committee, reports of delegates to other branches, scientific business: "Suggestions in regard to the Causation and Treatment of Acute Coryza," by Anstin Flint, M.D. "Further Observations on Diptheria," by W. H. Thayer, M.D. Adjournment at 1 P. M. for lunch. Meeting called to order at 2 P. M. Scientific business continued: "The Physician and the Pharmacist: Their relative Duties," by J. P. Garrish, M.D. Report of a "Case of a Railroad Accident," by Wm. Govan, M.D. Remarks on "The Milk Supply of large Cities and the Improper Mode in which it is conducted," by H. A. Pooler, M.D. "Progress of Electrolysis in Surgery," by Robt. Newman, M.D. New business, report of nominating committee, adjournment. This being the annual meeting, a full attendance is especially desired. Lunch can be obtained in the Mansion House on reasonable terms.

J. C. HUTCHINSON, M.D., President.  
E. H. SQUIBB, M.D., Secretary.

NOTE. — The Mansion House is only a short walk from either Fulton Ferry, Wall Street Ferry, or the Bridge terminus in Brooklyn. Fellows should walk straight up from either Ferry until they reach Hicks Street.

##### BOOKS AND PAMPHLETS RECEIVED.

Tabular Statistics of One Hundred Cases of Urethral Stricture Treated by Electrolysis without Relapse. By Robert Newman, M.D., of New York. (Reprint from New England Medical Monthly.) 1885.

A Treatise on Nervous Diseases: Their Symptoms and Treatment. A Text-Book for Students and Practitioners. By Samuel G. Weber, M.D. New York: D. Appleton & Co. 1885.

A System of Obstetric Medicine and Surgery Theoretical and Clinical for the Student and Practitioner. By Robert Barnes, M.D., and Fancourt Barnes, M.D. Illustrated with 281 woodcuts. Philadelphia: Lea Brothers & Co. 1885.

A Text-Book of Medical Chemistry for Medical and Pharmaceutical Students and Practitioners. By Elisha H. Bartley, M.D., Adjunct Professor of Chemistry and Lecturer on Diseases of Children in Long Island College Hospital. With Forty Illustrations. Philadelphia: P. Blakiston, Son & Co. 1885.

## Original Articles.

ANÆSTHETICS IN NORMAL LABOR.<sup>1</sup>

BY R. A. KINGMAN, M.D., OF BOSTON.

UPON scarcely any subject in the department of obstetrics does there exist greater difference of opinion than upon the advisability of mitigating the pain of normal labor by the employment of the anæsthetic agents at our disposal. Not only is this true of the great authorities in obstetrical literature, but it is equally true of the physicians in our own city, and even of the instructors in the medical school; and this fact has seemed to me to offer a sufficient apology for calling your attention to the subject this evening. It is not my intention to formulate precise directions as to how, when and what anæsthetics should be used, though incidentally each of these points shall receive brief attention. I do expect, however, to be able to give some strong arguments in favor of the practice I am advocating, to disprove some, if not all, of the arguments of the opposition, and finally to reach the logical conclusion that, having at our disposal substances capable of safely and effectively relieving pain without materially affecting the progress of labor, it becomes our duty as physicians to, at least, offer to our parturient patients, a mitigation of their sufferings.

The drugs which are of the greatest practical importance to us in this connection are chloral and ether, and to these alone our attention shall be confined. I make no apology for omitting chloroform from the list, for I am aware of no good reason for using one anæsthetic in surgery and another in midwifery, and as to the superiority of ether in the former field there can be no question. Nor is it necessary to even mention the many other drugs that during the past few years have been classified with those already mentioned. Chloral and ether will serve every purpose, and being freer from objections than the others, may be taken under consideration as types of the class.

Chloral, though discovered as early as 1832 by Liebig, was not employed in medicine till the year 1869, when Liebreich began experimenting with it. Noting the fact that in the presence of alkalies, chloroform was produced, he reasoned that this same transformation must occur in the blood, and that consequently chloral was capable of inducing true anæsthesia. The effect of this hypothesis was to bring the drug into immediate popularity. It was made use of in almost every conceivable ailment, in obstetrics as well as in general medicine. Failing to answer all expectations, however irrational, it rapidly fell into disrepute, from which it has never fully recovered.

That we may the more intelligently assign it the place that it is undoubtedly fitted to fill in the field of obstetrics, let us study for a few moments its action upon the uterine contractions, the extent of its anæsthetic and hypnotic powers, and its influence, if any, upon the health of the mother and the child. The facts that I am about to state are derived largely from the valuable monograph<sup>2</sup> of A. Pellissier, of Paris, published in 1873, in which is given, not only the result of his own deliberations and ordinary clinical experience, but of a careful and very conclusive series of experiments upon animals. He formulates three pro-

positions which cover the whole matter so perfectly that I will give an almost literal translation. They are as follows:

"1st. Chloral does not in the least suspend the progress of the labor.

"2d. It causes a diminution of pain, sometimes even its almost complete suppression, and procures to the patient a calm and refreshing (*réparateur*) sleep, the result of which cannot be otherwise than favorable to her.

"3d. Employed in a wise and prudent manner, it is absolutely innocuous."

In proof of the first proposition can be arrayed the declarations of such men as Pajot and Simpson, who state that the contractions of the uterus continue regularly and powerfully, and that they have never seen them suspended in consequence of the administration of chloral; or the still stronger declaration of Lambert of Edinburgh, to the effect that "far from suspending the uterine contractions, chloral renders them still more active," and that "the labor, under the influence of chloral, will probably be of shorter duration, for the reason that unconscious contractions are more powerful than painful ones."

These and many other similar statements may be adduced to show that the action of the uterus is not interfered with by the drug under consideration, but that the fact may not appear to rest upon simple assertion, witness the following experiments as related by Pellissier.

Not being able to procure pregnant bitches, he operated upon unimpregnated ones, exciting the uterus to contract by touching it with an electrode. In one case he injected into the intestine two doses of chloral of two grms. each. After the first dose the dog slept profoundly, though reflex movements were unaffected. After the second dose complete anæsthesia supervened. In this connection the uterus was seen to contract vigorously, though the duration of the contraction was slightly less than before the chloral was administered. The contractibility was not at all affected by the first dose. The dog rapidly recovered from the effects of the chloral and from the operation.

It was found that when laudanum was employed instead of chloral, the uterine contractions were almost entirely annulled.

If now it be remembered that we never have occasion to give chloral to anything like the extent here mentioned, it is obvious that the tendency of the uterine fibres to contract under stimulus must be very little, if at all, interfered with.

As my own experience with chloral has been entirely in accord with the facts just stated, I may perhaps be permitted to report very briefly a single case, which may serve as an illustration of the actual results to be expected. In this particular case, the total amount of chloral given was five grms. distributed through several hours of the evening. The patient was a primipara who had suffered acutely from a prolonged and very painful first stage. The primary effects of the drug were to produce sound and refreshing sleep with almost complete extinction of pain, the patient waking and complaining slightly of each contraction. For about an hour she slept continuously, taking no notice of the pains which continued without interruption. At no time did I notice any diminution, either in the force, duration, or frequency of the contractions. The effect of the chloral was marked until the latter part of the

<sup>1</sup> Read before the Section for Obstetrics and Gynecology, of the Sanf. Soc. Med. Acad. Soc., May 29, 1885.

<sup>2</sup> Des Indications de l'Hydrate de chloral dans l'Accouchement.

second stage, when it was supplemented by the inhalation of ether.

Much larger doses than those employed by myself have been frequently given by French accoucheurs, the amount sometimes reaching twelve or even twenty grms. in the course of a few hours, and yet the testimony of these men is that chloral never interferes with the progress of labor except in those cases in which the duration is actually diminished by it.

The second proposition states a fact of such universal experience that it seems almost superfluous to attempt its proof, and yet, as it is a fact of vital importance to the object of this paper and that nothing may appear to be taken for granted, a few brief statements may be made in its support. By it, anæsthetic and hypnotic powers are claimed for chloral. Let us see how far these claims can be substantiated.

Pellissier, as a result of his experiments, presents sphygmographic tracings which, beyond a question, demonstrate the production of complete anæsthesia in dogs. If thus affective with dogs, it is safe to assert that it is capable of producing the same result in human beings, the only reason why it is not so used being the fact that in pushing the drug to such an extreme, the safety limit might easily be over-stepped. Though for this reason it is not advisable to attempt the production of surgical anæsthesia, there seems to be no ground for denying that lesser degrees of the same condition, may, and frequently do occur as a result of ordinary therapeutic doses. By virtue of this anæsthetic property of chloral, the pains of labor may be sufficiently overcome to afford free play for the drug in a calmative and hypnotic direction. The excitement of the patient being quieted, the pain being lulled, and the sense of continual discomfort and apprehension being obliterated, exhausted Nature asserts herself and the patient sleeps. According to the amount of the drug exhibited the sleep will be deep or light, quiet or uneasy, the pains will be unnoticed or will give rise to lively manifestations of suffering. This sleep being in many respects a natural one and the patient being in the midst of an exhausting process, may I not be permitted to assert without further demonstration that it "cannot be otherwise than favorable to her?" It must refresh her, strengthen her, favorably influence the progress of labor and insure a more comfortable and certain convalescence.

"Employed in a wise and prudent manner, it is absolutely innocuous,"—this is the language of the third proposition, and in attempting its support, I would not strive to conceal the fact that a very considerable number of deaths have arisen from the administration of the drug. I do venture to assert, however, that in almost every case of fatal, or even alarming chloral poisoning, the saving clauses in the above statements have been disregarded, that is, the drug has been given in an unwise or imprudent manner. Either the initial dose was too large, the repeated doses too heavy or given at too short intervals, thus producing a cumulative effect, or some of the contraindications have been overlooked. Deaths have occurred from very moderate doses of opium, yet is that fact advanced as a reason why an opiate should never be given simply to relieve suffering? As we are dealing, in this paper, merely with the effects of chloral administered during the course of labor, the question becomes much simplified, for, so far as I have been able to learn, not a single case of fatal poisoning has ever occurred from such use

of the drug. That the chronic use of chloral may, and often does entail a series of characteristic symptoms, is neither denied nor doubted, but that so brief an employment of it as I am advocating is ever followed by unpleasant results few have claimed and none have ever proved. On the contrary, it is universally admitted that the great superiority of chloral as a hypnotic lies in the fact that it is not followed by headache, mental or physical depression, dyspepsia or constipation, but that it leaves the patient in the normal condition of one who has enjoyed a perfectly sound and natural sleep.

It having already been demonstrated that the uterine contractility is unaffected by chloral, it follows as a corollary that post-partum hæmorrhage cannot be caused by it, as claimed by some. It is an undisputed fact that chloral administered to the mother during labor has no injurious effect whatever upon the child.

There is one important action of the drug under consideration which, though not referred to in either of the three propositions, is worthy of mention here. It possesses in a marked degree the power of relaxing the spasmodic contractions of the circular fibres of the cervix. In those cases of unyielding os, in which the rigidity is due to the above cause and is not complicated with cicatricial or inflammatory hardening of the tissues, we may expect a speedy relaxation under the use of chloral.

Concerning the administration of chloral, no minute directions need be given. I do not recommend it for every case of labor; but I do consider that in cases in which the pains are acute, continuous, exhausting or ineffective, in which the patient is nervous, excited, apprehensive or depressed and discouraged, or in which the os is spasmodically resisting the forces that tend to dilate it, in all such cases, I say, chloral is indicated. For the multipara, whose labor of an hour or two is almost devoid of pain, and in whose case loss of sleep is not an incident, no chloral is necessary; but what reason can be advanced for refusing it to the primipara, harassed by nagging and ineffective pains, to whom sleep has been a stranger for hours, and it may be days, who is certain yet to have at least some hours of similar or even worse suffering, and to be left, when it is all over, exhausted, prostrated, in such a condition as to render hæmorrhage liable, puerperal disease more probable, and convalescence tardy? In such extreme cases and in the more common simpler ones, let chloral be given to such an extent as to relieve suffering, quiet agitation, and afford sound refreshing sleep.

I would suggest that either one or two grammes be given at once, according to the exigencies of the case, to be followed by one gramme doses at intervals of one half to one hour until the desired effect be produced. After that, give only as required to continue the effect.

Coming now to the subject of ether, there are certain questions that must be answered before we can decide upon the merits of the case. What is its effect upon the uterine contractions? What upon the dilatation of the os? What upon the distensibility of the perineum and upon the chances of its rupture? What upon the aid afforded by the abdominal muscles? What is its value as a calmative, hypnotic and anæsthetic agent? What are its subsequent effects upon mother and child? How great is the danger attending its use?

First. What effect has ether upon the uterine con-

tractions? This is the question that has occasioned more difference of opinion than any of the others, and upon it, more than upon any other, hinges the rule of practise. Many of the best authorities claim, and with perfect candor, that the inhalation of ether causes diminution, both in force and frequency, of the contractions of the uterus, and that, both as a result of this fact and in consequence of its depressing influence upon the vital forces, it predisposes to hemorrhage. On the other hand, quite as good and as abundant authority can be offered for the contrary statement that ether, given for the purpose and according to the method to be advocated later, does not delay the labor, that it occasionally even increases the force of the contractions, and that statistics do not show any increase in the percentage of post-partum hemorrhages following its use.

Now to affirm that both of these statements are literally true would be to assert an apparent paradox, yet that such is the case can readily be shown. The whole difficulty lies in the fact that the first class of observers overlook the saving clause in the second statement, namely, "for the purpose and according to the method."

As will be seen subsequently, the meaning of this is, that in giving ether during labor simply for its anæsthetic and hypnotic effects, the degree of surgical anæsthesia should never be reached. It is never necessary to give it even to the abolition of complete consciousness. This fact, I say, is overlooked by the first class of observers, who take into consideration as well those cases in which ether is given to the total extinction of consciousness, to the production of surgical anæsthesia and even all the cases of operative midwifery in which no one can estimate the influence of the operation itself or of the cause that made operation necessary.

Before going further it is necessary to state that most of the authorities to be referred to, are discussing chloroform, but it will readily be admitted that what can be said in favor of the more powerful agent, at least in this connection, is doubly true of the weaker and safer. It is necessary to make use of the testimony concerning chloroform because so comparatively little has been written on the subject of ether for reasons that are sufficiently understood.

Prominent among the advocates of chloroform stands Professor Barker<sup>2</sup> of New York, who is authority for the statement that chloroform sometimes lengthens the labor, but in a large majority of cases it shortens it. He classifies these latter cases under three heads:—

- (1). Those in which inefficient uterine action results from loss of sleep and exhaustion from prolonged first stage.
- (2). Those in which delay occurs from rigidity of the os or perineum. (The rigidity being due of course to muscular action and not to fibrous contraction.)
- (3). Those in which pains are inefficient from hysteria, vivid moral impressions, or severe pain due to other causes than uterine contractions, as, for instance, some pre-existing disease.

Concerning post-partum hemorrhage, he says it is usually due to uterine inertia which is commonly the effect of exhaustion. This condition does not obtain where ether is used, and consequently hemorrhages ought to be less frequent.

A single case reported by the same author may serve

to illustrate the occasional action of chloroform in increasing deficient uterine action, and the same property may be quite as strongly claimed for ether. A primipara having had a first stage of eighteen hours, entered upon the second stage with strong and efficacious contractions, but after five hours these became irregular and feeble, finally ceasing altogether. Preparatory to the application of forceps, chloroform was administered, the patient coming rapidly under its influence. Immediately the pains started up and in twenty minutes the child was born naturally. Dr. Barker says that since that time he has often witnessed the same results.

Dr. Piachaud, of Geneva, in a thesis<sup>4</sup> presented before the International Congress of Medical Sciences in 1877, says that by the use of chloroform he was enabled to leave many cases to the efforts of nature which otherwise he must have terminated with forceps.

The second question needs no discussion, for the effect of ether upon the os is almost identical with that of chloral. So with the third question, concerning the perineum, except that here enters another item for consideration. It is claimed that the patient having her sense of pain benumbed and having to a certain extent lost her power of self-control, will strain down just at the critical moment and thus determine a rupture which might otherwise have been prevented. So much truth is there in this statement that I would advise that, at the moment when the head is passing the vulva, the ether should be so far suspended as to insure the entire co-operation of the patient. If this caution be borne in mind the result will be a less number of ruptures than when ether is not given, for the reason that the patient being better able to bear the pressure of the head in the outlet, its expulsion can be permitted to take place more slowly. In those cases in which the pains are exceptionally severe, or in which the patient has shown herself unruly, it will be better to push the ether to the production of surgical anæsthesia.

It has been noticed and commented upon as a curious fact that the abdominal muscles continued to play their part in the process of labor, even though the other voluntary muscles of the body were completely relaxed by the use of an anæsthetic, and it is only within recent years that it has been explained on the ground that these muscles belong to the respiratory system, and therefore are among the last to lose their activity. As, however, the patient need not be placed so deeply under the influence of the anæsthetic as to lose her consciousness, she will continue to assist the process by voluntary efforts which are often much stronger and more prolonged than when the ether is withheld.

The fifth question that I have propounded is: What is the value of ether as a calmative, hypnotic, and anæsthetic agent?

Its effect is in many respects similar to chloral. Acting much more rapidly and the effect being correspondingly evanescent, yet the patient is soothed, relieved of her suffering to a very considerable degree and is enabled to sleep quietly between the pains. Its effect is immediate, constant and salutary. Being withdrawn, the patient quickly experiences renewed pain and begs for its continuance.

Given as recommended, consciousness is never lost, questions can be asked and answered and directions understood and followed.

<sup>2</sup>Anæsthetics in Midwifery, New York, 1861.

<sup>4</sup>Emplot des Anæsthesiques pendant l'Accouchement Naturel.

The subsequent effects upon the mother cannot be such as to play any important rôle in her convalescence, for not being given to complete anaesthesia, its influence must be less than after even a slight surgical operation. By virtue of the rest and relief from pain afforded during labor it ought assuredly to predispose to a more favorable convalescence, just as has been claimed for chloral.

Concerning the child, I am unable to find any report of injury due either to ether or chloroform, and therefore, although much time and space have been occupied in the attempt to determine whether the latter drug, as such, passes into the body of the child, I do not consider any discussion of the subject necessary.

With regard to the danger involved in the use of ether, the simple fact that in the nearly forty years and among the hundreds of thousands of midwifery cases in which ether has been used, not a single death has been attributable to it, would seem to be a sufficient reply to the question. Even chloroform, which counts its victims by hundreds in other than parturient cases, loses here its danger, as a careful search has revealed no more than seven cases in which it proved fatal during labor. And yet see what Professor Depaul, of Paris, gives as his reasons for refusing anaesthetics to his patients:—

“(1) Because the employment of anaesthetics, in spite of what has been said to the contrary, is not always without danger and may kill the woman.

“(2) Because the anaesthetic sleep, in depriving her of her reason, does not permit her, in the great act which she is accomplishing, the participation which is almost always necessary.

“(3) Because the danger and the inconvenience mentioned are not compensated for by the advantages which result from the diminution or the cessation of pain.”

Now I submit that this reasoning is most sophistical. In the first place the danger is less than that attending a carriage or railway ride. True, it may “kill a woman,” but if it never has we are not to be frightened by any such absurd possibility.

Secondly, as advocated for the simple purpose of relieving the pains of labor, it is not necessary nor is it desired to deprive the patient of her reason.

Thirdly, the trifling danger, and quite as trifling inconvenience are vastly more than compensated for by the relief afforded. In other words, Professor Depaul must have been blinded by prejudice or something worse, when he wrote those words, and, in his high position, affording example and teaching to so many students of medicine, he has much to answer for as the cause of untold suffering that might safely and easily have been alleviated.

It is unnecessary to enter into any explanation of the singular immunity from accident during etherization exhibited by parturient patients. Many cases have been assigned, each of which undoubtedly is of value, though to my mind the most important safeguard lies in the method of administration. This method, which is probably familiar to you all and to which reference has already been made, consists simply in the intermittent inhalation of the anaesthetic. As the pain is felt approaching, the patient calls for the ether and takes several strong, deep breaths. As the contraction passes off she falls at once into a sleep from which she only arouses at the advent of a fresh

pain. As has been stated, we wish to abolish neither consciousness nor sensation, only pain. The patient is aware of the contraction but does not suffer from it. She should be able to answer questions and carry out our directions intelligently. To this degree of anaesthesia Piachaud has given the name of *hypæsthesia*.

I would advise that in those cases in which an anaesthetic is indicated, chloral should be given if we have reason to think that the labor will continue more than an hour or two, especially if it still be in the first stage. Where prompt and not very prolonged effect is desired, ether is indicated, as also in those cases in which, after a thorough trial, chloral has failed to give satisfactory results.

I believe that I am now in a position to announce the conclusion proposed at the beginning of this paper that, “having at our disposal substances capable of safely and effectively relieving pain without materially affecting the progress of labor, it becomes our duty as physicians, to at least offer to our parturient patients a mitigation of their sufferings.”

Having thus arrived at a conclusion favorable to the use of anaesthetics in normal labor, this paper cannot better be brought to a close than by quoting Professor Barker's rule of practise and statement of results, as contained in a private letter to Piachaud. He says: “I employ chloroform in all cases except those very exceptional ones in which the pains are not sufficiently violent to cause its request. I have never, in any circumstance, had the least reason to regret having made use of it.”

## DOUBLE OPTIC NEURITIS AND OPHTHALMO- PLEGIA FROM LEAD-POISONING; COMPLICATED BY TYPHOID FEVER.<sup>1</sup>

BY O. F. WADSWORTH, M.D.

IN patients suffering from lead-poisoning optic neuritis is not very uncommon, although usually in such cases associated with nephritis. That lead may cause combined paralysis of the extra ocular muscles together with neuritis, as in the case I have to report, has not, to my knowledge, hitherto been observed. In the present instance there was not only no nephritis, but aside from the ocular symptoms none which could with probability be referred to lead, at least, which could not as well or better be attributed to the intercurrent typhoid fever.

A well-grown boy of nine years passed the summer of 1881 in the country. In August, twice, at an interval of a week, after riding an easy-gaited horse three or four miles, he complained of headache. Very shortly afterward, at the end of August, he came down with what the physician in attendance called slow fever. He was perhaps a week in bed, complaining of headache, then somewhat better, up and dressed, and with fair appetite. During this time, it was observed that his left eye did not move as well as the other, and about the beginning of his sickness, and occasionally afterward, the left pupil was said to have been somewhat the larger.

As he continued ailing, he was brought to Boston Sept. 25th, and placed under the care of Dr. O. W. Doe, to whom I am indebted for the use of his notes. After reaching Boston, the boy appeared generally rather dull, would sometimes lie quiet for a long time with his face in the pillow, but on one or two days was

<sup>1</sup> Read before the American Ophthalmological Society, July 11, 1885.

quite bright and lively. He had a fair appetite; pulse and temperature were not far from normal; there was no headache; the spleen was decidedly enlarged; there was no other typhoid symptom. The urine contained neither albumen nor casts. Once or twice, while driving in an easy carriage over a smooth road, he complained that the road was rough. The left eye turned neither to right nor left, but could move upward and downward. Electricity was applied to the recti muscles. On October 6th, shortly after eating a good breakfast, he had sudden vomiting with little or no nausea. On the same day, Dr. Doe first observed that the left pupil was a little larger than the right.

I saw him first on October 8th. He was up and dressed, in very good flesh. There was no movement of the left eye inward or outward, somewhat diminished movement downward, good movement upward. The movement of the right eye was decidedly diminished outward, good in other directions. The left pupil was larger than the right; both reacted to light, the right better. Vision R. diminished; L. much diminished; (It may be said here that the determination of the vision was at no time, either now or subsequently, so exact as could have been wished, because of the desire of the boy's mother that nothing should be done to discourage his feeling that his sight was better than it really was.) The media were clear. In both eyes the discs were much swollen, with steep sides, opaque, vascular, the inflammatory appearances confined within an area of not more than two diameters. There were no hemorrhages; the retina was everywhere quite clear and transparent, and its vessels not apparently altered in calibre or course. While many of the symptoms appeared to point to obscure typhoid, I regarded the neuritis and peculiar ocular paralyses as most readily explained on the supposition of a tumor in the region of the pons, and gave that as the probable diagnosis. Potass. Iod. gr. x 3 t.i.d. ordered.

Dr. C. F. Folsom saw the patient on the following day, and because of the slight evidences of pressure (headache, vomiting, etc.), and the fact that he had observed anomalous nervous symptoms from lead poisoning, suggested the possibility that that might be the cause of the ocular symptoms here.

On the 10th, the boy took a short drive, complained on his return of weakness, and had dizziness and nausea on moving his head or rising. For the next week or ten days he was confined to bed or sofa, his pulse and temperature high (102.1° was the highest temperature reached), his dejections yellow and typhoidal in character; in short, there were fairly marked typhoid symptoms. He vomited once or twice only after taking his medicine. On the 11th, the spleen reached an inch below the ribs, and there was also increased, hepatic dullness noticed for the first time. For two or three days, the spleen and liver continued to enlarge, but by the 17th had begun to diminish again. On the 21st, the spleen had become of normal size, while the liver still reached two-thirds of an inch below the ribs. A few days later, the liver also had returned to normal dimensions.

Meantime I had seen him twice. On the 14th, vision seemed less in each eye than on the 8th; with the right, the better, eye, he read letters about equal to 30 or 40 at 1'. The field seemed of normal extent in both. Left pupil the larger, both reacted. The swelling of discs a little increased with many fine vessels. The retina bright and clear everywhere. Movements of left as before, perhaps slightly impaired upward also;

movements of right diminished outward, a little diminished inward, and perhaps downward.

On the 20th, the left pupil reacted little by itself, the right well. The right, better, eye, could not count fingers at 16". The fundus as before. Lateral movement of left none, movement upward and downward somewhat defective; movement of right as on 14th.

Before this date, Oct. 20th, an examination of urine passed four days after beginning to take the iodide, had been made by Dr. E. S. Wood, and no lead found. A second examination before Nov. 1st, gave a trace of lead and decided the diagnosis.

Nov. 1st, the temperature was still above normal, the pulse ranging from 100 to 110. The boy was cheerful and improving in general condition. Both pupils were large and equal when I saw him; both reacted promptly to light in the right, or to attempts at accommodation, although never very small. The left eye barely saw movements of the hand; the right counted fingers imperfectly at 1' and with fixation much above. Field of right apparently normal in extent, swelling and vascularity of discs a little less, the rest of fundus clear as before. Movements of left much as on Oct. 20th; of right, inward and outward a little less than before, upward and downward good. He was now taking Potass. Iod. gr. xv, and the dose was increased to gr. xx. From this time his general condition steadily improved; by Nov. 7th he began to drive out.

Of a specimen of urine sent on Nov. 10th, Dr. Wood wrote, "there was a larger amount of lead than in the previous specimen; I should designate it as considerable." I did not see the boy again till Dec. 30th. His general health had become very good. His vision had sunk since my last visit, but was thought by his mother and himself to have improved somewhat of late. The movements of the eyes had become quite normal, and the irides reacted well, although the pupils were rather large. There was a little divergence of the left eye, and slight drooping of upper lids of both. It was doubtful if he could count fingers even at a few inches. The right eye was the better, and the best vision was obtained with fixation above and to the right. Swelling of discs nearly gone, their surface pale and showing but few fine vessels, the arteries small, veins nearly normal in size.

He was last seen by me May 9th. He could not count fingers. The outlines of the discs were more defined and their surface more uniform and opaque. His general health was very good. There was then still a trace of lead in the urine, but by the last of May it could no longer be found.

#### A RARE MALFORMATION OF THE HEART.

By GEORGE E. BREWER, M.D.

THE following case of congenital malformation of the heart, which recently came under my observation, furnishes an example of a condition, interesting on account of its rarity.

On July 20th, at the Columbia lying-in hospital in Washington, a healthy colored woman was delivered of a male child. At the time of birth, the child was cyanosed, and it was only after the employment of artificial respiration and various other stimulating measures, that respiration was established. The child lived fifty-four hours, during which time, embarrassment of respiration, rapidity of pulse and great restlessness

were constantly observed. The efforts at nursing were feeble and without result.

At the autopsy, the heart alone was removed and preserved for subsequent examination. The lungs and abdominal organs were examined *in situ*; the former were well aerated, and the latter presented nothing abnormal. Upon later investigation the heart was found to consist of three cavities, two auricles and one ventricle. The auricles were well formed but of unequal size, the left being considerably enlarged. The septum was present and exhibited nothing abnormal except the large size of the foramen ovale, which admitted the tip of the little finger. There was but one, the left, auriculo-ventricular opening. In place of the tricuspid valve, there was a slight depression, at the bottom of which was a minute fibrous ring, 3 mm. in diameter. This was impervious, and an opening made through it, in search of a rudimentary right ventricle, revealed nothing but the dense muscular tissue of the ventricular wall.

The ventricular portion of the heart did not differ in size and external appearance, from normal specimens of the same age. The walls were somewhat hypertrophied, measuring 9 mm. in thickness. Its cavity was spacious, and presented no trace of a septum: from it was given off one large arterial trunk, the aorta. A small vessel, blindly originating at the junction of the anterior wall of the aorta with the ventricle, measuring 3 mm. in diameter, bifurcating 8 mm. above its origin, was observed, and considered by Dr. D. S. Lamb of the Army Medical Museum, to be the rudimentary pulmonary artery. As the autopsy was necessarily hurried, further investigation, with a view to ascertaining the origin of the vessels supplying the lungs, was not undertaken.

Examples of trilobular hearts are by no means common. Peacock, in 1858, had collected but eleven, and the American and British journals, published since that time, furnish an additional record of seven cases. Most of these, however, are examples of an arrest of development taking place at a period of fetal life, much later than the case which is now under consideration. Evidence of this is to be found in the fact, that in nearly every instance, a rudimentary ventricular septum is present, and the pulmonary artery, in a more or less complete state of development, can generally be found to communicate with the ventricle.

Of the few cases which closely resemble this one, can be mentioned the one reported by C. Bernhard, in which there was entire absence of auricular septum, right ventricle, and pulmonary artery; two cases (reported by Owen and Vernon) in which there was absence of left ventricle and aorta, the auricular septum being defective; and the case described by Dr. Heinman in the *Medical Record* of 1878, which consisted of two auricles and one, the left, ventricle. The aorta being well formed and the pulmonary artery rudimentary and impervious.

Although the specimen exhibits three distinct cavities, considered from a physiological point of view, it should be classed as a bilobular heart, inasmuch as the right auricle, having no connection with the ventricle, serves only as a common venous trunk.

The question of causation in these malformations, is always one of interest. The theory usually accepted is, that defects in the septa are generally secondary, and result from a more or less complete stenosis of some valve or vessel; that this, in nearly every instance,

is present on the right side of the heart, and may be the result of irregular development or an inflammatory process.

Although it is not my purpose to enter upon a discussion of this branch of the subject, it may be added, that the small fibrous ring which was observed in place of the tricuspid valve, probably represents a stenosis of that orifice, occurring at a very early period of fetal life.

## Reports of Societies.

### AMERICAN GYNÆCOLOGICAL SOCIETY.<sup>1</sup>

WEDNESDAY. — SECOND DAY. — MORNING SESSION.

The President, Dr. Wm. A. HOWARD, of Baltimore, read the annual address. It was entitled,

#### TWO RARE CASES IN ABDOMINAL SURGERY.

The speaker held that all cases whether successful or not should be put on record, in order that the knowledge of such affections might be increased. The paper described two rare cases of exceptional interest, in which the writer was completely baffled in the diagnosis and declined to make one.

CASE 1. S. H., negress, aged twenty-four years, married, presented herself at the dispensary of the University of Maryland, April 20, 1882. She was seen by the clinical assistant and the following notes made. Menstruation appeared at the age of fourteen and had been regular and normal. She was the mother of five children, the youngest of which was two months old. She had never had a miscarriage. Some days after delivery she noticed an enlargement in the lower portion of the abdomen which gradually extended in the middle line until it reached the umbilicus and was attended with bearing-down pains and frequent micturition. On examination, fluctuation was well marked all over the abdomen, with decided resonance about the umbilicus. There was dullness on percussion and bulging in both flanks. Six weeks later she returned to the dispensary and at this time, the resonance at the umbilicus had disappeared and the umbilicus at this time projected. I saw her for the first time two weeks after this observation was made. At this time she was quite sick, the temperature being 102°, the pulse 132 and the respiration 32 per minute. Examination showed the presence of fluid in the pleural sac. There were also some crackling rales heard through the lung. The abdomen was as large as at seven months' pregnancy and was remarkably protuberant in the center. There was complete dullness over the entire abdomen not changed by change of position. There was no evidence of a solid tumor, but it had every appearance of a simple multilocular cyst. Vaginal examination showed the uterus well in front of the tumor and the sound gave a measurement of two and three-fourth inches.

The question which arose was as to the nature of this tumor. Was it ovarian? The extreme infrequency of ovarian tumors in the negro race was against this view. The rapid growth of the tumor was also opposed to this view. The next affection considered was fibro-cystic tumor of the uterus. This is exceedingly rare, the speaker had seen but one such case in the negro. In that case the cyst was filled with pus. The patient was operated upon with a fatal result.

<sup>1</sup> Continued from page 330.

Such tumors are rare before the age of thirty-five; they usually develop slowly. There was no menstrual disturbance in this case. For these reasons, fibro-cystic tumor was excluded.

Was it a parovarian cyst? These usually develop even more slowly than ovarian cysts. They are usually flaccid. They contain a thin liquid, are comparatively rare, and do not affect the general health. This was therefore excluded.

It was certainly not a case of simple ascites, but was it a case of encysted dropsy, so called, of the peritoneum resulting from simple peritonitis? This is an extremely rare affection, and in the early stages there are symptoms of constitutional disturbance, the abdomen is not prominent and often is flaccid. Encysted dropsy was excluded.

Finally, on June 20th, I aspirated the cyst under antiseptic precautions. The fluid which escaped was of a light straw color and coagulated as speedily as blood. After aspiration large masses were readily felt through the abdominal wall. The character of the fluid corresponded with that which is said to characterize fibro-cystic tumors of the uterus. The speaker had, however, seen other cases which showed that the character of the fluid was not pathognomonic. In one case of abdominal tumor, fluid was removed which did not coagulate, even after being kept for many days. The abdomen was subsequently opened and a fibro-cystic tumor found. In a case of supposed ascites in a man, aspiration was performed and the fluid removed coagulated quite rapidly.

After the cyst was aspirated the patient did well for three days, when acute peritonitis supervened and the patient died on the seventh day.

At the autopsy, a mass as large as a child's head was found in the abdomen. This consisted of omentum, the transverse colon and small intestine bound together by inflammatory exudation. The inflamed peritoneum was invaded everywhere with miliary tubercles. There was no ovarian or uterine disease. There was some tubercular ulceration of the small intestines, the other abdominal organs were not affected. The pleura was also invaded with scattered miliary tubercles. In both lungs there were some tubercles.

This, then, was a case of encysted tubercular peritonitis simulating ovarian or parovarian cyst. The failure to recognize the true condition was ascribed to want of attention to the previous history of the case, and the recognition of the fact that there had been free fluid in the peritoneal cavity at the first visit.

The speaker then referred to the few similar cases which had been reported. In these cases the disease has appeared, as a rule, under the age of twenty-five years. It has progressed rapidly, the length of time varying from six weeks to eight months.

CASE II. F. R., aged twenty-four years, was admitted to the hospital in July, 1883. She claimed to belong to the colored race, but looked much like a white woman. She had been married one year, but had never been pregnant. There was no evidence of uterine disease. The abdomen was much enlarged, measuring forty-seven inches just below the umbilicus. Vaginal examination showed the uterus pushed forward by a sac containing fluid. There was apparently an immense unilocular sac. This had been first noticed seven or eight years before. The increase in size had been gradual, and unaccompanied with pain.

As to diagnosis, ascites was dismissed both by the

physical signs and the absence of any cause to account for such a condition. The length of time which the affection had lasted was against its ovarian origin. There are, however, exceptional cases in which an ovarian tumor may be present for a number of years, even as many as twenty-four, without requiring operation. While the age of the patient, the length of time which the cyst had been present, the marked fluctuation and the flaccid nature of the tumor was in favor of a parovarian cyst, there was one point against this diagnosis, and that was that although the cyst was flaccid, it could not be compressed below the umbilicus. Fibro-cystic tumor was readily excluded. The history of the case was against the existence of encysted peritonitis. The balance of evidence seemed to be in favor of an ovarian or parovarian cyst.

On July 13th, the operation was performed. It was made largely with the view of exploration. The peritoneum was found much thickened and closely adherent to the sac. With difficulty the adhesions were separated for a short distance and the cyst presented the appearance of an ovarian cyst. A trocar was introduced and forty pounds of a greenish, viscid fluid removed. An endeavor was made to enucleate the cyst, but the adhesions were so extensive that this could not be accomplished. The cyst was then incised to the extent of the abdominal opening, and on looking into it, it appeared to occupy the whole abdominal cavity, stretching tightly over the spinal column. A small portion of the wall of the cyst was removed, a drainage tube introduced and the opening closed with stitches. Peritonitis ensued and the patient died. A post mortem was made, but owing to the speaker's unavoidable absence, was not sufficiently full to throw any more light upon the case than had been obtained at the operation. The nature of the cyst, therefore, remained unsettled.

#### DISCUSSION.

DR. EMMETT, of New York. — I will say a few words in regard to the difficulties of diagnosis. It seems to me that the older I get and the more experience I have, the more uncertain I am about diagnosis. While yesterday I did not favor opening the abdomen, yet when a woman has an abdominal tumor I favor opening the abdomen to make the diagnosis, because she has something which must come out. As regards rapidity of development, we cannot depend on that. I have seen parovarian cysts develop in six weeks, and recover after operation. I have also seen cases which had lasted twenty-three years. I have twice opened the abdomen expecting to find an ovarian cyst and found a fibro-cyst. About two years ago I saw a case in which I could not make a diagnosis. The abdomen was opened and I saw just such a cavity as has been described. It seemed as though a cyst had at some time ruptured and its contents had become encysted. The cavity was left open, frequently washing it out. In six weeks the cavity had greatly diminished. Unfortunately the patient died at this time from strangulation of the small intestine. There is no set of symptoms which we can say belongs exclusively to a certain condition.

DR. WILLIAM GOODSELL, of Philadelphia. — Our President seems to have been somewhat ashamed that he did not make the diagnosis in the first case. I can tell him that I have removed tumors the nature of which I do not know to this day. In one case I

worked for forty-five minutes before I found out what the tumor was. It turned out to be two ovarian tumors which had coalesced, including the uterus between them. I feel more and more the necessity of performing the exploratory operation, for it is impossible to make a correct diagnosis in many of these cases. To illustrate the difficulties of diagnosis, I shall report a case which I saw some time ago. A lady presented herself with a solid tumor of the abdomen. There was also metrorrhagia and menorrhagia. I diagnosed a fibroid tumor of the uterus, but the growth was so mobile as to suggest the possibility of a fibroid tumor of the ovary, and I so noted it in my record book. I advised against an operation. The lady went North and her sufferings became so great that she consulted a distinguished gynecologist, desiring an operation. He wrote to me asking my diagnosis. I told him what I thought of the case. He performed the operation, removing a large fibroid of the ovary, there being no adhesions.

DR. T. A. REAMY.—I wish to put on record another case in which a fatal result followed aspiration in tubercular peritonitis. The patient was a man, but it presented all the characteristics of an ovarian cyst. The patient died the second day after the removal of the fluid.

There is great difficulty in the diagnosis of these abdominal tumors. In reference to the coagulability of fluid from other sources than fibro-cystic tumors of the uterus. In a case which I saw some years ago, I tapped a woman and obtained a large quantity of pure blood; this coagulated at once; the patient recovered and is still living. My inference is that this was a case of tumor of the omentum.

DR. HOWARD.—It is agreed by all that cases often occur in which the diagnosis cannot be accurately determined, but in the majority of cases, I think a correct diagnosis is made. The fact that I was able, in these cases, to eliminate so many of the ordinary conditions which give rise to these tumors, shows that we have the means of making the diagnosis. The object of the paper was to give an accurate account of this case, in order that it might assist others in cases of obscure abdominal tumors.

#### THE CARE OF THE PERINEUM DURING LABOR.

By DR. T. A. REAMY, of Cincinnati.

The speaker referred to the various opinions which had been expressed on this subject. There is a general agreement as to the importance of preserving the perineum. In certain cases, however, from anatomical and pathological conditions, laceration is almost inevitable.

The author then referred to the various methods which had been proposed, dividing them into two general classes, those which aimed to support the perineum and those which are used with the object of retarding the progress of the head. There is one class, numerically small, who believe that the perineum should be let alone.

The method about to be described he had adopted several years ago and it had given him much satisfaction. He was persuaded that he had saved many perineum through its use. It was recommended for primipare and others, where the structures were greatly imperilled. During the early part of the second stage, the patient is allowed to assume any position she prefers, but when the head begins to distend the perineum, the

patient is placed across the bed with the limbs in the lithotomy position, with the exception that the knees are kept close together. This is important. The limbs are held in this position by two assistants. A piece of muslin or a towel, ten inches wide and forty or fifty inches long, is carried around the buttocks of the patient and over the hemisphere produced by the bulging perineum, with the upper edge on a level with the fourchette, and the ends given to the assistants. They are instructed to make traction during the pain in the manner that the accoucheur may direct. The bandage must be applied smoothly. The direction of the force may be made in any required direction. Care must, however, be taken that the pressure is equally distributed, and that the assistants do not simply pull on the middle or posterior part of the bandage while the anterior portion is left lax.

In order to show that this procedure was based on good anatomical grounds, the speaker next referred to the anatomy of the perineum, illustrating his remarks with diagrams. According to the old descriptions of the anatomy of this region, it was considered that the muscular fibres decussated in the part between the vagina and rectum. Recent observations show that this is not the case, but that the fibres simply meet, and a laceration of the perineum divides no muscular fibres transversely, with the exception of those of the transversus perinei. The fibres are simply separated. When the sphincter ani is divided, its fibres are, of course, divided transversely. The perineum is prevented from laceration by the protection afforded by the tissue below and the integument. The bandage used in the way described affords a supplementary perineum, as it were. By keeping the limbs in the position indicated, Nature is able to supply tissue for the relaxation of the perineum. When the perineum is bulged, the lateral and posterior sulci disappear, and the perineum with the advancing head forms almost a hemisphere. The towel is in contact with every part of this hemisphere. The advance of the head may be retarded by making traction on the towel. Where it is accessible, a narrow bed may be used with advantage, the assistants taking their positions near the head of the patient. The use of this bandage avoids any tendency to exciting expulsive efforts from reflex irritation of the perineum, as is sometimes seen where the fingers are used. It is comfortable to the patient, and does not cause more exposure than other methods. The bandage may be kept on until the shoulder is delivered, thus avoiding rupture from this cause. In order that this method shall be successful, it is important that every detail shall be carried out with painstaking care. Should a rupture occur, the immediate operation should be resorted to.

The discussion of Dr. Reamy's paper was postponed until the afternoon.

#### AFTERNOON SESSION.

DR. WILSON, of Baltimore.—All agree that the perineum should be supported, but there is a great variety as to the way in which this support should be made. Dr. Reamy's method appears to be very practical, and it has the advantage of leaving the operator free to watch the case.

DR. MANN.—The method of Dr. Reamy seems to be a good one in a certain proportion of cases, but I am sure that I have seen some cases where it would have been of no avail. The worst ruptures that I have seen have occurred in cases where, at the acme of the expul-

sive pain, the woman has torn herself from the accoucher, and when he comes to examine, he finds the head delivered and the perineum torn. In such cases, the use of chloroform would, of course, obviate the difficulty. Another objection to the method is, that it requires more assistance than can always be secured.

DR. JOHNSON.—I have made a few investigations in regard to the necessity of supporting the perineum at all, and I have found that perhaps more lacerations of the perineum occur in the practice of physicians who support the perineum, than in the practice of midwives who do not support the perineum.

DR. CHADWICK.—I think the term, supporting the perineum, a misnomer; what we mean is retardation of the child's head until the tissues can be sufficiently stretched to permit the passage of the head. I always insure the slow exit of the head, and do not permit it to escape during a pain. The method which I employ is to have the patient on her side, and then pass one arm over the thigh and then by interlocking the fingers, I can make any desired amount of pressure. I hold the head back until the perineum is sufficiently stretched.

DR. ELWOOD WILSON, of Philadelphia.—I think I have tried every method suggested for the support of the perineum, with the exception of the one just described by Dr. Reamy. My usual plan is simply to instruct the woman to keep her mouth open during a pain.

DR. REAMY.—In reply to the statement of Dr. Chadwick that supporting the perineum was a misnomer, I would say that the word "support" means protection or succor, and I used it in this sense. The number of assistants required has been objected to, but the importance of preventing rupture of the perineum during the first labor is so great, that even if two or three skilled assistants were required, I think they should be employed. Skilled assistants are, however, not required. With this method the patient cannot get away. An objection to this method referred to by Dr. Chadwick is, that the pressure is not made over the perineum, but over the head, and in the efforts to retard the head, extension may be produced, causing delivery of the head in a bad relation to the axis of the outlet. The method I have mentioned obviates this. By this method, the head can be retarded as much as may be desired.

Again, let me call attention to a clinical picture familiar to all, in which the head has been permitted to remain pressing on the perineum for from half an hour to two or three hours until the perineum is stretched to the degree described in the paper. The tissues are then in a state of beginning necrosis and exceedingly friable. Even in such a case, the use of the towel or bandage lessens the perils of the perineum, and the perineum will often be saved where otherwise it would have been torn. You cannot support it by the hand under such circumstances. If it is desired, the forceps may be applied with the bandage in position.

#### REPORT OF A CASE OF CÆSAREAN SECTION.

DR. EDWARD W. JENKS, of Detroit.—The speaker described the following case which he had seen in consultation. The patient, aged twenty-seven, had given birth to one child five years previously without special difficulty. Two years later she received a fracture of the ilium from a building falling on her. She was taken in labor at three o'clock in the morning. The physician in attendance finding some difficulty tried to apply the forceps. He got one blade on without dif-

ficulty, but could not after several trials introduce the second blade. He sent for assistance, and the attempt to apply the forceps was again made without success. The cause of difficulty was a projecting shelf of bone at the seat of fracture. Another physician was called in and the forceps were again tried. It was then decided to try craniotomy, which was done, but still the head could not be made to descend. Dr. Jenks was then sent for. He tried to apply the forceps to make sure that they could not be applied, and failing, tried the cephalotribe with no better success. It was then decided to perform abdominal section. This was performed at two o'clock that night, twenty-four hours after labor began. The woman appeared to be in good condition. The incision was made through the abdominal wall and the uterus opened. The placenta was attached directly under the incision, and there was alarming hæmorrhage, which however, was quickly checked by the rapid delivery of the fœtus. The edges of the uterine incision were brought together by silk sutures and the abdominal wound closed. The patient did well until three days after the operation when she suddenly died. It was subsequently learned that the nurse had in disobedience to orders temporarily left the room, and in her absence the patient got out of bed. She complained of feeling something give way, and experienced severe pain, and died in a few hours.

#### DISCUSSION.

DR. SKENE, of Brooklyn.—I think that in such cases the chances of the patient are lessened by undue efforts at delivery by the forceps.

I think that this would have been a good case for the performance of laparo-elytotomy. It is impossible to sacrifice the child by that operation if it is performed in good time. I can hardly imagine any case where craniotomy should be performed except possibly where the head is so engaged in a small inferior strait that it can be delivered in no other way. Even then I am not certain that the Cæsarean section would not be the best operation.

DR. JENKS.—The operation of laparo-elytotomy was discussed, but it did not seem to be an easy operation under the circumstances. If it had not been for the unfortunate accident in this case, I think that the woman would have recovered.

DR. ELWOOD WILSON, of Philadelphia, read a paper on

#### THE USE OF TARNIER'S FORCEPS.

Dr. Wilson had at the meeting in 1881, read a paper in which he offered a number of objections to the use of these forceps. His objections had been based on theoretical grounds. The object of the present communication was to report nine cases in which he had used the forceps with decided advantage to the patient. He had therefore modified his views.

A detailed account of the nine cases in which the forceps had been used was then given. The instrument used has been Dr. Howard's modification of Tarnier's forceps.

DR. NIELL, of Baltimore, exhibited his modifications of the Tarnier forceps which consisted in adapting the Tarnier principle to the Simpson forceps.

DR. MAXX.—I have used the Tarnier forceps for the past two years in a number of cases, with, in the main, satisfactory results. In one case I had a little misfortune which might not have happened with other

forceps. It was a case of deformed pelvis in which the Tarnier forceps were applied. The child was finally delivered and the woman made a good recovery. The child was however injured by the forceps. The outer edge of the orbit had been crushed in, destroying the eye. The child was living at the time of birth, but subsequently died.

The president, DR. HOWARD, of Baltimore.—So far as I know, I was the first one to use the Tarnier forceps successfully in America. I think that in cases of occipito-posterior positions, the application of other forceps, interferes with the rotation of the head, but with the Tarnier forceps the head is free to rotate.

#### EVENING SESSION.

At the business meeting held Wednesday evening, the following business was transacted.

Officers elected:

*President.* Thaddeus A. Reamy, of Cincinnati;

*Vice-presidents.* Theophilus Parvin, of Philadelphia, and George J. Engleman, of St. Louis.

*Secretary.* Joseph Taber Johnson, of Washington, D. C.

*Treasurer.* Matthew D. Mann, of Buffalo.

*Council.* Frank P. Foster, of New York; B. B. Browne, of Baltimore; J. C. Reeve, of Dayton, O.; R. B. Maury, of Memphis, Tenn.

Next meeting will be held at Baltimore, September 21, 22 and 23, 1886.

*New members.* J. B. Hunter, of New York; Chas. Jewett, of Brooklyn; W. H. Parrish, of Philadelphia.

#### THURSDAY, THIRD DAY.—MORNING SESSION.

#### A MODIFICATION OF EMMETT'S CERVIX OPERATION IN CERTAIN CASES, WITH A CASE.

By DR. R. STANSBURY SUTTON, of Pittsburg.

Although the operation was original with him, he did not claim it exclusively.

Cicatricial tissue is found in every old laceration. It is found not only at the angles where it is readily removed, but also in the tissue of the flaps. This is especially true where nitrate of silver applications have been used. Sometimes the cicatricial tissue is more marked on one lip than on the other. The case described was that of Mrs. —, age forty-two, the mother of several children. There was double laceration of the cervix. The anterior lip was hypertrophied and as hard as cartilage. It was convex from side to side and from before backward. The posterior lip, which was not the seat of much cicatricial tissue, was denuded in the usual way. The anterior lip was denuded entirely across. The strip of mucous membrane was left wider than usual. The lips were united in the usual way. The result was excellent.

The speaker thought that in some cases this was the only method which would remove all the cicatricial tissue.

#### DISCUSSION.

DR. GOODELL, of Philadelphia.—I have resorted to this device on several occasions. In two or three cases I have dissected up a portion of the mucous membrane, then removing the indurated tissue and bringing the tissues together. This was followed by good result. I have never yet removed both surfaces, although I believe that it has been done.

I should like to have the opinion on one point. I have frequently met in the operation with distended Nabothian follicles, and it has been my custom to remove these follicles. This sometimes leaves an attenuated cervix. I would ask in regard to the removal of these glands.

DR. SKENE, of Brooklyn.—I would offer a criticism on the term cicatricial tissue. The tissue is not cicatricial. It is simply hypertrophied and indurated tissue. It is a true sclerosis. A great deal can be done to remove this tissue by preparatory treatment. Diseased Nabothian glands should be removed in the same way. There are cases in which some plan is necessary to permit the approximation of the lips. The plan I have adopted has been to perform a preparatory operation consisting of the removal of a transverse V-shaped piece of from one or both of the lips. One or two sutures are introduced and the patient is allowed to go about after the first day. The stitches are removed in a week or ten days. After the enlarged cervix is reduced, the ordinary operation is performed.

DR. ENGLEMAN, of St. Louis.—I have found the condition referred to very frequently. I now cut deep and remove this tissue in old severe cases. In such cases it is impossible to preserve the strip of mucous membrane. I have removed the mucous membrane and indurated tissue from both lips. In some cases there has been complete union all the way across. The passage of a probe on the third or fourth, or eighth or tenth day will keep the canal open. In such cases I now insert a single piece of No. 8 braided silk. A probe passed a few times after removal of sutures will dilate the opening.

The result in these cases has been good union, involution, and good health of the patient. I do not know that these patients will conceive.

DR. MANN.—In some of the cases where the anterior lip is hypertrophied and the posterior lip is normal, it is very difficult to bring the parts together. In such cases I have tried the suggestion of Dr. Sutton and in only one case have I found it necessary to denude both lips. In order to prevent union I inserted a piece of small drainage tube. This case did well.

In affection of Nabothian glands, if I have time I institute preparatory treatment, but where there is want of time, I remove the glands at the time of operation. I have never done this on both lips. In my cases the result has been good.

DR. GOODELL asked Dr. Sutton if he had seen retroversion cured by Emmet's operation. The speaker had seen such result.

DR. BAKER.—I think that the strip of mucous membrane is important. The method of Dr. Sutton will tend to make a curved canal. If the patient is properly prepared, there will be no necessity for performing Dr. Sutton's operation. Even where the lips are hypertrophied, I think Emmet's operation can be done by adopting the suggestion of Dr. Skene. I, however, prefer to do both operations at the same time.

DR. HOWARD.—I have seen Dr. Harry Sims operate in the presence of his father. A glass tube was introduced to prevent union between the denuded surfaces.

DR. SUTTON.—In reply to Dr. Goodell, I would say that I have seen retroversion cured by Emmet's operation.

## INFLAMMATION OF PAROTID GLANDS FOLLOWING OPERATIONS ON THE FEMALE GENITAL ORGANS.

By DR. WILLIAM GOODELL, of Philadelphia.

Reference was then made to the close relation between the salivary glands and the genital organs of the adult: A number of cases were referred to in which this complication had followed operation on the genital organs of the female.

In a case of posterior incision of the cervix, suppuration of the parotid glands followed. The condition seems liable to follow ovariectomy.

In 153 cases of ovariectomy, he had observed a parotid bubo. This followed ovariectomy in a woman who had been twice tapped, the second tapping being followed by septicaemia. The operation was performed as a last resort. The swelling of the parotid appeared on the seventh day. The patient was removed by her friends and died on the twenty-second day.

There are other cases in which there is transference of irritation to the parotid glands in which there is no septic symptoms.

One case followed ovariectomy, another case followed oophorectomy, a third case was reported.

None of these cases ended fatally, and the condition was regarded as sympathetic and not symptomatic.

A case was reported in which swelling of the parotid followed operation on laceration of cervix. The patient recovered. The condition was followed by hysterical trismus.

## DISCUSSION.

DR. SUTTON. — I have seen one case of swelling ending fatally in twelve ovariectomies. I attributed this to septicaemia.

DR. JOHNSON, of Washington. — I have seen one case in which three or four days after ovariectomy, swelling of the parotid glands followed. The patient died on the sixth day.

DR. MANN. — I have seen three cases. In the first case there was distinct septicaemia resulting in death before suppuration of the enlarged glands. The second case followed removal of ovaries and uterus above the internal os. The patient made a good recovery. The third case was in a boy who had received a wound of the abdomen. This was followed by recovery.

DR. EMMET. — I have seen the swelling follow operation on lacerated cervix. There was recovery. The second case followed operation on a small vesico-vaginal fistula, resulting in death.

DR. REAMY. — I would report two cases, one following Tail's operation, the patient dying. The second case was one of removal of uterus and ovaries, the patient recovered. Suppuration of the glands did not follow.

DR. JAMES R. CHADWICK, of Boston, read a paper entitled

## PERISTALSIS OF THE GENITAL TRACT AND A NEW THEORY TO EXPLAIN RELAXATION OF THE VAGINAL OUTLET DURING LABOR.

The speaker had seen two cases which had directed his attention to this point. The first was a primipara with rigid outlet. In two hours the outlet relaxed, although the head had not escaped from uterus. The second case was one of fibroid tumor in which ergot was given. There had been previously a small outlet. Coincident with the uterine contraction and the forcing

down of the tumor, there was relaxation of the outlet. This disappeared when the ergot was stopped.

This and other observations had led him to explain the relaxation of the vaginal outlet by a peristaltic action similar to that seen in the Fallopian tubes and other portions of the genital tract.

## DISCUSSION.

DR. GOODELL said: A thing that appears to clear out the point taken by the speaker, is that when a piece of placenta or membrane is left in the uterus after abortion or labor, the cervix remains funnel-shaped, showing the contraction of the womb. This I regard as pathognomonic.

DR. THEOPHILUS PARVIN, of Philadelphia, described a case of

## FACIAL PARALYSIS IN AN INFANT FROM THE USE OF THE OBSTETRIC FORCEPS.

The speaker was called to a case of difficult labor in March, 1885. It was stated that the first stage had lasted twenty-four hours and that the second had been in progress eight hours. It was a vertex presentation, with the occiput anterior and to the left.

The uterine pains were feeble and infrequent. The forceps were applied, and a living child weighing seven and a half pounds was delivered. The following day it was noticed that the left side of the face was paralyzed, although scarcely a trace of pressure from the forceps was observed. The trouble disappeared within ten days.

A complete *résumé* of the literature of the subject was then given.

DR. GOODELL. — I have seen several instances, and in all the trouble has been on the right side. I explain this by the fact that the two most frequent positions are with the occiput anterior and to the left, and occiput posterior and to the right.

DR. SKENE. — It is important to make the diagnosis between facial paralysis from injury and facial paralysis from apoplexy, for, as is well known, this condition is most common at the two extremes of life, infancy and old age.

After votes of thanks to the officers the Society adjourned to meet in Baltimore next year.

## SUFFOLK DISTRICT MEDICAL SOCIETY. — SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DINON, M.D., SECRETARY.

MAY 20, 1885. The meeting was called to order at eight o'clock, DR. JAMES R. CHADWICK, in the chair. DR. R. A. KINGMAN read a paper entitled:

ANÆSTHETICS IN NORMAL LABOR.<sup>1</sup>

DR. FIFIELD, in opening the debate, said that the use of chloral in obstetric practice was comparatively new, and the results gleaned from Dr. Kingman's paper would lead him to use the drug more frequently than had been his custom. That the women to whom chloral had been given were less liable to hemorrhage was a strong argument in its favor.

Regarding the use of ether, he is inclined to take issue with Dr. Kingman. In years gone by he had used ether to a considerable extent in labor, but now he has abandoned its use largely, administering it only

<sup>1</sup> See page 337.

when he considers it absolutely necessary. He thinks it almost impossible to give ether in a moderate degree in childbirth. The demand for it when once given is like the passion for drink. The woman will cry for it, and seize upon the sponge, and inhaling with greediness pass into profound stupor. If the physician demand the intelligent aid of the patient, he cannot gain it, for the effect of the drug does not pass off between the pains. Dr. Fifeild mentioned the case of a woman with retained placenta. Ether had been heavily given in a most difficult forceps case. Haemorrhage had come on and the placenta not yet expelled. Nothing could induce her to remain on her side, or near the edge of the bed, or even to bend the knees, equally impossible to put her on her back at the edge of the bed. The situation was one of peril. The operator was thankful to have escaped from it with the woman safe, and his arm unfractured from the wild tossings of her great bulk. Until recently he had believed death from ether properly administered impossible, but lately he had seen respiration so quietly cease that the intelligent gentleman standing at the patient's side had scarcely noticed it. Under most active and protracted artificial respiration recovery ensued.

A seeming death he had seen in Paris from chloroform was not more quiet, both heart and respiration ceasing, until M. Ricoud, precipitating himself on the body, by artificial respiration substituted life for death. Curiously enough both these cases took place at operations for phthisis. Dr. Fifeild did not consider ether proper in ordinary childbirth. Dr. Jacob Bigelow had spoken of the great comfort gained by the woman who should inhale cold water from a hollow sponge.

Dr. WELLINGTON remarked that he agreed in opinion with the former speaker, that the free use of ether was not unattended with danger. He instanced the case of an elderly woman, who was undergoing an operation for a uterine trouble. She was under ether, carefully administered, when suddenly the pulse stopped. Brandy was injected subcutaneously, and other methods were taken to revive her. Fortunately she recovered; but matters looked badly for a time. This is the only case in which he had used ether, when the results seemed in any way likely to be serious.

He was surprised at the statement made by the reader that ether never stops labor pains. He certainly has seen cases where it did stop them, even when administered in small amounts, and where its use had, on this account, to be discontinued.

When ether is once given, as already remarked, a woman becomes sometimes so unreasonably and unmanageable as to occasion great embarrassment. This is a serious evil and deserves special mention in this connection.

Dr. WM. L. RICHARDSON expressed his regret that he had not heard the first part of the paper, and that he must disagree with the reader in some of the conclusions at which he had arrived. In private practice he of course gave ether if the patient desired it, but if the management of the case was left to his own judgment he did not use it in the course of a natural labor. He had never been able to obtain the results which Dr. Kingman described; namely, the relief of pain without at least a partial loss of consciousness. During the first stage of labor he had been in the habit for a number of years, both at the Boston Lying-in Hospital and in private practice, of using chloral, and in the

great majority of cases with very satisfactory results. The use of ether in the second stage, in his opinion, lengthened the labor and predisposed the patient to the occurrence of post-partum haemorrhage. He agreed fully with the statement made by Drs. Fifeild and Wellington. If it was thought best, however, for any reason to use ether, or if the patient in private practice desired it, he had always been in the habit of giving it as Dr. Kingman had described, which, so far as he knew, was the usual method of using it in obstetric practice.

Dr. KELLY said that as obstetric practice was chiefly in the hands of the special accoucheurs in Dublin, his experience was comparatively limited, but he had had more opportunities of observing the effects of chloroform than of ether when administered during parturition, and he considered that even in moderate quantities the former diminished the vigor and the duration of the uterine contractions. In Ireland these agents were only used in obstetrics when demanded by the exigencies of the case. In surgical practice, his experience, both of chloroform and ether, was very extensive, and on one occasion he had the misfortune to lose a patient during chloroform anaesthesia. Although he had seen imminently dangerous symptoms arise from ether he had never witnessed a fatal termination. He had observed that in patients who did not readily respond to the influence of ether, the alarming symptoms were due to the tetanic spasm of the respiratory muscles rather than to cardiac depression.

Dr. SWIFT said he preferred to use chloral in normal cases, giving it in the first stage. He was unable to get the effects spoken of by Dr. Kingman from the use of ether in small doses, it on the contrary rendering the woman uncontrollable, so that he seldom used ether except in cases requiring an operation where the full anæsthetic effect was desired.

Dr. DRAVER stated that his practice had been to withhold ether until the closing pains of the second stage of the labor, when, as the head emerged from the vulva, the woman's sufferings most urgently demanded relief, and when the progress of parturition could not possibly be retarded by the anæsthetic. Judging by the usual experience in the administration of ether in surgical cases, the exhilarating effects of ether, given as the reader recommended, would prove, on theoretical grounds, a drawback rather than an aid.

Dr. HODGSON considered that ether, when given in sufficient quantity to ease pain, retards labor. His practice is to administer ether when the head is about passing the perineum, if the woman demands it. He has never seen post-partum haemorrhage resulting from its use, and thinks the safety of the perineum is promoted by that course.

Dr. BARNES stated that he always permitted the woman to hold the sponge, and when she was sufficiently under the influence it would drop from her grasp. Never had he thought that labor was retarded in cases where he had used it, and the amount used was absolutely under his control, thus securing the degree of anaesthesia desired. The alarming effects noticed by Dr. Fifeild in two cases, one where chloroform, the other where ether was used, would be more instructive had the patient under ether been subjected to the close observation at the time respiration ceased, as was practised in the chloroformed case.

DR. REYNOLDS said, of what use is it to speak of the acknowledged dangers from the administration of ether. Post-partum hemorrhage is the result of exhaustion, and nothing tires a woman so quickly as pain. Relieve the pain with ether and you prevent the exhaustion. It is criminal not to use it in a moderate amount. If a woman in labor is brought in from the street and has post-partum hemorrhage, it is from exhaustion and not from ether. One of the most eminent accoucheurs, Fordyce Barker, gives ether in every obstetric case which he attends, and, as yet, has not had a case of post-partum hemorrhage.

Dr. Reynolds said that a rigid os with the head pressing upon it will dilate in five minutes under ether, which should be given till the patient snores. If the pains ceased or greatly diminished he would withdraw the ether. Much worry and uneasiness is caused by the notion being advanced that ether causes post-partum hemorrhage. Ether does delay the labor to a slight extent, but not for years has he found it necessary to withdraw the ether after he has commenced its administration. Why let the woman suffer, even if the ether does delay the labor one-half hour. It is the duty of the physician to remain by his patient and watch the uterus, and post-partum hemorrhage will not occur. If ether is given cautiously it will not check the pains.

In reply to a question by Dr. Broughton, Dr. Reynolds said that the new method, as it is called, of giving ether, is to administer it during the first and second stages when the woman is likely to become exhausted and when other remedies do not act. So long as uterine contractions are recurring he continues the ether, resting between the pains. His method is to keep his finger in the vagina and give the ether when he feels the uterus contract.

Dr. TEMPLE remarked that he tried the plan, recommended by Dr. Kingman, in six cases, and in none of these had there been the least difficulty in restraining the patient, and the results had been beneficial.

Dr. BUNDY said that he always permits the patient to hold the sponge herself, and in the intervals between the pains he removes it. He has never had the least trouble.

Dr. J. R. CHADWICK stated that he was in the habit of allowing his patients to inhale a few whiffs of ether during the pains in the expulsive period of the labor, as recommended by Dr. Kingman, for the purpose of alleviating their sufferings. And at this time and in this way ether did not seem to retard the delivery appreciably or to predispose to subsequent hemorrhages. He saw no reason for the reader's practice of withholding the ether during the most painful stage of all—the expulsion of the head from the vulva. At that period it was specially desirable to prevent any straining on the part of the patient so that the head shall emerge very slowly between the uterine contractions, when the obstetrician has absolute control of the speed at which the head should advance. By the aid of ether at this time there is much more certainty of escaping rupture of the perineum. To patients who are frail or exhausted in the earlier stages of labor and are clamoring for the relief to suffering afforded by ether he is very loath to administer it, because it is very hard to intermit its use subsequently, because the momentary anesthesia, obtained from a few whiffs at a later stage, rarely suffices, because a more profound etherization certainly interrupts the frequency of the

pains and thus retards the labor, and because he does not feel assured that the deeper and more prolonged anesthesia may not predispose to flooding. This last effect he does not, however, regard as well attended.

In the earlier stages of labor when a patient's condition of exhaustion demands rest from her travail he is more disposed to rely upon chloral or even subcutaneous injections of morphia, which latter drug will completely interrupt the progress of the labor for five or six hours.

Dr. REYNOLDS remarked that he did not wish it to be understood that he always gives ether in the first stage of labor, for he seldom administers it at that time, but commences when the woman's sufferings are severe. Rest in the intervals between the pains is very important, and much is gained if the woman shall fall asleep between the pains.

Dr. FIFIELD thought that there was a spice of sophistry beneath the music of the oratory of Dr. Reynolds. The word that had fallen from the lips of the venerable Barker was one of terror. It was exhaustion! No word, says one of the fathers of the Obstetric Art, is so much abused in the lying-in-room as the word "Exhaustion." Like Figaro it is here, it is there, it is everywhere. As to flooding, to say that it is the result of exhaustion is absurd. Who that remembers long protracted forceps and craniotomy cases has marked that they were followed by flooding? Hemorrhage comes to the stout, to the feeble, to the strong, to the well-fed, and the ill-fed alike. Who can predict it? Has it not followed the easiest labors; as well as the most protracted. Nay, even more frequently. The testimony of the best obstetricians amongst us is that etherization tends to bring about flooding, and no eloquence can gainsay that testimony.

Dr. KINGMAN, in summing up, said he could not understand the difficulties mentioned by several of the gentlemen who had taken part in the discussion. In his hands, ether had never failed to relieve suffering, even when given in the small doses advocated, and he had never observed the uncontrollable "passion" for ether. He is accustomed to make use of an Underwood Inhaler, which permits accurate estimation of the dose. This the patient is allowed to hold, the desired effect being attained by regulating the dose of ether for each pain.

The stage at which ether is to be given must depend upon the exigencies of the case. If much time is to elapse before delivery, he gives chloral, if not, or if chloral fails to give relief, he administers ether. Humanity demands it.

He does not advise stopping the ether when the head is passing the vulva, but that it be partially withdrawn if necessary to insure the entire co-operation of the patient. If the pains are extreme or the patient is unruly he pushes the ether to unconsciousness.

Dr. CHADWICK exhibited a sessile fibroid tumor as large as a pear which he had enucleated from the posterior lip of the uterus the day before. Being uncertain as to the depth to which the tumor was imbedded in the tissue of the uterine wall he had adopted the expedient of splitting the tumor with the bistoury, extending the incision above the apparent line of insertion of the cervix; then making a transverse incision through the attenuated cervix down to the fibroid at a point lower than the point to which the central incision of the tumor extended, he passed the handle of his bistoury between the uterine tissues and the fibroid, and

readily enucleated the tumor from its bed. By this method of procedure he had escaped the common difficulty experienced in such operations of determining where to cut so as not to take away a portion of the cervix, or to leave a portion of the tumor. There was no appreciable hæmorrhage.

## THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, October 1, 1885.

### ADDRESS BY THE PRESIDENT.

The President, DR. A. JACOBI, delivered an address in which he gave a warm greeting to the Fellows on reassembling after the summer vacation. He then spoke for some time in regard to the work of the Committee for Collective Investigation of the International Medical Congress of 1884, of which he and Dr. N. S. Davis are the American members, dwelling upon the difficulties encountered in such investigations and the usefulness of their results. The following were the special diseases whose geographical distribution and etiology were to be studied: rickets, chorea, acute rheumatism and cancer, and Dr. Jacobi has had a pamphlet issued which contains a series of questions, with blanks for reply, in regard to each of them. He also spoke of the Code question and the International Medical Congress of 1877, and concluded with some remarks on the affairs of the Academy.

The paper of the evening was by Dr. R. VAN SANTVOORD, and was entitled:

### OBSCURE CASES OF WEAK HEART.

The first case narrated was that of a strong and fresh-looking man of forty-two years of age, who had the appearance of robust health. His occupation was that of a dry-goods salesman, and except that he took an occasional drink with a customer and ordinarily ate his meals too rapidly, his habits were good. He suffered from drowsiness, which would often come on during the day, and from frequent headache; while his mind was apt to be forgetful. He was also somewhat short of breath in going upstairs, and there were slight disturbances of the digestive functions. The heart-sounds (especially the first sound), were rather weak, and there was a distinct reduplication of the second. There was no valvular trouble, and the sphygmographic tracing was of no special significance. He was placed on ten minims doses, three times a day, of tincture of digitalis and of tincture of nux vomica; the latter being added on account of the digestive trouble. At the end of two weeks the heart-sounds were somewhat louder, but the general health was not improved. The remedies at first prescribed were then substituted by caffeine and strychnia, and under the use of these last he rapidly recovered. Afterwards when he felt the drowsiness or headache coming on, a few doses of caffeine soon dispelled the trouble.

The second case was that of a stock-broker, thirty-eight years of age, who came of a gouty family, and had had several attacks of gout himself. He had been much harassed by business anxieties, and for the past four years had been in the habit of indulging very freely in the use of spirits. He was permanently gray, looking much older than he really was, and altogether exhibited a very haggard and careworn appearance. He complained of shortness of breath in going upstairs,

and it was ascertained that he had had some albumen in his urine, with occasional puffiness about the ankles, especially when he drank brandy. He was in the habit of taking from twelve to fourteen drinks of whiskey a day and eating but one meal during the twenty-four hours. When examined he was found to be suffering considerably from dyspnoea and wheezing. The first sound of the heart was weak, and the second hard and metallic. The urine was slightly albuminous, and of a specific gravity of 1024. One fatty cast was found.

There was great improvement in the patient when he stopped drinking whiskey; when he began to go about again, after resting for a time, the dyspnoea returned. He was then ordered two minims of tincture of digitalis three times a day, together with appropriate tonics, and in two days he was able to sleep flat on his back throughout the night. At the end of six months he had gained measurably in health and strength; though a small amount of albumen was still detected in the urine by means of the mercuric iodide test, and there were also found a number of hyaline casts. He had previously been rejected by an examiner for a life insurance company on account of the quickness of his pulse. The cardiac trouble was unquestionably the predominant feature, and the existence of grave disease of the kidney was considered improbable on account of the slight and varying amount of albumen in the urine, the normal quantity of the latter, and other circumstances which were noted in connection with the case. The sphygmogram of the patient was exhibited.

The third case was that of a gentleman fifty-four years of age, who had always been addicted to athletic sports, and had constantly enjoyed good health, with the exception of constipation. For a long time he had been obliged to get up in the night to urinate. He now suffered from headache and drowsiness, and was thin, sallow, and anxious-looking. There was found to be considerable dilatation of the left ventricle, and also a faint systolic murmur. The cardiac sounds were weak, especially the first sound, and the urine was albuminous. He sought medical advice on account of an intense pain in the vertex, and insomnia. Bicarbonate of soda and gentian were first prescribed, on the supposition that the headache was due to gastric derangement; but no relief ensued. The patient was then put upon the tincture of the chloride of iron with digitalis, and at once there was marked improvement in his condition. From the enlargement of the heart and the great quantity of urine passed, together with the amount of albumen found in the urine, it was inferred that the condition present was one of granular contracted kidney with resulting heart weakness. The sphygmographic tracings of the case were then shown.

After this the patient went to the South for some months. He held his own for a year, and at the end of that time it was found that there was no albumen in the urine, which was of a specific gravity of 1015; the quantity passed in the twenty-four hours being seventy ounces. Hence it was concluded that the polyuria was due to some other cause than granular contracted kidney, and probably to urethral trouble, as it was ascertained that the patient had a stricture, which he had contracted in the ordinary way thirty years before. The cardiac feature in this case, therefore, seemed to be of an independent nature.

The fourth and last case narrated was one in which

the symptoms were so striking that the trouble could hardly be called obscure. The patient was a boy of fourteen years who had recently recovered from the measles, and he was found to have a loud, blowing systolic murmur, with marked venous hum. There was cardiac dilatation present, such as is apt to occur in long-standing anemia; and the patient's sphygmogram showed a very remarkable degree of arterial tension.

The author of the paper now passed in review the group of cases described, and made a number of observations in connection with them. As to reduplication of the sounds of the heart, he said that reduplication of either one or the other of them was present in three out of the four patients. He referred to the various hypotheses which had been suggested to account for this phenomenon of reduplication, and expressed his agreement with Bramwell in the opinion that it was probably due to asynchronous action of the ventricles. In the third case there was marked dilatation of one ventricle, and was not difficult to see how, under the circumstances, it such asynchronous action was likely to occur. Apart from speculation, persistent reduplication of the first sound of the heart had been repeatedly noted in grave lesions of the cardiac tissue. Weakness of the first sound of the heart was found in three of the cases. In the second case the second sound was loud, and in the third weak, as the ventricles contracted more gradually in this instance.

Dr. Van Santvoord, in conclusion, made some comparison of the action of digitalis and caffeine on the heart. The latter he had found to slow the action and increase the amplitude and tension of the pulse. It seemed probable that it had a slighter influence upon the vaso-motor apparatus than digitalis, and, at all events, the fact remained that caffeine was sometimes efficient in cases where digitalis failed to act satisfactorily. He believed it to be a better and safer agent than digitalis in cases of acute disease where there was cardiac weakness. An eminent French authority had advised that it should be pushed until two grammes were taken daily.

In the discussion following the paper, Dr. JOHN C. PETERS referred to a case still under observation, of a gentleman over sixty years of age, who had always been careful in his habits and apparently enjoyed perfect health, though he had some reason to suppose that his system was not sufficiently well nourished. He was taken with acute pain in the epigastrium, and when called to see him, Dr. Peters was astonished at the remarkable weakness of the pulse and failure of the heart present. There was at first slight congestion of both lungs, which was followed by bronchitis, and some pulmonary oedema; but the temperature never rose above 102°. Dilatation of the right ventricle, with marked dyspnoea, rapidly developed, and the patient for a considerable time was in a very precarious condition. Since then he had greatly improved, so that he was now able to walk a mile, though the heart still remained weak. He had been treated with the ordinary remedies; and in regard to the use of nuxvomica, Dr. Peters remarked that it often seemed to act more efficiently than digitalis.

Dr. WEBER said that he had observed no effect from caffeine in cases of dilatation in connection with probable fatty degeneration of the cardiac tissue. He had, however, had good results from the action of digitalis, but he never used the tincture. The infusion, if

obtained from perfectly reliable sources, was in every way preferable; but the best preparation of all was undoubtedly Squibb's Fluid Extract. In delayed recovery of the heart after acute diseases, he had found caffeine very efficient, and the preparation of it which he was in the habit of using was the hydrobromate. This was generally employed in connection with appropriate tonic remedies. In conclusion, Dr. Weber spoke of the kind of cardiac weakness met with in men of over forty years of age and weighing more than two hundred and fifty pounds, when urgent dyspnoea arises from the deposit of layers of fat between the muscular fasciculi of the heart. The successful treatment of such cases was found to consist in the diminution of the amount of liquid taken, the regulation of the food for the purpose of reducing fat, and the employment of as much exercise (principally walking) as could be well borne.

Dr. E. D. HUNSON remarked that affections of the heart were not a complicated matter. Whatever might be the characteristics of the difficulty attracting attention, he thought that the experienced physician would at first apply all the tests for the detection of the presence of organic cardiac trouble. If, after a thorough examination, it were found that there were no evidences of organic disease, he would next investigate the condition of the various viscera in turn, commencing with the kidneys, and then passing on to the liver, stomach, and other organs. A very large proportion of the cases of temporary cardiac disturbance were undoubtedly produced by digestive troubles and perversion of assimilation. Especially had these a marked effect in bringing down the pulse, so that if a patient came to us with a pulse of 40, or perhaps only 32, it could be pretty safely predicted that a chologogue cathartic would promptly bring it up to the normal standard. If, however, no cause for the cardiac trouble could be found in any of the other organs, we would conclude that it was probably due to a derangement of the ganglionic action of the heart itself, from some defect in the blood-supply, and for this condition such remedies as digitalis, caffeine, and convallaria were appropriate.

Dr. GARRISU called attention to the importance of the prevention of such disease as constituted the present subject of discussion. The use of tobacco, he thought, was responsible for a very large number of these cases of cardiac weakness. In addition to guarding against the excessive use of this, it was also necessary that the diet should be of a proper character (the food being highly nutritious, but not stimulating), and that changes of temperature should be carefully provided against, especially by the wearing of flannel. At the same time the individual should avoid excitement. As to the remedies that were of most service in weak heart, he had obtained very satisfactory results indeed from the combination of tincture of digitalis with tincture of stramonium, as suggested to him by the late Dr. Valentine Mott.

Dr. A. A. SMITH said in regard to the use of digitalis, that it performed two distinct functions. In the first place, it affected the cardiac action, and, secondly, when given in small doses, it affected the cardiac nutrition.

Dr. FRITZMANTH stated that some time since he had resorted with success to the use of tincture of the night-blooming cereus in a case of apoplexy followed by softening, in which no effect upon the cardiac weak-

ness present was produced by either digitalis or convallaria. Since then he had employed it repeatedly, and had always found it efficient. The dose was from three to ten minims.

Dr. VAN SANTVOORD closed the discussion, and in the course of his remarks he spoke of the case described by Dr. Peters as being one of great interest and instruction. It seemed to him probable that in this instance the cardiac weakness had been of long standing; but it was only when the acute attacks spoken of came on that the heart proved inadequate for its work. Under ordinary circumstances it was competent to meet the demands made upon it; but it was not able to stand the extra strains thus imposed upon it. Dr. Hudson had pointed out very clearly in his remarks the manner in which these cases should be studied; but he had reason to believe that the difficulty was not recognized as it should be by the mass of general practitioners, and it was on this account that he had thought it worth while to prepare the paper which he had read.

### Recent Literature.

*Laryngoscopy and Rhinoscopy in the Diagnosis and Treatment of Diseases of the Throat and Nose.* By PROSSER JAMES, M.D., Lecturer on Materia Medica and Therapeutics at the London Hospital; Physician to the Hospital for Diseases of the Throat, etc. Fourth edition, enlarged, illustrated with hand-colored plates. New York: William Wood & Company. 1885.

This is an excellent little manual. Nearly one half of it is devoted to a description of the necessary apparatus, the methods of making an examination, the history and the theory of laryngoscopy, etc. In the remainder of the 219 pages, the author discusses the practical uses of the laryngoscope, laryngoscopic therapeutics and operations. We think the beginner in laryngoscopy will find this the most useful book, as its pages are not over-burdened with descriptions of instruments of doubtful utility, nor are disputed points discussed in detail, while the essentials of what the student requires are given clearly and accurately.

It is convenient in form, the type is clear, and the paper good, but some of the illustrations leave much to be desired.

F. H. H.

*The Pathology, Diagnosis, and Treatment of Diseases of the Rectum and Anus.* By CHARLES B. KELSEY, M.D., Surgeon to St. Paul's Infirmary for Diseases of the Rectum; Consulting Surgeon for Diseases of the Rectum in the Harlem Hospital and Dispensary for Women and Children, etc. With two chromolithographs and nearly one hundred illustrations.

Dr. Kelsey is widely known as an active and energetic worker in the special branch of surgery to which he has devoted himself through various contributions to periodical literature, and particularly as the author of a work on the same subject contributed by him to "Woods Library of Standard Medical Authors" in 1883. The present volume is practically the same as that published in "Woods's Library," but "contains many changes, chiefly of such practical character as would naturally be suggested to a writer by the in-

creased experience which comes from the daily practice of a specialty."

"The chapter on Rectal Hernia has been added entire, and many new illustrations have been introduced."

The chief aim of the author has evidently been to collect from every available source all that is now known concerning the pathology and treatment of these distressing affections, adding his own views thereon, and methods of practice.

The book is clearly written, well illustrated, and contains many references to the latest contributions to this branch of special surgery. With regard to operations, and the treatment of the various affections described, Dr. Kelsey does not differ materially from the majority of modern surgical writers. In dealing with *internal hemorrhoids*, he prefers the injection of carbolic acid to any other mode of treatment, an operation we are inclined to regard with favor, although from a very limited experience, but not, however, to the exclusion of other well-tried methods.

Upon the whole, the work is a very complete treatise, and to be recommended as "a safe guide for the student and general practitioner."

—Advices from the Red Sea, in our English contemporaries, continue to describe the discomforts experienced at Suakin as very serious. The English soldiers, it is said, are "a pitiful sight," not one man in fairly healthy condition, while even the Indian troops are grumbling bitterly, and almost mutinous. The heat is tremendous, the frequent sandstorms most distressing, and the deaths very numerous. But if Suakin be bad, Massowah, which the Italians have occupied, is worse. A private letter says: "We called in at Massowah, and had to anchor for the night, and a more frightful, horrible night I never spent: not a breath of air, and the thermometer 122° Fahr. This is no exaggeration; we were panting about the deck: the heat seemed to choke you; sleep was out of the question. Some negroes seemed to feel the heat more than Europeans, and were groaning fearfully, and pouring buckets of water over their heads, which, however, was of very little use, as the water was between 95° and 100° Fahr. Five Italian officers have committed suicide, and no wonder! Aden, after Suakin and Massowah, is a perfect paradise."

—Dr. Cheize, in the *Glasgow Medical Journal*, writes that, wishing to remove an ingrowing toe-nail, and being without a spray-producer, he covered the toe with a pledget the size of a crown-piece, poured ether on it, and evaporated this by means of a pair of bellows; in five minutes anaesthesia was complete, and lasted while the nail was removed and the matrix seared with the actual cautery.

—As an example of fertility *Lyon Medical* (July 12) cites the case of a peasant woman who has brought forth 27 children, of whom 25 are alive and healthy. Six of this number are girls. Her best year of labor was the one in which she produced five children, three on January 24, and two on December 27. She is now 63 years of age and her husband 73.

# Medical and Surgical Journal.

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## INSPECTION AGAINST SMALL-POX ON THE CANADIAN FRONTIER.

At the request of the Governors of several of the States, among them being Vermont, New Hampshire, and Massachusetts, the Secretary of the Treasury has appointed medical inspectors on the Canadian border, east of Lake Ontario, to inspect passengers arriving by rail from Montreal and other infected localities in Canada. These inspectors have been distributed as follows: Two on the trains of the Central Vermont Road between St. Albans and St. Johns; two on the trains of the Southeastern Road from Richford to Sutton Junction; one on the Passumpsic Road from Newport to Sherbrooke; two on the Grand Trunk Railroad, of whom one is stationed at Rouse's Point, and one travels on the trains from St. Johns.

Surgeon A. W. Austin, of the Marine Hospital Service, has established his head-quarters at Burlington, Vermont, where during the continuance of the system of inspection, he will receive weekly reports from inspectors on all lines of railroads crossing the frontier, of the number of trains inspected, the number of persons examined, the number of persons vaccinated, number of pieces of baggage, furniture, etc.

The following instructions have been issued to the inspectors:

All persons bound for the United States coming from Montreal or other places in Canada where small-pox prevails, must produce satisfactory evidence to the inspector that they are protected by a recent vaccination, or submit to this operation before they are allowed to cross the boundary line.

Inspectors will vaccinate all unprotected persons, free of charge.

Persons coming from Montreal or suburban villages, will be carefully questioned as to their residence, whether small-pox has occurred in their families, or whether they have been in contact with the disease.

Inquiries should also be made relative to their baggage, whether it consists of bedding, household goods, etc., likely to be infected, and if any person or article of baggage is considered by the inspector infected, or likely to introduce the disease into this country, they or it should not be permitted to cross the line into the United States.

You may consider persons protected who may show evidence of having had the small-pox or varioloid, or who exhibit a well-defined mark of vaccination.

You may accept as evidence of protection a certificate from any physician in good standing, that the person presenting the

same has been successfully vaccinated. Should you doubt the validity or authenticity of the certificate, you may refuse any such person presenting the same, the privilege of crossing the border unless he will submit to vaccination. Baggage known to have come from any infected district and believed to be infected will be thoroughly fumigated with burning sulphur at the following points, viz.: Rouse's Point, St. Albans, Richford, Newport, and Island Pond.

The collector of customs, of the district of Vermont, representing the Treasury Department, is reported to have stated that it was the intention of the authorities to render the measures of precaution so stringent that not only would there be no chance for the spread of small-pox, but also that there would be no chance even for the fear of contagion on the part of travellers in the vicinity of the frontier. Such a consummation were devoutly to be wished, and such assurances come none too soon to tranquillize the inhabitants of manufacturing towns in Massachusetts, New Hampshire, and elsewhere, so many of whose operatives are in communication with or come from the very class of French Canadians among whom small-pox is now so rife. Recent cases in Fall River, in Haverhill, in Maynard, and other of these manufacturing centres, which were promptly looked after by the local authorities show that protection is urgently needed and that the outer edge of the disease wave has already spread thus far.

We fear, however, that the enthusiastic anticipations of the collector of customs as to the possible stringency of his measures will hardly be realized. Vaccination of suspicious individuals and disinfection of personal effects will do much to limit the labors of the local sanitary authorities in towns and cities exposed to Canadian immigrants, but the utmost vigilance on the part of these authorities will still be needed to guard against the outbreak of epidemics on our side, and their vigor and care should be no whit relaxed on account of the establishment of this inspection on the Canadian border.

On the part of the Central Vermont Railroad, it is said that nothing is being neglected to render travel to and from Montreal as safe as circumstances will permit. No passenger cars coming from Boston or New York, or points intermediate between those cities and St. Albans, are allowed to go beyond that place, the passengers and baggage being transferred to special trains which run only between St. Albans and Montreal.

Dr. Irving A. Watson, Secretary of the New Hampshire State Board of Health, has issued the following circular to local boards without that State's limits:

As many persons coming from Canada over the Central Vermont, Passumpsic and South Eastern and Grand Trunk pass through our State, we have put on medical inspectors for the protection of our large towns and cities against the infection of small-pox. Several carloads pass daily through our State to points in Maine, Massachusetts, Rhode Island and Connecticut. While it is not possible for our State to thoroughly look after persons going into other States, we propose to assist, as far as possible, other health authorities in this work. To this end we will issue an inspector's ticket to all Canadians going over our lines to your city. If desired by you, said ticket will be pinned by our inspector so as to give all information obtained of the person as per ticket and key enclosed; thus the enclosed ticket

would indicate that the person came from an infected district, and had baggage. Upon this information your department would at once act knowingly. In addition, if you would pay the cost of a message, we would notify you by telegraph when we found a suspicious case destined for your city. Please inform us at once if you desire inspection tickets issued as above stated.

Such an inspection began last Monday. The Old Colony Railroad Company has agreed to place all passengers from Canada in one car, and the conductors will render all assistance they can to officers who have been detailed to duty at the railroad station. The tickets issued by the New Hampshire authorities will indicate whether the holders have been vaccinated, etc. If a passenger from Canada cannot produce a ticket it will be inferred that he has thrown it away, and he will be quarantined unless he can give a satisfactory account of himself. The boards of health and railroad companies of the neighboring States, acting thus in conjunction, will undoubtedly greatly diminish the risks of the situation.

The riotous proceedings at Montreal have not been renewed since our last issue, but were only restrained by the intervention of the troops and the exercise of rigorous measures of repression: with so ignorant and superstitious a population it will be difficult to enforce systematically the necessary prophylaxis. The hostility shown to Dr. LaRocque in Montreal, and the reported remark of Alderman Gray, chairman of the health committee, that any attempt to carry out compulsory vaccination in Quebec and its suburbs among the French would be repelled by force, show plainly the inability of the authorities and the danger to individuals who attempt to execute their commands, and the vicious ill-feeling of the French toward the English population, indicate that it is necessary that our communities should be prepared for a somewhat prolonged period of possible invasion.

#### THE INDEX CATALOGUE.—VOLUME SIX.

THE sixth volume of this invaluable work which has just appeared, carries the index through *Insfeldt*. With this volume the total number of author-titles reaches 58,886, representing 33,265 volumes and 47,325 pamphlets, 64,142 subject-titles of separate books and pamphlets, and 219,154 titles of articles in periodicals.

The uses which a mere catalogue may subserve beyond the simple record of the presence of the books whose titles are enumerated on the library shelves is exemplified by this volume as fully as by its predecessors. No one can turn these pages without finding many curious and interesting facts recorded. The changes in nomenclature of very ordinary diseases which have taken place in comparatively few years, as shown by the catalogue, are very striking. There are exhibited the synonyms in other languages and also the popular and pedantic names in our own language. Certain authors whose writings have little other value, preserve on their title-pages the popular names of the years in which they wrote. To choose only the English and Latin under *Whooping-cough*, we find not only the spelling *whooping-cough*, but the following titles:

Butter, W. A treatise on the Kinkcough. London, 1773. Knuth, C. L. A. De pncipaliummotetano.

Vienna, 1838. Peirson, A. L. Boylston Prize Essay on Pertusses or chin cough, 1824. Plaz, A. G. De tussi infantum epidemica. Halle Magdeb, 1728. We also find the following terms: Tussini convulsivam. De tussi ferina. Tussi convulsiva infantum.

Hyrtl, the late professor of anatomy, in Vienna, is one of the most voluminous modern writers, or, more correctly, the author of the most numerous separate monographs, the titles of his writings covering three columns. The space occupied by the different editions of Hippocrates exceeds that number of pages, and his commentators occupy fully as much space as the author himself. Hernia, hospitals, hygiene and insanity fill a large portion of the volume.

The United States maintains no national school for medical instruction, nor for any purpose save to train officers for the national defence but it has done work which benefits the whole human brotherhood of physicians in the publication of the medical records of the war, and of this Index Catalogue, as yet uncompleted. One can but feel some anxiety lest the order of the war secretary relating to officers on special duty, the object of which is undoubtedly good, should be so construed as to endanger the future of this great work which reflects so much credit on the nation.

#### MEDICAL NOTES.

—The President has declined to accept the resignation of Surgeon-General Hamilton, of the Marine Hospital Service, which was lately tendered by that gentleman.

—A Washington law firm has sent circulars to retail druggists throughout the country informing them that they have claims against the government, which claims, the firm referred to offer to prosecute without expense to the druggists, for a commission of thirty-three and one-third per cent on the money obtained. It is understood that the claims are for stamps put upon goods before the law requiring them was repealed. The individual claims would range from \$50 upward, the claims of a few of the leading houses probably reaching \$1000. The total amount of the claims is estimated at about \$500,000.

—Mr. Snarry, an English veterinary surgeon, has accomplished a novel feat in the way of surgery. A cow on the Westow Grange Farm, near York, broke its leg, and there being no chance of reducing the fracture, the limb was amputated, and Mr. Snarry tried the experiment of affixing a wooden leg. This has been found to answer admirably, and the cow may be seen grazing, with a calf by its side.

—A writer in the *Therapeutic Gazette* speaks highly of sulphuric-ether inhalations as an expectorant in subacute or chronic bronchitis. He also recommends it to be taken in the following manner: Drop five to ten drops on a lump of sugar, and take every three or four hours.

—The *Medical Times* (Sept. 19) says editorially: "In our opinion, the time has now come for the officers of past International Medical Congresses to meet together, and decide that, unless the pledge given at Copenhagen is kept, and all attempts to embroil the Congress in ethical disputes are unconditionally given up, the acceptance of the invitation to meet at Washington should be rescinded, and arrangements made to hold the Congress of 1887 in a country where the medical profession possesses greater solidarity."

—A physician recently returned from Montreal, says the public has no idea of the extent of the epidemic of small-pox in that city. He says there are at present at least four thousand cases. The fanaticism of the French-Canadians, evinced by their anti-vaccination riots, which we reported last week, seems to have a strong tinge of race bitterness. They console themselves by the thought that at all events the English are being swept off by the scourge. Even when it was pointed out to one of them that of sixty freshly reported deaths, fifty were of French-Canadians, the reply came — "Well, at least there are ten Englishmen dead."

M. Marey has communicated to the Académie des Sciences his last researches on the locomotion of man and animals. He especially aimed at ascertaining the trajectory or curve described by a portion of a living body in motion. The experimenter formerly used instantaneous photography, but this method he considered to be faulty, because inevitably the curve described was only represented in height and length, both thickness and perspective being neglected. M. Marey now uses stereoscopy. His researches have revealed some interesting facts concerning the act of walking, in the normal state and in lameness, the flight of birds, and the action of the feet of horses.

—Professor Laskowski, of the University of Geneva, who is probably the most successful embalmer in Europe, is reported in the *Lancet* to use an injecting liquid consisting of a mixture of carbolic acid, chloride of zinc, and corrosive sublimate, with the addition of an odoriferous essence. This solution is as clear as crystal, and pleasant to smell. A body skillfully treated by Dr. Laskowski's method assumes "the natural and agreeable expression" it bore immediately after death, and the skin becomes firm and as white as Carrara marble.

—That the science of vital statistics is developing in the Orient is shown by the following anecdote which comes to one of our contemporaries from Berhampore, which is somewhere in the Madras Presidency. It is the duty of the tahsildar (head man of the village) to send in to the collector or head-officer of the district, a periodical return of all diseases, births, marriages, deaths, etc., in his village. In one of these returns the collector discovered there were no births shown, and called upon the tahsildar for an explanation. He replied, "Your Honor will find the births included under the heading 'bowel complaints.'"

—Dr. F. E. Stewart writes in the Philadelphia *Medical Times* (Sept. 19) in favor of the use of coca leaves

in the form of cigars or cigarettes. He concludes that coca smoked seems to produce the same effect on the system as coca taken internally in the form of fluid extract, wine, or elixir, but not in such a marked degree. Coca itself is known to be stimulant, tonic, and restorative to the system in the treatment of various diseases marked by debility and exhaustion. Nervous debility and exhaustion in all its forms, whether caused by diseases or excesses, are said to be relieved by it. Fatigue disappears, to be followed by a feeling of indescribable calm and satisfaction, increased strength of brain and muscle, and desire for mental and muscular occupation.

—According to a Paris correspondent of the Philadelphia *Medical Times*, it was stated in a paper by Dr. Block, "On the State of the Prepuce in Infant Jews," that two operators had made some four thousand seven hundred and ninety-nine circumcisions. They found that they very often had to operate on rudimentary prepuces not covering the gland. In more rare cases (one in five hundred, about) an absence (complete) of the prepuce was found.

—A suggestion which may enhance the value of photography in medical jurisprudence, is that of M. Gosse, for restoring a life-like expression to the eyes of dead bodies. The method consists in placing a few drops of glycerine and water on the cornea.

#### BOSTON.

—The City Council formally inspected on September 30, the new hospital on Deer Island, which has been erected by the city under the supervision of the Board of Directors for Public Institutions. The hospital is of wood and is one story in height except for the reception building which is two stories. There are three wards communicating only by corridors. The appointments are of the best for the comfort of patients, physicians and nurses. The building was opened for patients October 1.

### Dissection.

#### FLATULENT COLIC IN HORSES.

The *American Agriculturist* for July says that when Professor Gamgee was in this country, he said to the writer that more horses died of colic than of any other malady, and he suggested a remedy which has been published in the *American Agriculturist*, and been found efficacious, we doubt not, by thousands of horse owners. The remedy, simply stated, is copious injections of cold or tepid water—that is, cold but not too cold. Water that has the temperature of the air in the summer time is right—say seventy to ninety degrees. The best way to apply it is to use a large funnel, holding about two quarts, to which a rubber tube, three feet long, is attached, and this is terminated by a tin nozzle about fourteen inches long, tapering to a quarter-inch opening. This end should be protected by a lump of solder, so as to prevent injury to the parts. The funnel is filled with water at the level of

the horse's rump, and then lifted up as high as possible. Four to six quarts will usually be sufficient to start the wind; then stand clear. Relief follows at once.

There are many causes of colic, as a sudden change of food, hard work or active exercise after feeding, very rapid eating (as after long fasting and hard work), the chill experienced when exposed to too rapid cooling off after sweating—these are some of the common causes, and are conditions to be avoided at any rate. Care will almost always prevent colic, and the above simple remedy will generally cure it; we have never known it to fail.

#### RECENT RESIGNATIONS FROM THE INTERNATIONAL MEDICAL CONGRESS ORGANIZATION.

The following resignations in addition to those previously published in these columns, are reported: Dr. John C. Dalton, of New York, from the Presidency of the Section of Physiology; Dr. R. B. Maury, of Memphis, the Vice-Presidency of the Section of Gynaecology; Dr. Thomas F. Rochester, of Buffalo, the Vice-Presidency of the Section of Medicine; Dr. E. Fletcher Ingalls, of Chicago, the Secretaryship of the Section of Laryngology; President Gilman, of Johns Hopkins University, the Councilorship in the Section of Medical Education, Legislation, and Registration; Dr. Thomas T. Sabine, of New York, the Councilorship in the Section of Anatomy; Dr. Thomas M. Markoe, of New York, the Councilorship in the Section of Surgery; and Dr. E. G. Loring, of New York, the Councilorship in the Section of Ophthalmology; Dr. William H. Welch, of Johns Hopkins University, from the Secretaryship of the Section of Pathology; Drs. T. A. McGraw, of Detroit, and J. R. West, of Richmond, Indiana, Councilorships in the Section of Surgery; Dr. E. H. Hazen, of Davenport, Iowa, the Councilorship in the Section of Otolaryngology; and Dr. E. L. Shurley, of Detroit, Mich., a Councilorship in the Section of Laryngology.

#### DEATH OF DR. PAUL BÖRNER.

The death of Dr. Paul Börner at the age of fifty-six, after a brief illness, is reported. He was widely known as the editor of the *Deutsche Medicinische Wochenschrift*.

#### CHRONIC ALCOHOLISM.

According to the *British Medical Journal*, Messrs. Dujardin-Beaumetz and Audigé have communicated to the Institute the result of their researches on chronic alcoholism. From June, 1879 to July, 1883, eighteen pigs were experimented upon, each of them with a different sort of alcohol, such as ethylic and methylic alcohol, alcohol prepared from corn, beet-root, and potatoes (pure and impure), absinthe, and tincture of absinthium. These were given daily with the food, in the dose of one to one and a half grams of alcohol, two grams of absinthe, and two centigrams of tinctura absinthii for one kilogram of the weight of the body. The symptoms of intoxication by alcohol were sleepiness and prostration, vomiting of bile and glairy mucus, diarrhoea, and sometimes intestinal hæmorrhage, dyspnoea, tremor, and incomplete paralysis of the hind

legs. Some animals which were killed or died during the experiment were examined by Professor Cornil. He found congestion of the digestive tube, sometimes causing hæmorrhage; congestion and inflammation of the liver, but without cirrhosis; congestion of the lungs; and, finally, atheroma of the large blood-vessels, especially the aorta. The animals were not emaciated, but presented numerous extravasations of blood into the subcutaneous and muscular tissues. Impure alcohol had a much more rapid and deleterious influence than rectified alcohol. The symptoms caused by absinthe and tinctura absinthii were excitement, and spasmodic contractions of the muscles and cutaneous hyperesthesia, but true epilepsy was never noticed.

#### THE DISPOSAL OF LONDON'S SEWAGE.

The city of London has reached a point in the development of its sewerage system where it finds it impossible longer to discharge its sewage unchanged into the Thames. Two plans are now, therefore, under consideration, as we learn from the *Medical Times* (September 19). Of these the first is that of Sir Joseph Bazalgette, the official adviser to the Metropolitan Board of Works. He proposes to carry the sewage from the southern outfall under the Thames by means of a huge siphon to a point near Rainham, and thence to convey the sewage of both north and south London in a culvert nearly twenty miles in length to Thames Haven, where, after some sort of depuration, it would be pumped into the river, which here has become an arm of the sea. The objection to this plan is, that in order to produce an effluent of sufficient purity nothing would avail but chemical treatment, this one is out of the question on account of its cost and the impossibility of disposing of the enormous quantity of so-called native guano that would be produced. The action of sea-water on sewage, coagulating the albuminoid matters and transforming the sulphates into sulphides, would lead to consequences scarcely, if at all, less grave than exist at present, and the Local Board of Southend would justly resent the pollution of the waters in their immediate proximity.

Mr. Bailey Denton and Colonel A. S. Jones have proposed a scheme, which, bold as it may appear, is considered by our contemporary to be quite feasible. It is to convert the Island of Canvey into a vast sewage farm. This island has an area of 5,000 acres of low alluvial land reclaimed from the sea. Its surface is ten feet below high water mark, but it is protected by a sea wall fourteen feet high. Leaving a zone of a mile in width on the northern side of the island, or that adjoining the Essex coast, on which the necessary buildings would be erected, they would divide the rest of the area, about 4,000 acres, into a series of irrigation fields and filter beds, in which the sewage, brought by the culvert proposed by Sir Joseph, would be pumped, and there treated by precipitation and downward intermittent filtration. As Canvey Island is only a mile further eastwards than Thames Haven, a very slight extension of the culvert would be required. It is claimed that the effluent resulting from the proposed method of treatment would not have the slightest deteriorating effect on the sea-water, being in fact far purer than the water of the Medway and other rivers flowing into the Thames. At Merthyr Tydvil it has been shown to contain but .012 of organic nitrogen and .025 parts of ammonia in 100,000 parts, a

composition little removed from that of potable waters. Even now a slimy mud lines the sea-shore at Leigh and Southend, and it is in the highest degree probable that Sir J. Bazalgette's scheme would ruin these towns as health resorts, and be most detrimental to the fisheries. From these objections Mr. Denton's scheme is free, and the additional cost would be insignificant. The island could be acquired by a rate on the metropolis of three farthings in the pound, and the work of buying out the 300 inhabitants who are now saddled with a rate of 13s. 4d. in the pound for the repair of their sea-wall could not be very expensive. It is calculated that the island would suffice for the treatment of the entire sewage of the metropolis for a hundred years, by which time the accumulated sludge would have raised the level of its surface to that of the sea-wall. And then—if there is need to speculate as to so remote a future—it might revert to agriculture, and perhaps a new Canvey be reclaimed from the sea, or the scene of operations be removed to the boundless flats of Foulness.

#### CEREBRO-SPINAL MENINGITIS IN A ROLLER-SKATER.

At a recent meeting of the Brooklyn Pathological Society (New York *Medical Journal*, September 26), Dr. George W. Cushing reported the following case. He said that, about midnight of March 11, 1885, he had been called to see the patient (J. C.), who was twenty-eight years old and of fine muscular development. He was restless, with a hot, dry skin, the pulse 135, the temperature 104° F., the respiration labored, headache, and the pupils contracted and intolerant of light. He also had marked pharyngitis and bronchial congestion. He was averse to talking and to being disturbed. A febrifuge mixture was ordered, also bromide of potassium. Subsequently the man's wife gave the following history: Her husband had been engaged in a roller-skating match at the Madison Square Garden the week before, ending at midnight March 7th. He was at home the next day (Sunday), and rested a part of the time, but was unable to eat, and seemed very much exhausted. He went to New York on Monday, for the purpose of getting the money due him from the proceeds of the contest, and did not return until Tuesday, when he had symptoms of an ordinary "cold." The patient's surroundings were so poor that it was impracticable for all the speaker's directions to be carried out, and, when he called the next morning, he found that stupor was gradually setting in. There were urinary incontinence and spontaneous bloody evacuations from the bowels; there was also great difficulty in taking food and medicines, and the head was rigidly drawn back. The ankles and feet were swollen and chafed from the pressure of the skates. Cerebro-spinal meningitis was diagnosed, and counter-irritants were applied to the spine and the back of the head, with cold to the top of the head. He continued to grow worse until the 15th, when the speaker was called in haste, and found him dead—he had probably been dead for several hours. The autopsy confirmed the diagnosis, the case having been placed in the Coroner's hands as a matter of public interest in connection with the present furor in regard to roller-skating.

The following condition of the brain and the cord was demonstrated:—

The dura mater of the brain and cord presented nothing abnormal. The pia mater, however, was yellow, and about 3 mm. thick over the anterior half of the cerebral convexity on either side. All over this area, the convolutions, including the upper two temporo-sphenoidal convolutions, were hidden from sight; but over the posterior half of the convexity the convolutions were distinctly discernible, and only the sulci were filled with pus. The inferior, or orbital, surfaces of the frontal lobes were deeply injected, but not purulent. The yellow thickening of the pia was also noticeable in the anterior half of the great median fissure of the brain, and extended half-way down to the corpus callosum. This purulent condition of the pia extended to the base of the brain, along the Sylvian fissure, to the interpeduncular space, where the same suppurative condition of the pia was noticeable. That covering the pons and surrounding the medulla was affected in like manner. The intra-meningeal space of the cord was filled with pus to such an extent as to distend the dura, and well up in the incision made into the membrane in the lower part of the vertebral canal, preparatory to extracting the cord. The pia, throughout the whole length of the cord, was thick and yellow, while the cord itself was softened throughout its whole extent below the cervical enlargement. It was also sclerosed on the left side in the upper thoracic region, the white portion being principally affected.

In regard to the aetiology of the case, Dr. Leuf would differ with those gentlemen who would attribute the man's death to a healthful and beneficial exercise. That the prolonged mental and physical strain to which he had necessarily been subjected, together with the known privation and exposure, were important factors bringing about the termination of the disease, no one could or would deny; yet it was wrong, he thought, to consider them the causes of the trouble. When we reflected how little there was in the way of precedent for such a supposition, in the face of extremely prolonged and excessive walking, running, rowing, swimming, and the like, it was fairer and more rational to infer that this meningeal inflammation had been brought about by a pre-existing cause. Still, the case might accomplish much good by checking the rage for roller-skating, although it was desirable that as many persons as possible should avail themselves of this graceful and harmless exercise within proper limits. Probably it should not be indulged in much more than half an hour at any one time. It was interesting to inquire how much work the craze was likely to bring to gynecologists and to specialists in diseases of the chest, and perhaps to neurologists.

#### Correspondence.

##### INTRODUCTION OF ANIMAL VACCINATION INTO AMERICA BY DR. MARTIN.

MR. EDITOR.—I desire to submit the following correspondence to the candid consideration of my brethren of the regular profession:—

27 Dudley St., Sept. 19, 1885.

THOMAS WATERMAN, M.D.

Dear Sir.—My attention has just been called to an article in the *Boston Post* of September 15th, in which the statement appears that in 1867, you and Dr. Garreau imported animal vaccine virus from Berlin, vaccinated a series of calves, and, during the small-pox epidemic of that

year supplied the citizens of Boston with from 18,000 to 20,000 points, and that several years after, Dr. Martin, of Roxbury, followed in your wake. As the claim of my father, Dr. Henry A. Martin, of having first introduced the practice of true animal vaccination into this country has never before been questioned, and has been universally recognized, and as the above statement has never appeared before, I must beg to ask you if it is possible that you yourself make such a claim. If you do, I will esteem it a favor if you would have the kindness to furnish me with data tending to support it. An early reply would greatly oblige,

Yours very truly, STEPHEN C. MARTIN, M.D.

146 Boylston St., Boston, Sept. 22, 1885.

DR. S. C. MARTIN :—

Dear Sir,—My attention has also been called to the article in the *Post*, to which you allude. I know nothing whatever about the authorship of the article nor the source from which the writer obtained his information.

Very truly yours, THOMAS WATERMAN.

27 Dudley St., Sept. 23, 1885.

DR. THOMAS WATERMAN :—

Dear Sir,—Pardon me for saying that your letter does not answer my inquiry. Of course I knew who the immediate author of the statement referred to was, and the animus in making it. My inquiry is, did you and Dr. Garceau, or did you individually, before 1870, introduce into this country and practise true animal vaccination, that is, the inoculation of a series of animals of the bovine species with heifer-transmitted vaccine virus, derived from a spontaneous case of cow-pox, and by this means successfully continue the production of true animal vaccine virus, for the vaccination of the human species? As that statement in substance has been made in the public press within a few days, and as I am not aware that you personally or Dr. Garceau ever made such claim, it seems fair that you should either deny such statement, or distinctly make the claim referred to. I shall feel obliged for a direct answer to my question.

Yours very truly,

STEPHEN C. MARTIN.

146 Boylston St., Boston, Sept. 24, 1885.

DR. S. C. MARTIN :—

Dear Sir,—It seems to me that our correspondence is entirely gratuitous and unnecessary. I have already written you that I know nothing of the authorship of the article alluded to. I will further say that I have furnished no material for it to any person whatever. When you can show that I have made any such claim as you hint at, it will be time enough for me to show you on what grounds I base the claims.

Very truly yours,

THOMAS WATERMAN.

It appeared useless to write further to Dr. Waterman, so on September 24th, I sent the following letter to Dr. Garceau :—

27 Dudley St., Sept. 24, 1885.

T. GARCEAU, M.D. :—

Dear Sir,—In an article on Vaccine Viri in the *Boston Post* of Sept. 15, 1885, it is stated in substance that you and Dr. Waterman, of Boston, in 1867, introduced into Boston and for some two years successfully practised true animal vaccination, and that Dr. Martin "followed in your wake." I am not aware that the claim of my father, the late Dr. Henry A. Martin, of having inaugurated the practice of true animal vaccination in this country has ever before been questioned. Please inform me: (1) Whether you authorized the above statement made by the *Post*, (2) Whether such statement is true, and if so, in justice to all concerned, furnish me data to support it, and oblige.

Yours respectfully, S. C. MARTIN.

In reply I received the following from Dr. Garceau's son :—

22 Highland St., Sept. 25, 1885.

S. C. MARTIN, Esq. :—

Dear Sir,—Your note of the 24th at hand. My father

is at present out of town and will return in a few days. I will give him your note on his return, and doubtless he will reply.

Yours respectfully,

EDGAR GARCEAU.

Dr. Garceau returned to Roxbury on the morning of September 27th. I have received no reply from him.

The statement referred to in the above correspondence was made to the *Post* reporter by one Dr. William C. Cutler, of Chelsea, Mass. His claim to the title M.D. rests on a diploma of an institution, now defunct, called the Hygieo-Therapeutic College. Among its distinguished faculty whose names are appended to this diploma, is a Professor of Phenology, and also one of "Matery Therapy," whatever the latter may be. Those curious as to the status of the diplomas of this institution are referred to the Fourth Annual Report of the State Board of Health of Illinois, pp. 44, 95. Dr. Cutler propagated vaccine virus under the name of the New England Vaccine Company, which, according to his own sworn statement, is not an incorporated company or partnership, and has no president or other officers. He advertises himself as its president. The other two gentlemen are members of the regular profession, and are Dr. Cutler's selling agents. The article containing the statement is an elaborate puff of Dr. Cutler's establishment, and is being used to further the interests of the business. It will be observed that Dr. Waterman fails to answer my inquiry, and puts me to the legal proof of the very question I ask him, and Dr. Garceau entirely ignores my letter. I am aware that a frank and open denial by these gentlemen of the statement made by their business principal, would put the latter in an awkward position; but I cannot allow the business arrangements of these three gentlemen to compromise, however slightly, the well-earned honors of my father, for his labors in the cause of vaccination. I here distinctly assert that true animal vaccination, as defined in my second letter to Dr. Waterman, was first introduced into this country by my father, the late Dr. Henry A. Martin, in September, 1870. If these gentlemen claim otherwise, I call upon them to do so in your columns, and to produce proofs substantiating their pretensions. No sound of such claim was ever heard before my father's death in December last. "When a strong man armed keepeth his palace, his goods are in peace."

Very respectfully,

STEPHEN C. MARTIN, M.D.

27 Dudley St., Roxbury, Oct. 3, 1885.

#### REQUEST TO OCULISTS AND PUBLISHERS OF OPHTHALMOLOGICAL WORKS.

MR. EDITOR.—Having taken charge of reporting for the "*Revue Générale d'Ophthalmologie*," edited by Dr. E. Meyer of Paris and Dr. Dor of Lyon, on the progress of ophthalmology in our country, I beg leave to request all authors and publishers of ophthalmic works and papers, to send me copies or reprints of their respective publications in order to enable me to give the most complete review of the current ophthalmic literature of our country in a periodical of the largest circulation among our profession. (Medical papers please copy.)

DR. M. LANDESBURG.

40 W. 34th Street, New York, October 3, 1885.

#### APPEAL FOR EMBRYOLOGICAL MATERIAL.

MR. EDITOR.—May I again appeal through your valuable columns to the practising physicians who may obtain human ova or fetuses in the course of their professional occupations, and who do not require the same for their own studies, to consider my own very great need of additional specimens, to enable me to satisfactorily complete the treatise on human embryology upon which I am engaged. I still desire to obtain a considerable additional number of all ages; the generous assistance I have already received,

leads me to hope for continued kindness. I need hardly add that I shall be only too glad to meet any expenses incurred in my behalf.

Specimens are of course most valuable when they are received a few hours after delivery. When it is not possible to send them fresh it is best to place them in sixty per cent alcohol, unless it is feasible to adopt some of the other more perfect but also more elaborate methods of preservation.

It is also desirable to direct attention especially to the extreme scientific importance of securing very young ova, that is, under twenty days. Impregnation appears to occur at the first menstruation omitted. When a patient who has been menstruating regularly omits a period, and pregnancy is indicated, it is not rare that five to twenty days later a hemorrhage occurs, and such discharges are often accompanied by the ovum. The ovum at ten days is a vesicle about an eighth or sixth of an inch in diameter, of a pale flesh color, and having a few short villi. Up to the twenty

days it enlarges rapidly and the villi of the chorion become longer and branched. Every such specimen ought to be preserved with the utmost care; it should on no account be opened, nor submerged in water. Such young ova may be preserved by placing them in alcohol of sixty per cent for twenty-four hours and then in alcohol of seventy per cent, or better still, place them first for three minutes in a mixture of one part concentrated nitric acid with nine parts of water; then in sixty per cent alcohol for a day, and finally in seventy per cent for permanent keeping.

A thorough study of even a single human ovum under three weeks would be of the utmost interest to science. There is no satisfactory description of any ovum under fourteen days. We must therefore earnestly hope that the opportunity to secure such precious material will be seized by whomever it comes to. I have the honor to remain

Yours faithfully,

CHARLES SEDGWICK MINOT.

Harvard Medical School, Boston, October 3, 1885.

# REPORTED MORTALITY FOR THE WEEK ENDING SEPTEMBER 26, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	600	270	26.72	16.32	13.44	2.88	6.08
Philadelphia	927,995	—	—	—	—	—	—	—
Brooklyn	614,523	—	—	—	—	—	—	—
Chicago	632,100	250	124	29.25	5.56	9.36	8.19	8.58
Boston	423,800	167	61	21.00	21.00	10.80	3.00	3.00
Baltimore	408,520	135	50	25.90	13.32	5.92	2.22	9.62
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	114	45	18.48	13.24	6.16	1.76	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	72	24	23.63	22.24	9.73	6.95	1.39
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	29	8	20.70	20.70	3.45	6.90	3.45
New Haven	62,882	36	2	30.58	13.10	11.12	2.78	11.12
Nashville	54,400	16	6	43.75	6.25	37.50	—	6.25
Charleston	52,286	—	—	—	—	—	—	—
Lowell	71,447	20	—	10.00	20.00	5.00	5.00	—
Worcester	69,412	25	13	28.00	8.00	8.00	4.00	12.00
Fall River	62,674	25	9	12.00	20.00	4.00	4.00	—
Cambridge	60,965	22	12	27.33	18.22	4.55	18.22	—
Lawrence	45,516	13	5	7.69	30.76	—	—	7.69
Lynn	44,895	11	6	18.18	36.36	9.09	—	9.09
Springfield	38,090	10	3	30.00	10.00	—	—	20.00
Somerville	31,350	—	—	—	—	—	—	—
Holyoke	30,515	7	4	—	42.84	—	—	—
New Bedford	30,144	16	3	18.75	25.00	12.50	6.25	—
Salem	29,503	9	—	33.33	—	—	—	11.11
Chelsea	24,347	4	2	—	—	—	—	—
Taunton	22,633	10	5	40.00	20.00	30.00	10.00	—
Gloucester	21,400	11	2	9.09	27.27	—	9.09	—
Haverhill	20,965	6	3	33.33	—	33.33	—	—
Newton	19,421	3	2	33.33	33.33	33.33	—	—
Brookline	18,523	—	—	—	—	—	—	—
Malden	15,273	4	3	—	25.00	—	—	—
Newburyport	13,947	1	—	—	—	—	—	—
Waltham	13,568	2	1	—	—	—	—	—
Fitchburg	13,433	5	2	40.00	40.00	—	—	—
Northampton	13,165	2	2	—	50.00	—	—	—
91 Massachusetts towns	—	41	8	—	—	—	—	—

Deaths reported 1,723; under five years of age 678; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 413, consumption 256, lung diseases 124, diarrhoeal diseases 173, typhoid fever 63, diphtheria and croup 97, malarial fevers 27, whooping-cough 22, cerebro-spinal meningitis five, scarlet fever 16, erysipelas three, measles three, puerperal fever three, small-pox one. From malarial fever, New Orleans 10, New York six, Baltimore five, Chicago, District of Columbia and New Haven two each. From whooping-cough, New York 14, Baltimore five, Chicago, District of Columbia and Providence one each. From scarlet fever, Chicago five, Boston three, Fitchburg, two, New York, Baltimore, Fall River, Cambridge, Springfield and Salem one each. From cerebro-spinal meningitis, New York, three, Boston and Worcester one each. From Boston two, measles, New York one. From puerperal fever, New Orleans two, District of Columbia one. From erysipelas,

New York, Boston and Providence one each. From small-pox, New York one. One case of small-pox reported in Lowell.

In 116 cities and towns of Massachusetts, with an estimated population of 1,410,921, (estimated population of the State 1,555,104), the total death-rate for the week was 15.05 against 17.76 and 18.16 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,905,446, the death-rate was 17.3. Deaths reported 2,370; infants under one year of age 807, acute diseases of the respiratory organs (London) 175, diarrhoea 233, whooping-cough 67, measles 56, scarlet fever 45, fever 42, diphtheria 31, small-pox (London three, Bristol one), four.

The death-rates ranged from 12.3 in Brighton to 27.5 in Preston; Birkenhead 20.7; Birmingham 16.1; Bradford 11.1; Hull 12.6; Leeds 18.0; Leicester 15.3; Liverpool 23.2; London 15.6; Manchester 23.2; Nottingham 15.5; Sheffield 18.1.

In Edinburgh 12.9; Dublin 20.7; Glasgow 26.7.

The meteorological record for week ending September 26th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.		Thermometer.		Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Saturday, Sept. 26, 1885.																	
Sunday, ... 20	30.248	53.8	62.4	50.2	62.0	62.0	75.0	65.7	N. W.	E. S. S. W.	8	14	6	C. C. C.	—	—	—
Monday, ... 21	30.128	57.1	67.3	44.2	80.0	68.0	79.0	66.0	N. W.	S. S. W. N. E. S. W.	4	12	10	C. C. C.	—	—	—
Tuesday, ... 22	29.697	61.3	67.8	51.9	84.0	73.0	92.0	83.0	S. S. W.	N. E. S. W.	5	11	12	F. O. R.	—	—	—
Wednesday, ... 23	29.448	46.2	61.6	41.1	86.0	57.0	66.0	69.7	N. W.	N. W. W.	14	37	16	R. R. R.	—	—	—
Thursday, ... 24	29.861	51.5	60.8	38.7	63.0	62.0	72.0	62.3	N. W.	W. W. W.	16	12	8	O. O. O.	—	—	—
Friday, ... 25	29.237	52.0	60.1	48.9	76.0	67.0	75.0	72.7	N. W.	S. E. S. W.	14	12	3	C. C. C.	—	—	—
Saturday, ... 26	30.278	59.8	71.7	45.1	82.0	56.0	84.0	74.0	W.	S. W. W.	6	11	13	C. C. C.	0.14	0.51	—
Mean, the Week.	29.829	54.5	64.5	45.7				70.5									

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

# OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM SEPTEMBER 26, 1885, TO OCTOBER 2, 1885.

MCPARLIN, T. A., colonel and surgeon. Directed to transfer his duties and the public funds, for which he is accountable, as assistant medical purveyor, to Captain Henry Johnson, medical storekeeper, who will, in addition to his present duties, temporarily perform the duties of assistant medical purveyor, New York City. S. O. 223, A. G. O., September 29, 1885.

CALDWELL, D. G., major and surgeon. Ordered from Fort Laramie, Wyo., to Fort D. A. Russell, Wyo. S. O. 97, Department of Platte, September 28, 1885.

ADAIR, G. W., captain and assistant surgeon. Granted leave of absence for one month with permission to apply for one month's extension. S. O. 104, Department of Dakota, September 18, 1885.

BOUCHÉMIN, LOUIS, captain and assistant surgeon. Ordered from Fort D. A. Russell, Wyo., to Fort Laramie, Wyo. S. O. 97, Department of Platte, September 28, 1885.

BUCHNELL, GEO. E., first lieutenant and assistant surgeon. Ordered from Department of Dakota to Department East. S. O. 219, A. G. O., September 24, 1885.

MACAULEY, C. N. B., first lieutenant and assistant surgeon. Relieved from duty at Fort A. Lincoln, D. T., and ordered for duty at Camp Poplar River, M. T.

KNEIDER, WM. L., first lieutenant and assistant surgeon. When relieved from duty at Camp Poplar River, M. T., by Assistant Surgeon Macauley, to report to commanding officer, Fort Snelling, Minn., for duty. S. O. 105, Department of Dakota, September 21, 1885.

WALES, P. G., first lieutenant and assistant surgeon. Relieved from temporary duty at Boise Barracks, and ordered for duty at Fort Cœur d'Alene, Idaho. S. O. 160, Department of Colorado, September 21, 1885.

EWING, C. B., first lieutenant and assistant surgeon. Relieved from duty at Fort Stanton, N.M., and ordered for duty at Fort Leavenworth, Kans. S. O. 117, Department of Missouri, September 25, 1885.

# OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 3, 1885.

JONES, WILLIAM H., surgeon. To navy yard, League Island, Pa., October 15th, as the relief of Medical Inspector M. Bradley.

BRADLEY, MICHAEL, medical inspector. Detached from navy yard, League Island, Pa., October 15th, and placed on waiting orders.

OWENS, THOMAS, assistant surgeon. To naval station, New London, Conn., as the relief of Surgeon Wm. A. Corwin.

CORWIN, WM. A., surgeon. Detached from naval station, New London, Conn., and ordered to the United States Steamship "Adams," October 31st.

MAJONDEE, A. F., surgeon. Ordered to the United States Steamship "Yankee," without delay, as the relief of Surgeon H. L. Law.

LAW, H. L., surgeon, detached from the United States Steamship "Yankee" and wait orders.

STILES, W. J., surgeon. Detached from the naval academy, October 1st, and wait orders.

DRENNAN, M. C., surgeon. Detached from the naval academy, October 1st, and wait orders.

CABELL, ARTHUR G., passed assistant surgeon. To the United States Steamship "Adams," October 31st.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDING SEPTEMBER 26, 1885.

AUSTIN, H. W., surgeon. To proceed to Burlington, Vermont, on special duty. September 23, 1885.

## SOCIETY NOTICES.

MIDDLESEX SOUTH DISTRICT MEDICAL SOCIETY. — The Semi-Annual Meeting of the Middlesex South District Medical Society will be held at Porter's Hotel, North Cambridge, on Wednesday, October 14, 1885, at 12 o'clock. Essays will be presented by Drs. Cutler of Salem and Hildreth, of Cambridge. The Censors of the Society will meet at the same place at 11 A.M. of the same day to consider applications for admission to the Massachusetts Medical Society. You are requested to notify the Secretary by return mail if you will be present at a dinner which will be had at 2 P.M. provided that twenty-five members assent thereto. Telephone number of Hotel is 7294.

WALTER ELA, Secretary.

CAMBRIDGE, October 6, 1885.

MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. — Section for Clinical Medicine, Pathology and Hygiene. The approaching meeting commences the eighteenth year of the Section. In this time, and especially during the more recent years, a large amount of valuable work, of varied character has been accomplished. An especial feature of the Section, aside from its strictly medical work, has been the presentation of many matters of general and public interest, among which may be mentioned the subjects of Metropolitan Sewerage, Milk Supply, Public Sanitation, Purity of Drugs, Domestic Hygiene, Epidemic Diseases, the Water Supply of Boston, etc., in which gentlemen from other professions often took part by contribution or discussion, and the general public manifested a lively interest. The meetings have been largely attended, and the papers and discussions have been regularly and promptly published in two of the leading Medical Journals of the United States. It is hoped that the coming year may be productive of equally profitable results, and to this end your hearty cooperation is earnestly solicited. Please send the titles of any papers or communications you may desire to present, at as early a date as possible, to

ALBERT N. BLODGETT, Secretary.

The Section will meet at 19 Boylston Place, on Wednesday, Oct. 14, at 7.45 o'clock. Dr. C. F. Folsom will present "A Case of General Paralysis." Dr. P. C. Knapp will exhibit "A Case of Pseudo-Hypertrophic Muscular Paralysis." Dr. F. I. Knight will speak on "Recent Methods of Treating Hay-Fever."

## BOOKS AND PAMPHLETS RECEIVED.

Address of the State Board of Health and Vital Statistics of the Commonwealth of Pennsylvania. To the People of Pennsylvania. Harrisburg. 1885.

State Board of Health Bulletin. For the Month Ending July 31, 1885. Vol. I. No. 1.

Announcement 1885-86 of the Missouri Dental College. St. Louis, Mo. Twentieth Session.

## Original Articles.

HEREDITARY OR DEGENERATIVE ATAXIA. SIX CASES IN ONE FAMILY.—DEATH OF ONE CASE, AND AUTOPSY.<sup>1</sup>

BY W. EVERETT SMITH, M.D., FRAMINGHAM, MASS.

"Diese Befunde sind vielleicht im Stande ein Licht auf die Entstehungsweise der hereditären Nervenkrankheiten zu werfen. Diese treten unter den Begriff der Bildungsheimmungen." Möbius: Ueber die hereditäre Ataxie.

**FAMILY HISTORY:** The patients to be considered in this paper are J. W. W. (father), Emma, Alice, Clara, Jessie, and Myra (daughters). There have been thirteen children in the family, eight girls and five boys. Two of the girls died years ago unmarried; one at the age of sixteen from acute meningitis, the result of injury, the other (Alice) at the age of twenty-five, with symptoms, so far as I can ascertain, exactly like the symptoms I shall describe in her sisters. I never knew them. One daughter left home at the age of fourteen. She is married and has always been strong and healthy, but has an anemic child about twelve years old, who for years has been obliged to wear a mechanical support upon one of her ankles. The remaining five daughters are unmarried and have always lived with their parents. Their ages, when I first met them in October, 1882, were thirty-seven, twenty-nine, twenty-seven, fifteen and fourteen respectively. At this time the oldest son was thirty-five (married and the father of young and anemic children), and the youngest son seventeen; all the sons were well developed, strong and healthy, except possibly the oldest, who in 1881 cut his foot with an axe and barely escaped death from tetanus; since then he has never been well.

The family upon both the father's and mother's side is long-lived and healthy, with no history of consanguineous marriages, insanity, syphilis, or any inherited disease that I can ascertain by the most careful inquiry. The family of Mr. W. is, however, peculiarly nervous and excitable and has a marked history of drunkenness in the two previous generations: his father may possibly have had ataxic symptoms before his death, although the history is not quite clear; his mother had the rickets when a girl and was of a very quarrelsome disposition in the latter years of her life, while he has a brother who lacks all moral sense and is now serving a long sentence in the State Prison for aggravated assault. None of the present generation have ever used liquor of any kind, either habitually or to excess.

In the family of the mother, too, there is an instance of some undetermined nervous peculiarity. A niece, now twenty-one, has for the last ten years been able to walk only by the aid of a mechanical support upon the right ankle, while for the last five years she has been practically without the use of the right wrist and hand from some unaccountable weakness which invaded them insidiously and without assignable cause.

The boys, as I have said, are and always have been well. When, however, the girls have reached the age of six or seven, they all, with three exceptions—the one who died from meningitis, the married one and the youngest who is now (June, 1885), aged sixteen—have developed a series of morbid symptoms

regular in order and progression. The first symptoms noticed by them have been gastric disturbances and palpitation of the heart, followed by an unsteady gait which later became purely ataxic. This ataxia gradually extends to the hands; and here the disease seems to remain stationary for an indefinite period of time. I will describe the cases as I saw them in October, 1882.

**Clinical History:** CASE I. Emma, aged thirty-seven, when a child was bright and quick at figures. At about the age of six she began to manifest a weakness in the lower limbs and an ataxic gait. Of earlier symptoms no definite record can be obtained from her, since she is tongue-tied, has lost the power of articulation and can utter only a sort of guttural laugh. The general history of the case, however, is pretty clear. The muscular weakness gradually invaded the upper extremities causing a "wrist drop," and an incoordination of movement in the hands. At about the same time, or a little later, her younger sister, Alice, began to develop similar ataxic symptoms and complain of muscular weakness.

Upon analysis of the drinking-water made at this time (1862) by Dr. Geo. Rice, of Framingham, and Dr. Hayes, of Boston, lead was detected in considerable amount. The urine was not examined. In defer-



ence to medical opinion the lead pipe then used to convey the water from the well was at once removed. Gutta-percha pipe was put in its place but proving unsatisfactory was soon superseded by earthen-ware pipe. In 1871 the well itself was abandoned and the supply of water has since been brought in tin-lined pipes from a new spring upon a distant hill. This water I have carefully analyzed but can find no lead in it. Nor have I ever been able to find lead in the urine of any member of the family.

In spite, however, of all precautions the ataxic

<sup>1</sup> Read by invitation, before the Section for Clinical Medicine, Pathology, and Hygiene, Suffolk District Medical Society, June 9, 1885.

symptoms not only continued to increase but even attacked new patients (always the girls) in the family, some of whom had never used the suspected water from the old well. Alice died in 1871. Before her death she had suffered greatly from gastric and abdominal pain. Her final illness was about three weeks in duration and was characterized by spinal pain and by muscular spasms and contractures. She died in convulsions. I never knew her.

Emma, a helpless creature, still lives and sits or half reclines in a large chair most of the time. She has an excessive right lateral curvature of the spine combined with cyphosis, her feet are enlarged and fixed immovably in the position of equino-varus, even the slightest passive movement at the ankle-joint being no longer possible, the hands are flexed upon the forearm and the head rests helpless upon the chest. Her position is perfectly shown in the accompanying photographs.<sup>2</sup> There is complete paralysis of the



lower limbs and only the slightest possible voluntary but still wholly incoordinate movement of the hands. She can neither pick up objects from her lap nor hold them when placed in her hand. Her legs often jerk involuntarily.

Electro sensibility is greatly decreased. Electro irritability, as tested with the faradic current is decreased, but increased even to spasms with the galvanic (5 cells, Stohrer). The left side of the body is less responsive than the right and the lower extremities less than the upper to electrical stimuli. The tendon reflexes are wholly absent but the *plantar reflex is present* and she has never had any girdle sensation. The cutaneous circulation is low and the feet and ankles

are usually purple with congestion. There is a partial facial paralysis so that saliva constantly flows from the mouth. The muscles of deglutition are so impaired in their action that it is impossible for her to masticate food and almost impossible for her to swallow either food or drink. There is no atrophy of the optic disk; no paralysis of sphincters of rectum or bladder and no tendency to bed sores.

For the past fifteen years she has been subject to frequent epileptic attacks and to painful muscular spasms and contractures in the lower extremities. She is irritable at times, becomes much excited if her desires are not immediately comprehended and will often shout for hours for no apparent reason. She takes note of her surroundings and is keenly sensitive to comments that are made upon her; gives considerable evidence of intelligence and attempts to read the papers, calling attention to items that particularly interest her.

In May, 1885, I re-examined her and find that although it has been nearly a year since she has had an epileptic convulsion she has for six months been markedly losing strength. She no longer cares to read, is suffering from palpitation of the heart and gastric trouble, begins to complain of considerable pain and shows an increasing prostration. She represents the completest development of the disease as it has occurred in this series of cases.

CASE III. Clara, aged twenty-nine, had seemed to her parents a child of ordinary health until she reached the age of nine or ten, when she began to complain at times of palpitation of the heart, of dyspnea and of muscular weakness in the lower limbs. When she was sixteen she had what was called a "gastric fever." She did not remember that she had ever had any colic pains or fleeting pains in the joints, but had suffered greatly from acidity of stomach and nausea.

Soon after these initiatory symptoms of palpitation and muscular weakness, she began to notice that she had the same peculiar gait that she had seen in her sisters, Emma and Alice, and later the same incoördination of movement in her arms and hands. This was about 1869. Soon walking upstairs became almost impossible from inability to raise the feet high enough. About eight years ago she had a sickness marked by headache and pain along the spine; was delirious for nearly a fortnight. Since that time she has been duller than before and more inclined to doze and sleep.

When first I saw her in October, 1882, she was in a prostrated condition without fever. Pulse 140, but scarcely to be detected at the wrist. Dyspnea excessive. She complained of lassitude, headache and nausea, of a burning heat in the legs, and of a girdle sensation that seemed like a band of about a hand's breadth becoming tighter and tighter around her. This state of prostration lasted about a week, at the end of which time I could make a more careful study of the case. She was very anemic and had right lateral curvature of the spine together with cyphosis. She complained of vertigo, and of a dull, heavy feeling at the base of the skull. There was almost complete paresis of the lower extremities, both feet were in position of equino-varus and ankles as immovable as though ankylosed. The muscles of the thighs and calves of legs had become so contracted that the lower limbs were much distorted. Her photograph would have looked not unlike the photographs of her sister Emma.

<sup>2</sup> The photographs are true to life in showing the peculiar "chopped off" appearance of the toes and the marked enlargement of the feet. This is not the fault of perspective.

In the upper extremities, the muscles of the hand, and especially the ball of the thumb, did not seem so wasted as did other parts of the muscular system. Has had a "wrist drop" for a number of years, although she could easily raise the hand upon the wrist and supinate it. She could raise the arm only slightly and with the greatest difficulty; could not raise it level with the shoulder. The muscles of the trunk had so far lost their power that she could not sit securely in her chair, but "slouched down" and tended constantly to slip out; she then had not the power to lift herself back into place.

There was no facial paralysis and she could protrude the tongue normally. Deglutition, however, was often extremely difficult and a well-marked tremor of the head was called forth by attempts at voluntary movements. There was a marked peculiarity in her speech, the voice often degenerated into a mere whisper and the words came always slowly and rhythmically like the "scanning speech" of multiple sclerosis. The simplest mental acts were the result of laborious effort; there was always a tardy response to questions because she required time to comprehend one's meaning clearly and memory had become exceedingly defective.

The vitality of the skin, especially in the lower extremities, was very feeble and feet and ankles were markedly congested. She complained greatly of "chilblains." The skin in the beginning of her disease used to be hyperæsthetic, but for six years had been growing anæsthetic, so that she now could scarcely distinguish whether I was pinching, pricking, tickling, or merely rubbing the skin with the ends of my fingers. When, however, she had recognized that her skin was touched, a mental process requiring usually several seconds of time, she said she felt the contact more keenly than she used to feel it and that the sensation lasted longer than it used to last. Sometimes the slightest impression would cause local muscular spasms. Frequently when sitting, but especially in bed, the legs would jerk and flex so powerfully that she would beg to have weights put upon the knees to keep them down. Tendon reflexes entirely absent; no ankle clonus. She often had the sense of fornication in the trunk and lower extremities and of a tingling in the ends of the fingers. Her hearing had become very defective and vision was confused. In watching a carriage pass the window she said she could not distinguish between the front and the hind wheels; the front wheels seemed to be where the hind wheels ought to be, but where the hind wheels were she could not tell. There was a marked chromatic aberration and also nystagmus. No strabismus. Muscæ volitantes were almost constantly seen and caused her great annoyance. The pupils seemed normal in size and reaction to light. There was no atrophy of the optic disk that I could distinguish by an ophthalmoscopic examination.

After securing a generous diet and various tonic remedies, I attempted, in December, 1882, to relieve in some measure the contractures in the lower extremities. Another attack of collapse, however, interfered for a time with any active treatment. Later I began to apply electricity and was surprised to note the rapid increase of strength in the back and lower limbs. In January, 1883, I applied a plaster jacket temporarily to the trunk and thereby gave the muscles of the back so much support that she regained the power of raising herself from the chair without assistance, and

of standing upon her feet. A little later I applied silicate bandages to the feet and gradually got the ankle-joints flexible and the feet in fair position. She could now move them readily and even raise them from the floor so that she succeeded in walking a few steps with the aid of her mother.

Among the many varieties of tonic treatment that I tried I will especially mention phosphorus, the phosphide of zinc, strychnia, and the nitrate of silver, finding the silver to yield the best results and giving it in half-grain doses three times a day. Strychnia could not be long continued since the most minute doses quickly produced tetanic spasms and great distress.

Under such care as I have thus briefly outlined, and with the exception of several attacks of dyspnoea, vomiting, and collapse, the patient enjoyed a better degree of health until August, 1883, than she had had for years. She now began to suffer the most intense and agonizing pain along the entire tract of the right sciatic nerve from the lumbar region of the spine to the extremities of the toes. Speedily the symptoms of acute myelitis in the cervical and upper dorsal region were noticed, accompanied at times with a decided tendency to opisthotonos. Another collapse ensued marked by an utter rejection of food and by vomiting independent of the taking of food so that for about ten days she was fed entirely by rectal injections. For many days she suffered the greatest agony from dyspnoea and a continual palpitation of the heart.

At no time was there or had there ever been any marked irritability of the bladder or abnormality in the urine, any paralysis of the sphincters of either the bladder or rectum, any tendency to bed sores or to sores upon the prominent points of pressure. The powers of life had rapidly failed, however, and death finally put an end to her sufferings quietly and without pain after a final illness of about three weeks.

*Autopsy.* The autopsy was made by me thirty-six hours after death, in the presence of Dr. Jos. H. Warren, of Boston, and Drs. Z. B. Adams, L. M. Palmer, and E. H. Bigelow, of Framingham. The muscular system was seen, upon inspection, to be markedly wasted, but there was a considerable layer of adipose tissue found over the walls of the abdomen. The omentum was atrophied, stomach and intestines empty. The mucous layer of the stomach was injected to a considerable degree. The right ovary was healthy but upon the left a small cyst was found. Uterus small. Kidneys small but otherwise normal. Bladder healthy. In the thorax there were a few pleuritic adhesions, but the lungs were apparently healthy. There was no abnormal amount of pericardial fluid and no disease of pericardium. The brain for various reasons was not examined.

Upon opening the vertebral column the membranes of the cord were found to be deeply injected and markedly adherent to the bony walls. In section the cord was seen to be asymmetrically atrophied, pale and in local areas softened. Portions of it from the dorsal and lumbar regions were reserved for microscopical examination since they were thought to represent in a sufficient degree the pathological changes that had taken place. I hardened them in Müller's Fluid, and after an incomplete examination sent portions to Dr. James J. Putnam, Lecturer on Nervous Diseases in Harvard University. To his kindness and attention, and to the patience and skillfulness of Dr. Henry P. Quincy, Instructor in Histology in the Harvard Med-

ical School, in preparing the specimens, I am indebted for the following detailed pathology.

"The four pieces of spinal cord which were sent to me for examination were in a well-hardened condition and comprised the whole or greater part of the lumbar and a little of the lower dorsal regions.

"They were imbedded in celluloidine, and their sections were cut with the microtome, stained with Beale's carmine or hæmatoxyline and mounted in Canada Balsam. Sections were also made and very beautifully stained and mounted according to Weigert's method, by Dr. H. P. Quincy.

"Certain abnormalities in these sections were visible even to the naked eye.

"The *shape of the cord was altered*, apparently from shrinkage of the posterior half, so that the central canal appeared displaced backward.

"The left postero-lateral column in the lumbar region looked as if sliced away in part, although special care had been taken to avoid pressure during hardening.

"Intense sclerotic changes occupied almost the whole of the posterior columns, both antero-lateral pyramid tracts in the dorsal region and the remnant of the crossed lateral tracts in the lumbar region.

"When examined under low powers, the following additional changes were observed:—

"The *central canal* was entirely blocked with round cells which took up the coloring matter of hæmatoxyline, and all trace of columnar lining was gone.

"The *posterior columns* were occupied by a dense connective tissue, as in advanced cases of locomotor ataxia, in which nerve fibres were very sparsely scattered, either singly or in small groups. These nerve fibres were less abundant in the lower dorsal than in the mid-lumbar sections, and, in fact, were almost literally absent in a good part of the sections from the former region.

"That portion of the posterior columns immediately adjoining the posterior commissure was, as is so often the case, relatively little affected.

"The *sclerosis of the antero-lateral tracts was not so intense* as that of the posterior tracts and posterior nerve roots.

"These changes—*increase in the connective tissue, diminution in the number and size of the nerve elements and alteration or disappearance of the myelone*—were visible, not only in the posterior columns but to a greater or less extent over the entire section of the fibrous mantle of the cord.

"The *region of the anterior nerve-roots was comparatively healthy*, and strands of apparently healthy axis-cylinders were seen making their way outward from the anterior cornua.

"Compared with the abundant net-work of horizontal motor fibres usually seen in the lumbar enlargement of a healthy cord, the number of those here present was very small. The condition of the posterior as compared with the anterior nerve-roots was strikingly brought out by the Weigert staining. The posterior roots seemed to contain scarcely a single healthy fibre, whereas the fibres of the anterior roots, though somewhat sparse, were relatively abundant.

"The *pia mater* was thickened over the posterior and lateral columns and the tissue immediately adjoining was more or less sclerosed.

"The *nerve cells of the anterior and posterior cornua* were at all levels *far less numerous* than normal. In some sections only a scattered few were visible, the

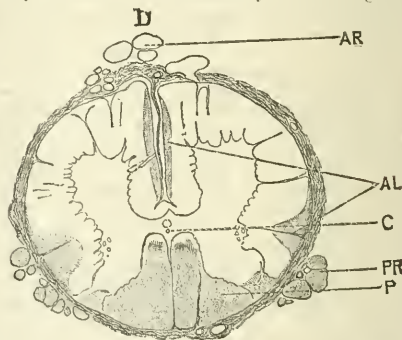
greater number being in the anterior and lateral groups.

"The cells of the median and internal areas of the anterior cornua were even smaller and paler than usual, and the whole region presented a confused, ill-differentiated appearance. The pericellular spaces looked larger than normal, and although this may have been due to shrinkage during hardening, yet it may be doubted whether such shrinkage would have occurred in a healthy cord.

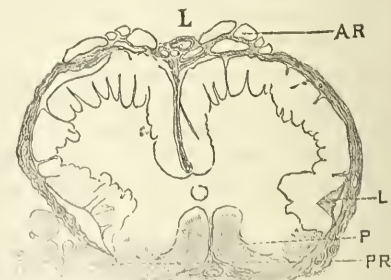
"A point of anatomical interest was the presence of a *small, supplementary canal* a little posterior to the main central canal and separated from it by a thick partition of perpendynal tissue. It extended throughout almost the whole of the lumbar region.

"Under still higher powers, it was seen that most of the nerve cells which remained were altered to a greater or less degree and in various ways. Failure to absorb carmine well, absence of processes and a granular texture were common changes. Here and there a small vacuole was seen, in one section a very large one.

"Some cells were reduced to granular masses; a few were globular, pale and homogeneous. The *nucleus* was sometimes entirely absent, sometimes it had entirely lost its outline and was only to be distinguished



DORSAL REGION.  
AR, Anterior nerve roots healthy. AL, Antero-lateral tract diseased.  
C, Central Canal. P, Posterior columns diseased.  
PR, Posterior nerve roots diseased.



LUMBAR REGION.  
AR, Anterior nerve roots relatively healthy.  
L, Lateral tract diseased. P, Posterior columns diseased.  
PR, Posterior nerve roots diseased.

from the rest of the cells as a reddish flush with the nucleolus in the centre. Sometimes again it was shrunken and angular. The *nucleolus* appeared at times unusually large and dense; in the cases where

this was seen, the nucleus, whether by accident or not, looked shrunken or indistinct. Occasionally no nucleolus was seen.

"Some strands of the *anterior nerve roots* were markedly atrophied while others near them looked comparatively healthy. The myelinel was often conspicuously deficient.

"There was no marked hypertrophy of axis cylinders anywhere, but often a moderate increase in size of single fibres, especially in the posterior columns. Atrophied fibres were very common, and on the whole, the variation in size was much greater than normal throughout the whole section but especially in the posterior columns. Increase of Deiter's cells was not a marked feature.

"In the more intensely sclerosed portions, the tissue was filled with granular-looking material, and collections of this same material were especially noticeable around the small arteries. The *walls of the arteries* themselves in the sclerosed areas were, as a rule, *markedly hypertrophied*. The same was true of the central artery and the arteries of the nerve roots.

"Here and there in the posterior nerve roots were seen collections of corpora amylacea, or at least homogeneous pale bodies of about their size."

*Summary:* In brief, the pathological changes seem to have been a sclerosis of the posterior columns of the cord and of the motor tracts of the lateral columns together with a destruction of nerve fibres in the posterior cornua and to a certain extent in the anterior cornua, although many of the nerve roots in the latter were comparatively healthy. This increase of connective tissue, however, was not scattered irregularly through the cord as in disseminated sclerosis, but was continuous throughout the length of the columns; nor was it by any means confined to the posterior columns as in the classic locomotor ataxia. The disease seems rather to indicate an *incompleteness of nerve or cell development* in certain well-defined portions of the cord.

CASE V. Jessie, aged twenty-six, began to notice at the age of eight the same ataxia that she had seen in her three older sisters. She did not have the premonitory symptom of palpitation of the heart but has had marked cardiac trouble in recent years. Has had rheumatic fever twice. An examination of the heart showed signs of hypertrophy with an apex murmur transmitted to the back (mitral). There was also a venous hum in the carotids, showing a marked anemia of the system. The ataxia in the beginning was unattended by other symptoms and gradually invaded the upper extremities, but has never been so pronounced in them as in the lower limbs. She had not and never did have "wrist drop." She could extend the arm level with the shoulder but not steadily — there was a marked muscular tremor. There was a tremor also of the head whenever she attempted to move it or perform other voluntary movements.

In the lower extremities the ataxia had progressed so far that she had been unable for years to walk without the assistance of the chairs and tables in the room and even then often falls helpless to the floor. Her gait resembled the spastic gait seen in disease of the lateral columns. She could get no aid from a cane, because she could not direct it properly. She could turn around only with the greatest difficulty and fell immediately if she closed her eyes. She complained of a feeling of cushions under the feet. In descending the stairs she always puts the right foot for-

ward and it involuntarily jerked up and down as though it were suspended by a spiral spring. All her movements were of necessity slow and methodical.

There did not seem to be any muscular paresis, but only a lack of coördinating ability. There were no contractures and she had never had muscular spasms. Muscular irritability was decreased to both the faradic and galvanic currents and this decrease was more pronounced on the right than on the left side, and in the lower than in the upper extremities. The tendon reflexes were absent, but plantar reflexes present. There was a right lateral deviation of the spine and a *tendency* to cyphosis. Of recent years she had complained of neuralgic pains in the lower limbs, but had only a very slight and infrequent girdle sensation. The sensibility of the skin was so decreased that, like her sister Clara, she was unable to distinguish between pinching, pricking and rubbing it, but there had never been any formication. There was no deafness, no atrophy of optic disk nor indistinctness of vision, but there was a slight nystagmus.

Under the influence of an abundant, nourishing diet and of occasional small doses of nitrate of silver, her condition in June, 1885, shows an improved tone of the system and possibly a slight amelioration of the morbid symptoms.

CASE V. Myra, in October, 1882, at the age of fifteen, had for more than a year been unable to walk even a short distance without unusual fatigue. She had right lateral curvature of the spine and a gait that was clearly ataxic. The tendon reflexes were normal and the only sign of impairment of the functions of the upper extremities was a slight waviness in the lines of her handwriting. Reactions to electrical currents were normal. She had never complained of girdle or neuralgic pains but had felt at times a tendency to stand upon the toes instead of squarely upon the feet and always walked with irregular speed, a few hurried steps alternating with a slower movement.

She was taken from school and in June, 1885, remains in practically the same condition as when I first saw her, her symptoms showing no very great progression. The tendon reflex has, however, disappeared but the plantar reflex is still present. Considerable ataxia can still be detected although the gait is considerably improved.

CASE VI. J. W. W., farmer, aged sixty-six, was prostrated in January, 1884, with an acute attack of rheumatism, involving principally the knees and ankles. He had been cutting ice the previous week and had thoroughly wet and chilled his legs. A severe gastritis speedily followed and lasted for about three weeks. For many years he had been subject to occasional nausea and vomiting and to habitual constipation. He had never had any colic pains nor any impairment of motion in either the upper or lower limbs, even at the time when lead was found in the drinking-water. But now he began to complain of weakness in the legs and an edema in them at night. The heart, upon examination, was found to be dilated and irregular in its action, but free from valvular lesions. The urine per diem was about one half the usual amount and contained mucus, bacteria, and calcic oxalate crystals in great abundance. No casts. Sp. gr. 1020.

He soon began to complain of a constant pricking sensation in the feet and legs, but has never complained of fulgurating pains. As one of the *earliest* symptoms, he spoke of a girdle sensation around the

body and of a feeling of heat in the same area. The gastrocnemii muscles were tense and tended to elevate the heel. It was only with the greatest difficulty that he could manage to walk, and he always felt as though he were treading on velvet. He was obliged to use two canes. The gait was purely ataxic. To turn around quickly, or to stand with the eyes closed, were acts that were equally impossible to him. Vertigo was a constant symptom but was greatly increased when he was standing. At the base of the brain there was a "burning" sensation, as he described it, and his wife often found him in his sleep pressing the back of the neck with his hands.

The muscular weakness, but not the ataxia, quickly invaded the upper extremities and affected chiefly, if not wholly the flexor muscles. The tendon reflexes were present and electrical reactions normal or even slightly increased. Of the eyes I made no careful examination, both on account of his age and because they were seriously injured years ago by an explosion of gunpowder.

Under treatment with the nitrate of silver (gr. one half combined with extracts gentian and nux vomica, three times a day) continued for periods of three weeks and then omitted for equal lengths of time, the girdle pain together with the muscular weakness and ataxia almost wholly disappeared for the space of four months. In December, 1884 the ataxia began to return, but under treatment speedily disappeared again.

This case in its details differs somewhat from the manifestations of the disease as it has appeared in its early stages in the girls of the family, but is especially noteworthy from the fact that in the majority of the few recorded cases of this degenerative disease the initiatory symptoms have appeared prior to the age of twenty, and in none later than the age of twenty-four. (See table at end of paper.)

**Differential Diagnosis:** The differential diagnosis of these cases is difficult and demands the consideration of many diseases. I will briefly outline some of the symptoms in these diseases that might lead to errors of diagnosis, and that have led to such errors in past years in some of these very patients.

**Lead Poisoning:** The symptoms in their order of appearance and frequency are colic, arthralgia, paralysis and encephalopathy. (Tanquerel.) Lead is always to be detected in the urine but the blue line on the gums is sometimes absent.<sup>2</sup> The paralysis is confined almost entirely to the extensor muscles; is usually in the forearm and rarely becomes general, although paralysis of the lower extremities is recognized.<sup>4</sup> Muscular atrophy is secondary to paralysis. Electro-sensibility and contractility are markedly reduced. All the symptoms are rapid in invasion and disappear readily under proper treatment.

**Cerebellar Disease:** This disease is characterized by a reeling, rolling gait, not ataxic, but compared by Hughlings Jackson to the gait of a drunkard. Vomiting and sub-occipital pain are prominent. *Tendon reflex is not abolished.* (Serpelli.) The pupils, as a rule are contracted and do not react to light. There is no diminution either of motion or sensation. Paralysis is rare until near death; if it occurs it is due to disease in other nervous tracts and is accompanied by rigidity and local spasms.

**Cerebro-Spinal Sclerosis:**<sup>5</sup> *Disseminated Sclerosis:*<sup>6</sup> *Insular Sclerosis:*<sup>7</sup> In the ascending form, the first symptom is a gradual loss of power in the lower limbs which later become agitated by tremors. The gait is usually not ataxic but more like that of general paralysis. As the disease progresses, the upper limbs and cranial nerves become involved. The second stage is marked by rigidity, spasmodic contractures, and an aggravation of the tremor. Electro and reflex irritability are greatly increased. Epileptiform and apoplectiform attacks occur.

In the descending form, on the contrary, the tremor is the primary symptom and is first noticed in the muscles controlled by the cranial nerves. In the second stage there is paresis of the upper and later of the lower limbs with permanent contractures.

In the third stage of both forms there are incontinence of urine and feces, bed sores, facial paralysis and dementia. The microscope shows a degeneration irregularly scattered through the motor tracts of the brain and antero-lateral columns of the cord.

**Antero-Spinal Paralysis:** (Anterior Poliomyelitis, Erb.) The invasion of paralysis is usually sudden during an acute attack of fever although it may be without fever. The paralysis attacks the lower extremities and extends upwards involving the muscles of respiration and deglutition.<sup>8</sup> It is complete but soon partially disappears. There is rapid muscular atrophy differing from progressive muscular atrophy in being secondary and in involving whole groups of muscles. Electro irritability is early lost. There is no anesthesia, incontinence or paralysis of sphincter ani, differing thus from general myelitis.

**Diseases of the Lateral Columns:** The positive symptoms are paresis with rigidity and contractures (often talipes equinus) and an increase of all forms of reflex excitability, especially in the tendons. Among the negative symptoms is the absence of muscular atrophy, of ataxia, and of cerebral, rectal and vesical complications. In the more common variety, *Tabes Dorsalis Spasmodique*, of Charcot,<sup>9</sup> *Spasmodic Spinal Paralysis*, of Erb,<sup>10</sup> *Tetanoid Paraplegia*, of Seguin, initial sensory symptoms have been reported. Then come the paresis, motor irritation, the spastic gait and contractures. No autopsies have been reported, however, which reveal uncomplicated lateral degeneration.

**Antero Lateral Spinal Sclerosis:** This begins without fever and is characterized by loss of power in the upper extremities followed by a general atrophy of the muscles of the paralyzed limbs, "atrophy en masse," of Charcot. Later, the lower limbs are similarly invaded and in a greater degree. The cranial nerves are speedily involved so as to simulate bulbar paralysis. *Muscular coordination is intact.* There are no neuralgic pains.

**Chronic Myelitis:** There is a tingling spinal pain and girdle sensation but no neuralgic pains in the extremities. Electro contractility and reflex excitability are markedly increased. Paralysis of motion and violent muscular spasms in lower extremities. The functions of bladder and rectum are disordered.

**Pseudo Hypertrophic Muscular Paralysis:** Is an hereditary disease of infancy, expressed by increase of

<sup>2</sup> Charcot, *Caz. des Hôpitaux*, 1868.

<sup>3</sup> Bourneville et Guérard, *De la Sclérose en plaques disséminées*, Paris, 1869.

<sup>4</sup> Moxon, *Guy's Hosp. Reports*, vol. xix, 1875.

<sup>5</sup> Duchenne, *De l'électrisation localisée*, Paris, 1872.

<sup>6</sup> Legros sur les Malad. du Syst. Nerv., *Ann. fasc.*

<sup>7</sup> Vireh, *Archiv.*, *lbid.*, lxx, Heft 2.

<sup>1</sup> See Wobler, *Lead Paralysis*, Reprint from *Arch. of Med.*, vol. III, No. 1, August, 1887.

<sup>1</sup> Minot, *Bos. Med. and Surg. Journal*, March 10, 1881

volume and hardness of certain muscles, especially in the lower extremities; by *secondary atrophy and paresis* and by conservation of cutaneous sensibility and the functions of the bowel and bladder.<sup>11</sup>

*Progressive Muscular Atrophy: Atrophy of muscles in hand and fore arm.* "main en griffe" is the first marked symptom, although a slight loss of power in the upper extremity may be early noticed.<sup>12</sup> The atrophy is rarely symmetrical and may invade muscles in all parts of the body.<sup>13</sup> Paralysis is always *secondary* to atrophy and finally invades the muscles of respiration. Electro contractility is decreased but not abolished.

*Locomotor Ataxia:* The introductory stage which often lasts for years is characterized by *lancinating neuralgic pains* in the lower extremities, in the trunk (generally) and in the upper extremities (more rarely); by *paræsthesia* and often *anæsthesia of the lower extremities*, by *girdle pains*, motor disturbances, gastralgia and *irritability of bladder and sexual organs*. There is often amblyopia, diplopia, or amaurosis with marked head symptoms. The tendon reflexes begin to disappear.

In the fully developed disease, which may last from five to twenty years, there is an increase of all these symptoms with ataxia of the lower extremities. Later this ataxia may in some cases invade the upper extremities. The gross strength of the legs is unimpaired. The tendon reflexes are lost but *electro irritability is preserved* and often greatly increased. There is *atrophy of the optic disk*. The final stage is short and is characterized by paresis and contractures, by muscular waste, by *bed sores* and *paralysis of sphincters of bowel and bladder*. Death is either by exhaustion or some intercurrent disease.

*Degenerative Ataxia:* The introductory symptoms of this complex disease which we have been considering are slight, and consist for the most part of dyspnoea and an irritable heart and stomach. Occurring in girls and before or at the age of puberty, they might easily be confounded with the ordinary symptoms of anemia and escape particular notice. But the patient is conscious of a certain *weakness in the lower limbs* which renders the movements of the feet hesitating and uncertain. Sooner or later this irregularity of motion becomes apparent to others. The tendon reflexes have not yet been affected. There are *no lancinating or girdle pains*, and *no disorders of sensation*. Such symptoms may last with little change for months or even years.

The first stage of the disease is characterized by a gait that is clearly *ataxic*. Not only has standing become a difficult act but turning around is still more difficult. The motor incoordination which at first affected only the lower limbs has extended gradually to the upper extremities. There are irregular *oscillations of the head* that are aggravated in their severity by attempts at voluntary movement in any part of the body. Whether the wrist drop that was observed in two of these cases is a symptom of the spinal disease may well be called in question, since we have evidence of lead poisoning in the family some years ago.

In the father, the girdle pain was one of the earliest symptoms but in all the other cases it has occurred *very late* in the disease. Nor is this the only symptom

that distinguishes this form of ataxia from the classic locomotor ataxia. There are *few, if any disorders of sensation*, such as wandering pains or anæsthesia. There may, however, on the contrary, be hyperæsthesia. The *tendon reflexes disappear* in time, as do also the electro reactions of sensation and muscular irritability. Strange to say, the *plantar reflexes may be retained*. This stage will last for years, with little change, temporary improvements alternating with speedy relapses.

The second stage marks the fully developed disease. The incoordination has progressed so far that both *walking and standing have become impossible*. Nor is it any longer possible to execute free movements with the hands or arms, to work or feed oneself. The unfortunate sufferer must sit or half recline, a helpless burden in a chair. Yet there has *not been a true or complete paralysis*. Muscular atrophy and contractures begin to be well marked and produce a great distortion of the limbs. The *skin is anæsthetic* but is of fair vitality, and *pressure sores do not occur*. The *speech has a peculiar drawl* and finally becomes unintelligible. The signs of bulbar paralysis appear. *Neuralgic and fulgurating pains* begin to be distressing, and the attacks of dyspnoea and collapse are frequent. There is *no paralysis of the sphincters* and little if any irritability of the bladder.

The final stage is brief. The patient is confined to the bed a few weeks only and in the two girls of this family that have died, the symptoms were those of meningitis and an acute myelitis affecting the lateral columns. The probability nevertheless exists that some intercurrent disease rather than the spinal degeneration would prove in many cases the actual cause of death.

*Causation.* The causation is obscure. No differentiation of the disease from complex cases of the ordinary locomotor or progressive ataxia of Duchenne was made until 1861, when Professor Friedreich of Heidelberg presented six cases which seemed to require a new and separate classification. It was not, however, until 1863 that these observations were published<sup>14</sup> and I can find by the most careful study only forty-three cases upon record that unquestionably agree with Friedreich's in clinical and pathological history.<sup>15</sup>

The disease has been called hereditary but the cases of *direct transmission* are very few. It is certainly, however, a *family disease*, and in the majority of the recorded cases there has been found in the parents not an ataxia, perhaps, but certain mental and nervous peculiarities. Above all causes Brousse<sup>16</sup> mentions alcoholism and consanguineous marriages, and in my cases the history of alcoholism in previous generations is well established. Seeligmüller<sup>17</sup> noticed in his cases habits of onanism. I made careful investigations to detect this habit in my patients, and believe I am justified in saying it did not exist. Even if it did, it may not bear a causative relation to the disease.

According to Friedreich the disease is one of puberty. The age at which the initiatory symptoms occur varies, however, from six to twenty-four years, while in one of my cases it was undoubtedly sixty-six.

<sup>11</sup> *Fieber degenerative Atrophie der spinalen Hinterstränge.* Arch. Archiv., 186, 26, 164, 27.

<sup>12</sup> Since the writing of this paper Dr. J. J. Putnam has showed me notes of two cases that he has seen and Dr. E. C. Seguin has reported six cases in the New York Medical Record, June 15, 1885. See Table of Cases.

<sup>13</sup> *Die Ataxie Hereditaire.*

<sup>14</sup> *Hereditäre Ataxie mit Syringomyelie.* Arch. f. Psych. und Nervenk. Bd. v., Heft. 1.

<sup>15</sup> *Nervous Diseases.* A. McL. Hamilton, page 311.

<sup>16</sup> Roberts. Essay on Wasting Palsy, London, 1858.

<sup>17</sup> Cruveilhier. Arch. Gén. de Méd., May 1853.

The sexes seem to be about equally affected, although the majority of my cases were females.

*Treatment.* The treatment is rather unsatisfactory. Little or no hope can be entertained of permanent recovery, and the most that can be done is to render the condition of the patient comfortable. Cod liver oil, if the stomach will bear it, and concentrated animal foods are absolutely essential to maintain the physical strength. Iron I found to be ineligible, nor did I succeed any better with the vegetable tonics. Phosphorus for a time worked well, but its effects were transient at the best. In the nitrate of silver well pushed and the application of electricity, I consider we have the two best means of giving relief that are really practicable and available. Persistent cauterization over the spinal column has been reported to be attended with good results, but private patients are few who would submit to the procedure.

TABLE OF CASES OF HEREDITARY ATAXIA.

No.	Observer.	No. in same Family.	Sex.	Date of symptoms.	Family History.
1	Friedreich	2	M	18	Hereditary; mother hemiplegic; father a drunkard.
2	"	"	F	18	"
3	"	4	F	16	Hereditary; mother of limited intelligence; father a drunkard, and died of phthisis.
4	"	"	F	16	"
5	"	"	M	15	"
6	"	"	M	15	"
7	Eulenborg	3	F	13	No special heredity; five brothers and sisters died young.
8	"	"	F	13	"
9	"	"	F	13	"
10	Carre	7	M	—	Direct heredity; mother, grandmother and an uncle ataxic.
11	"	"	M	—	"
12	"	"	F	—	"
13	"	"	F	—	"
14	"	"	M	—	"
15	"	"	M	—	"
16	"	"	F	—	"
17	Quincke	2	M	6	No heredity; father a drunkard, other family history good.
18	"	"	M	6	"
19	A. Carpenter	2	F	—	Family history good.
20	"	"	F	—	"
21	J. H. Kellogg	2	M	6	Hereditary; an ataxic brother died at 20, and several cousins had similar disease.
22	Schmid	2	M	6	"
23	Gowers	5	M	19	Hereditary; mother had chorea; one brother and two half cousins insane.
24	"	"	F	18	"
25	"	"	M	19	"
26	"	"	M	—	"
27	"	"	M	—	"
28	Seeligmüller	2	M	12	Consanguinity and some nervous peculiarity in family, but no ataxia.
29	"	"	M	12	"
30	Schmid	2	M	11	Father a drunkard; other family history good.
31	"	"	M	11	"
32	Brousse	1	F	21	Direct heredity; grandmother died of phthisis; mother of ataxia; father of cerebral softening.
33	Rütimeyer	8	M	14	History in family of various nervous affections, chorea and poliomyelitis.
34	"	"	M	7	"
35	"	"	F	6	"
36	"	"	M	7	"
37	"	"	M	7	"
38	"	"	F	5	"
39	"	"	M	4	"
40	"	"	M	4	"
41	"	3	M	7	Father and mother were drunkards.
42	"	"	M	7	"
43	"	"	F	7	"
44	W. F. Smith	6	F	6	Some hereditary influence; grandmother died with ataxic symptoms; history of alcoholism.
45	"	"	F	6	"
46	"	"	F	6	"
47	"	"	F	8	"
48	"	"	M	66	"
49	J. J. Putnam	2	M	7	No history of heredity; history of neglect and malnutrition; followed scarlet fever in the boy.
50	"	"	F	6	"
51	E. C. Seguin	3	F	3	No heredity; family history remarkably good.
52	"	"	M	10	"
53	"	"	F	7	"
54	"	"	F	7	"
55	"	"	F	7	"
56	"	"	F	7	"
57	"	"	M	7	Mother died of consumption; other family history good.
58	"	"	M	15	"

\* Since the writing of this paper, Dr. J. J. Putnam has showed me notes of two cases that he has seen, and Dr. E. C. Seguin has reported one case in *New York Medical Record*, June 13, 1885.

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- Dr. Frederick P. Henry, of Philadelphia, has made, according to the *Polyclinic*, a number of microscopic examinations of the blood during and after typhoid fever, and finds that while the number of red corpuscles is fully up to or above the normal standard during the fever, during convalescence it often sinks considerably below the number found in health. This he explains as a latent anæmia, the loss of water from the blood during the disease causing a relative increase in the number of red corpuscles. This view leads him to the belief that typhoid fever patients should take water as a medicine, as well as to relieve their thirst. He quotes the late John F. Meigs, of Philadelphia, who expressed similar views in one of his lectures at the Pennsylvania Hospital in 1880.

A CASE OF PROGRESSIVE MUSCULAR ATROPHY FOLLOWING A BLOW ON THE HEAD.<sup>1</sup>

BY WILLIAM N. BULLARD, M.D.,

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GENTLEMEN,—The patient whom I have the honor of bringing before you to-night is a man sixty-one years of age, a teamster. Previous to the present trouble, he had always enjoyed good health, and there is no history obtainable of any constitutional disease, neither of rheumatism nor syphilis.

On the 10th of March, 1884, he was struck on the left side of the head by a staging which fell, and was knocked down thereby. There seems to have been no absolute loss of consciousness at the time, though he does not remember subsequent events very distinctly. He is, however, positive that there was no blow on the neck or shoulder. Immediately after the injury, he felt severe pains in the head and back of the neck, especially on the left side which extended to the left shoulder. These pains were darting in character and quite severe, and there was much pain on attempting to move the head or to bend the neck to the right. Shortly after this he began to notice weakness and atrophy of the muscles of the left arm and hand, which gradually spread to the corresponding muscles on the right side. There was a sensation as of pins and needles in the two internal fingers of the left hand.

When he was first seen by me at the Boston Dispensary on the 10th of July, 1884, four months after the injury, his condition was as follows:

He complained of constant pain in the left side of the head and neck, and of severe darting pains running down the side of the neck, which were momentary and occurred especially at night, sometimes as often as twenty times a night. He had the paræsthesia before mentioned of the two internal fingers of the left hand and there was much weakness of the muscles of the left arm, forearm, and hand. There was also, according to his statement, some loss of memory and dizziness, which at times caused staggering.

On examination, nothing abnormal was detected about the head. The muscles of the shoulder and back on the left side were found to be markedly atrophied, while there was distinct atrophy, though less marked, of those of the upper arm. The muscles of the lower arm were also affected, but to a less degree than those of the hand. The latter was *en griffe*, the fingers partially flexed; both the thenar and hypothenar eminences were flattened and the interossei were distinctly diminished in size. All movements, including extension of the thumb, could, however, be performed, although some of them imperfectly. There was slight atrophy of the corresponding muscles of the right side. Sensation was diminished (æsthesiometer) over both arms. The reaction to electricity at this time was, however, normal. The lower limbs were normal except for varicose veins.

In the following September we find the pain still continuing in the head and neck, but as before, there was no marked tenderness to pressure over the head, neck, or spine. At this time the upper arm measured over the biceps had a circumference of 25 cm., right, 23.5 cm.; left; the lower arm just above the wrist, 16 cm. on both sides. Dynamometer (normal over 100) right, 43; left, 48. The muscles of the left arm re-

spond more strongly to Faradic than those of the right, but the Faradic reaction is diminished in both; the extensors of the left forearm respond with great difficulty. There were marked fibrillary contractions in the muscles of both arms.

The patient was not seen again until November 14th. Three weeks previous to this he had slight hæmoptysis, and on examination, signs of consolidation were found at the apex of the left lung. The heart-sounds were normal and the apex-beat in the normal position. Urine did not contain albumen. There was some tenderness on pressure over the left trapezius and the muscles of the back and left side of the neck. Sensation in both arms to the æsthesiometer was normal. Dynamometer (normal over 100) 50 in each hand. At this time, he could not write on account of tremor of the right arm. Measurements at this time were as follows: right biceps (circumference) 23.5 cm.; left, 23 cm.; right forearm, 17 cm.; left, 15.5 cm. All movements can be performed. There was slight numbness in the fingers.

Throughout the following months the patient, who was not able to attend the clinic regularly on account of the illness of his wife, who finally died of phthisis, grew gradually worse. The weakness and atrophy increased and each muscle in the arms stood out apart and distinct from the others. In the spring, however, a slight improvement took place in his condition. The pulmonary symptoms diminished in severity. There was no hæmoptysis after the first. He still complained of constant discomfort and pain over the vertex, with dizziness. He was entirely unable to work on account of the weakness of his arms, while he could walk well. On the 12th of May, a physical examination showed a continuance of the pulmonary signs and the chest was much emaciated. Deep hollows existed both above and below the clavicles, and the intercostals were somewhat atrophied.

Right arm over the biceps contracted to its full extent, measured 26 cm.; left, 25.5 cm. The middle of the upper arm, right, 21.5 cm.; left, 24 cm. Wrist, right, 17 cm.; left, 15.5 cm. These measurements showed a distinct decrease of the atrophy in the upper arms.

Faradic reaction (Fleming's battery, one cell; numbers denote inches on rod). Positive pole placed on deltoid. Deltoid, right, 1; left, 1½; biceps, right, 0; left, 1½. Brachialis anticus, right, 1; left, 3¼. Extensors of lower arm, left, 3¼. Right deltoid contracts at 3½ without contraction of extensors. Supinator longus, right, 2½; left, 2¼. Flexors of lower arm, right, 1; left deltoid affected at 2¼. Interossei primus (K on flexors lower arm), right (1¼ flexors of thumb contract); left (flexor communis contracts at 2; no effect on interossei. With tr. on the ulnar nerve and et. on extensors of the forearm, right, 2½; left, 1¾. Skin reflex much increased. Fibrillary twitches still marked. At the present time, we find the Faradic reaction much diminished over the muscles of the scapular and upper back, and also over the trapezii,—much more so than in the muscles of the upper extremities. Sensation in these parts, however, is normal, as also over the extremities, to the æsthesiometer, but is diminished to E.

There is now very marked atrophy of the muscles of the upper back and shoulders, that is, of the trapezii, the supra-spinati, the infra-spinati, the rhomboides, and the levatores anguli-scapule, which has gradually,

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology, and Hygiene of the Suffolk District Medical Society, June 9, 1885.

but steadily, increased since July. The scapulae are very prominent and their lower angles stand away from the ribs.

That we are still on the threshold of our knowledge in regard to the various forms of progressive muscular atrophy, will scarcely be disputed. Erb, in his article on the juvenile form of this disease, says: "Even yet is our knowledge of progressive muscular atrophy to be designated as thoroughly incomplete, indistinct in regard to many points and contradictory; indeed we appear, perchance, to be farther removed from a clear conception and fixed idea of these diseases than those who, now more than thirty years ago, first described them, or than the others who in the two following decennials busied themselves with their scientific investigation."

Most authorities, however, are now agreed that two principal divisions of these diseases may be made. I. Those series which are due to disease of the spinal cord (and of the nerves connected therewith); and II. Those in which the original lesion probably exists in the muscles themselves. It is proposed by Erb that cases of the first class be distinguished by the name of "Amyotrophia spinalis progressiva," while those of the second are designated under the title of "Dystrophia muscularis progressiva."

The second class includes *a.* pseudo-hypertrophic paralysis; *b.* Erbs' Juvenile progressive muscular atrophy; *c.* Duchenne's Infantile progressive muscular atrophy; *d.* Leyden's Hereditary form of progressive muscular atrophy; and *e.* Charcot's Transitional form. It is very probable, however, that it will be found impossible to maintain all these varieties as distinct diseases, and that some of them are simply varying manifestations of the same disease. Even now, Erb and his followers deny the existence of Leyden's hereditary form as a distinct variety, and would class the cases reported either under the juvenile or the infantile types.

We have here, however, to deal rather with a case belonging to the first class — due to spinal disease. This class of cases was at one time divided clinically by Charcot into two divisions; 1. The Protopathic — those cases due to disease confined entirely, or at least principally to the anterior horns of the cord, or in which symptoms referred by common consent to this portion of the cord predominated. The so-called type Duchenne-Avan. 2. The Denteropathic, in which the lesion of the anterior cornua and its nerve-cells is a "fact of the second rank," at any rate consecutive. This form may occur with several other diseases of the spinal cord or its membranes, but is most common in connection with lateral sclerosis, then forming the disease known as Charcot's amyotrophic lateral sclerosis. It also exists at times in connection with disease of the posterior column, or more commonly, perhaps, with chronic cervical pachymeningitis.

Now to resume in short the history of our patient. What has been the course of the disease in his case? A man of sixty, previously healthy and with no hereditary or acquired taint, as far as can be discovered, receives a severe blow on the side of the head near the vertex. Immediately after, he has severe lancinating pains in the side of the head and neck, extending to the shoulder and down the back, followed by gradually increasing weakness of the upper extremities with some paresthesia and anesthesia on the side of the injury. This weakness is accompanied by a progressive,

atrophy of the muscles of the shoulder, back, and upper extremity of the side injured, which, after a certain time, involves the corresponding muscles on the other side. There is likewise, a certain diminution in the electric reaction of the muscles involved. After the lapse of nearly a year from the date of injury, we find a gradual improvement taking place spontaneously, not only in regard to the symptoms of irritation, the pains and anesthesia of the arms, but also in regard to the atrophy of the muscles of the extremities. On the other hand, the anesthesia of the back is marked, and the atrophy of the muscles of the back and shoulders has rather increased than diminished.

It is not necessary for us to enter here into an analysis of the symptoms presented; but we can say that in all probability, the case before us is one of deutero-pathic spinal atrophy, due to an inflammation extending to the anterior cornua from other tissues, and that it is probable that the original lesion affected the spinal meninges. The provisional diagnosis in this case would consequently be chronic cervical pachymeningitis with consecutive inflammation of the anterior cornua.

The first author to describe accurately and thoroughly this class of cases was Charcot, who in his "Leçons sur les Maladies du Système Nerveux," places them before us in the most striking manner. Vulpius, Gull, and Joffroy have published interesting cases of this sort, and described at length the various symptoms which appeared. The diagnosis in Gull's cases and in that of Joffroy were confirmed by autopsies.

Of especial interest to us in this connection, is Gull's case, No. XXV, from its similarity in many respects to the case before us. It is as follows: A man aged forty-nine, a coal-wagoner, was forced backwards from his seat by striking his head against a beam, whilst driving under an archway, and fractured several ribs on the left side from his fall. Some months after the accident, he began to suffer pain running from the occiput down over the shoulders, and in about a year, the muscles of the upper extremities began to waste. After two years, there was incontinence of urine, which had come on gradually. Three years after the accident, the patient presented a remarkable example of muscular atrophy without actual paralysis. The upper extremities were principally affected. The extensors of the right hand, the muscles of the thumb and the interossei were extremely wasted and there was wrist drop. The muscles of the shoulder and arm, including the pectorales, were also much wasted, but decidedly less so than those of the forearm and hand. There was very slight diminution of sensation. He could still raise the arm over his head. The left arm was affected similarly as regards atrophy, but to a less degree. There was numbness through the whole arm down to the fingers and severe neuralgic pains. The trapezii, serrati-posticci superiores, rhomboidei, and all the long muscles of the back and neck, were remarkably atrophied. The supra-spinati were also atrophied, but less so than the infra-spinati and levatores anguli-scapulae. The spinous processes were prominent, but there was no tenderness anywhere. The legs were wasted and weak, but the patient could walk. The splinters were weak; there was dribbling of urine. The head could not be supported erect. The sight was dim and the left eyelid drooped. At the autopsy there was found a chronic arachnitis and ependymo-pachymeningitis, with leptomeningitis and pachymeningitis spinalis, with secondary myelitis.

Whether in the present case there is injury to the membranes of the brain itself is, in my opinion, doubtful, although there are certain symptoms which might appear to point in this direction.

In conclusion, let me state distinctly that the diagnosis arrived at here is only intended to be provisional.

In regard to the connection of traumatism with progressive muscular atrophy, there is no lack of cases reported in which injury to the muscles or nerves of the body, shoulders, back or extremities, and even of the face, has been followed by atrophy of a more or less progressive character. This is rarer, however, where we have grounds for belief that the original lesion was situated within the cranium or spinal canal. Rosenthal reports a case following a fall from a roof, in which he thinks that the concussion produced lesions of the cord. Valentiner and Bergmann each report a case of progressive muscular atrophy following a fall on the back. One of Clarke's cases followed a blow on the sacrum. In regard to the cases of Hammond (two), and Russell-Reynolds (one), said to have been of traumatic origin, I have been able to find no details, while those of Leyden and Jacobi seem very doubtful.

The only case that I have found in which sufficient proof was given of the connection between the injury and the disease is that of Gull related above.

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# A CASE OF SPINAL ATAXIA WITHOUT LOSS OF SENSATION AND WITH INCREASED PATELLAR-TENDON REFLEX. A CONTRIBUTION TO THE STUDY OF SPINAL ATAXIA.<sup>1</sup>

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THE case of ataxia which I am about to describe is one of exceptional interest and especially so when studied in connection with Dr. Smith's very interesting series of cases of hereditary ataxia,<sup>2</sup> with which it has many points of similarity. It resembles hereditary ataxia in the age of the patient (fifteen years) at which the symptoms developed, the absence of anaesthesia and in fact of all sensory disturbances, the presence of anterior curvature of the spine and nystagmus, and the rapidity with which the symptoms developed. It differs on the other hand from this form of ataxia in the facts, of the freedom, thus far, of the rest of the family from the disease, and in the presence and indeed exaggeration of the patellar-tendon reflex. It differs again from ordinary tabes in this last particular, in the presence of nystagmus, in the absence of all sensory disturbances of every kind, of all cerebral, ocular (pareses) and bladder symptoms. It may be a question as to where it should be placed, and indeed the presence of the tendon reflex might be thought to exclude it entirely as tabes, but still I am strongly inclined to believe for reasons which I shall presently state, that it belongs to the systemic spinal ataxias. Another and not the least interesting point connected with the case is the bearing which it has on the disputed question of the pathology of ataxia. There is still a difference of opinion existing among neurologists as to the cause of ataxia. Some holding that it depends purely upon the loss of sensation, (including sense of touch, muscular sense, etc.); others that it is a purely motor disturbance due to an impairment of the motor coordinating impulses. The sensory theory would be disproved if, as Erb has pointed out on the one hand, cases of complete anaesthesia should be discovered in which no ataxia existed, and on the other, if well-marked ataxia should be found with no loss of sensation. A few cases of this latter class have already been reported, and one in particular by Erb,<sup>3</sup> which will be mentioned more in detail later. In this case there was also complete absence of anaesthesia in every form, while the tendon reflexes were present. These cases show that though loss of sensory impulses may possibly by themselves induce the loss of the power of coordinating movements, ataxia must also have a motor origin and probably be due to a disturbance of the motor coordinating tracts. The complete overthrow of the sensory theory would be accomplished by the occurrence of a case of total anaesthesia without ataxia.

Mary D., seventeen years of age on September 23, 1885. Her present illness is dated by her mother from January 3, 1881, when the girl came home from school complaining of weakness of the legs and malaise. She has never since been to school. The mother admits, however, that during the preceding two months, the daughter had not felt well, and complained of weakness. I first saw the patient in the early summer of 1881, and have since examined her

<sup>1</sup> Reported to the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, June 9, 1885.

<sup>2</sup> See Article on Hereditary Ataxia, by W. F. Smith, page 261 of Journal.

<sup>3</sup> Neurologisches Centralbl., No. 2, 1880.

— Affairs in connection with the Board of Pension Examiners for Boston remain about in *statu quo*. Evidence has been secured that a second of the three members of the Board has never received the degree in medicine which he claimed to possess. Meantime, the confidence felt by the Commissioners of Pensions in the character of his appointees does not seem to have communicated itself in any considerable degree to the physicians and other citizens of Boston conversant with the duties of the Board.

from time to time. As her symptoms have remained, with the exception of one or two particulars, essentially the same during all this time, her present condition will be here given, stating at the same time such changes as have occurred in the progress of the disease.

*Gait, muscular power, etc.* The patient can hardly walk or stand without the aid of support. She habitually uses crutches, and only can be made to walk unassisted after persuasion. When left to herself she easily topples over, though she can manage to get across the room. It is evident that she has not the typical ataxic gait, but rather scuffs along with her feet, taking short, slow, careful steps. She gives at first the impression of having advanced paresis of the legs. Further examination showed this, however, to be erroneous; for when supported laterally so that she cannot fall, she can lower or raise herself on either leg. When told to flex and extend her legs against resistance, it is manifest that their muscular strength is good, though I think they are not as strong as normal, when again lateral support is given to her by placing the hands firmly against both her sides, and her courage is restored, she can raise her feet and walk fairly naturally. When walking, or when standing with her heels and her toes together but eyes open, she topples over after a few seconds and must be well balanced to stand at all. With her eyes closed she tumbles somewhat more readily. She stands and walks with her feet wide apart. She does not reel, or pitch in one direction more than another, but rather tumbles like any inanimate thing which has lost its equilibrium. In other words there exists *static ataxia*.

There also exists incoördination of motion of the legs, but in a minor degree. When told to describe a circle on the floor with the toe, a most irregular figure resulted. She cannot accurately touch with the toe any small object, but reaches it by moderately zig-zag movements. It is a question whether more of an ataxic gait would not be shown if she could maintain the equilibrium, and could walk with less caution and more quickly. The left leg is more ataxic than the right. The hands are also ataxic: the left decidedly, the right slightly. This is shown by difficulty in picking up small objects, buttoning her clothes, touching the top of her nose with her eyes shut.

*Sensation.* There is absolutely no loss of the sense of touch, pain or temperature. When I first saw her about fourteen months ago, I thought there was slight diminution of the muscular sense; not very marked, but still sufficient to be detected. I am unable, at present, however, to discover any at all. She recognizes the slightest passive movement of her legs, can accurately locate their position, and can feel the slightest faradic contraction of the muscles. Sensation as tested by faradism is also normal.

There have been no lightning pains or girdle sensations. When first seen in 1881, she said she had a slight feeling of numbness in the legs but this has disappeared. At that time there was no objective anæsthesia.

*Reflexes.*—The patellar-tendon reflexes are not only present, but exaggerated. No ankle clonus, the plantar reflexes can only with difficulty be obtained. The lumbar reflexes are lively.

*Muscles.*—There is no atrophy or rigidity. There is no disturbance of the functions of bladder or bowel, no tremor, nor local paralysis except the possible weakness of legs above mentioned.

*Nystagmus* exists when the eyes are turned to right and left, but none is noticeable when the eyes are at rest. Last June I did not notice the nystagmus, and do not think it was present at that time. I saw it for the first time at the next examination in September.

The eyes were kindly examined for me by Dr. Charles F. Williams in June last, and within a few days by Dr. O. F. Wadsworth. Both report nothing abnormal in the fundus of either eye. As Dr. Williams did not observe the nystagmus, there is additional ground for not believing it to be present in June. There is probably beginning impairment of speech, as indicated by a very fine, delicate tremor of the voice. I at first considered this due to shyness, but it has continued constant and the patient says she cannot speak as easily or fluently as formerly.

There exists marked *anterior curvature of the spine* in upper dorsal region. There have been no psychical symptoms of any kind. No vomiting, headache, or vertigo (excepting slight dizziness when she attempts difficult feats and loses her balance.)

There is no syphilitic history, and no neurosis in the parents or collateral branches can be discovered. Up to date, there have been eight children in the family. The youngest is at time of writing only five days old, and one died in infancy. Of the other six children, I have personally examined four, and found all but the subject of this paper healthy. The mother describes the remaining two free from all disease.

As Mary D. first complained of weakness in November or December of 1883, she was little more than fifteen years old when the first symptoms developed.

That the diagnosis in this case is not placed beyond doubt, must be frankly admitted. But it seems to me that it is highly improbable that the case is one of cerebellar disease, in view of the character of the ataxia and of the absence of all headache, vertigo, vomiting, convulsive attacks, and the normal condition of the eyes.

Of the spinal diseases, the only ones to be thought of are multiple sclerosis and Friedreich's disease. On first seeing the case, I was inclined to regard it as one of multiple sclerosis, because of the lively patellar reflex; but now, after watching the case for nearly a year and a half, I believe the lesion will prove to be that of Friedreich's disease. This view is based on the absence of the peculiar tremor of multiple sclerosis, the absence of ankle clonus, and local paralysis, (especially of the ocular muscles) and of spastic rigidity of the muscles; the absence of all cerebral symptoms, as vertigo, headache, psychical disturbances, etc. Furthermore, it is as difficult to explain the increased patellar-reflex by a multiple sclerosis as by a posterior sclerosis; for any lesion of the lumbar enlargement which would cause the ataxia would abolish the reflex, and if the lumbar enlargement is not involved, the increased reflex is compatible with a posterior sclerosis. This will be referred to again in speaking of the pathology of the disease.

It may be well to recall here the features which distinguish Friedreich's disease from ordinary tabes.<sup>4</sup> In the first place, there is the tendency to attack many members of the same generation in the same family, while ordinary tabes does not run in families. Then Friedreich's disease appears early in life, while ordinary tabes is a disease of middle age or of later life.

<sup>4</sup> A very excellent digest with a table of all the cases up to date is given by Ormerod in Brain, Vol. VII, page 105.

Out of thirty-six cases, in fifteen the first symptoms came on at ten years of age or under, and thirty-two were twenty or under.

In ordinary tabes, pain and anæsthesia are prominent and almost constant symptoms; in Friedrich's form, disturbances of sensibility are usually insignificant, come on late in the disease, and often are entirely absent.

Other peculiarities of the latter form, are the rapid extension of the ataxy from the feet to the hands, impaired articulation, nystagmus, and curvature of the spine. On the other hand, many symptoms which are common in typical tabes are absent in the hereditary variety,—such as lightning pains, anæsthesia, disturbances of the bladder, transient paralysis, loss of pupillary reflex, optic atrophy, visceral lesions, etc. (Ormerod). In both, the patellar reflex is absent. It will be noticed that the symptoms in Mary D.'s case present a typical picture of the hereditary form, excepting that none of her brothers or sisters have thus far been attacked (all are younger than the patient), and the patellar reflex is present and rather exaggerated.

There is the youth of the patient, the rapid progress of the ataxia spreading to the arms within six months, the nystagmus, the spinal curvature, and the absence of the other symptoms commonly met with in ordinary tabes. Difficult articulation we should hardly expect to meet at this early stage of the disease.

The fact that no other case has thus far occurred in the same family will hardly militate against this case being regarded as Friedrich's form of tabes, considering the ages of the other children, and also the fact that a case has already been recorded which stood alone in the family. The absence of sensory disturbances is peculiar to this form of tabes.

As to the retention of the patellar-tendon reflex, it is a significant fact that it is not a very rare thing in ordinary tabes for the patellar reflex to be preserved, and two cases<sup>4</sup> have been observed, one by Ross and one by Erb, in which the patellar-tendon reflex was increased.

But more than this, the clinical evidence in favor of regarding the case of Mary D. as one of Friedrich's ataxia (posterior sclerosis) is still further strengthened by three observed cases of ataxia, in one of which normal sensation was combined with normal patellar reflex, and in the other two with exaggerated patellar reflex. These cases are so valuable that it will not be out of place to briefly mention them here. The first case is reported by Erb.<sup>5</sup>

It was that of a man fifty-two years of age, who, when he came under Erb's care, exhibited marked and typical ataxia. When he walked side by side with a patient with typical tabes no difference in the gait could be distinguished. There had been no lightning pains; there was no paræsthesia or anæsthesia of any kind and no girdle pains; the pupils and ocular muscles were normal, there were no bladder symptoms. There were also no cerebral symptoms of any kind. The patellar-tendon reflexes were present. For the same reasons I have given above in the case of Mary D. Erb regarded this case as one of spinal ataxia, though unwilling to commit himself as to the exact lesion of the cord.

This seems to be the place, before giving the other two cases, to speak of Kast's<sup>6</sup> two cases, in which with

slight anæsthesia and no loss of muscular sense at all, there was exquisite ataxia, while the patellar-tendon reflex was present.

The first of these cases was one of myelitis from compression following fracture of the vertebrae caused by a fall. There was complete paraplegia, slight loss of sensation, but gradual motor recovery in eight weeks. When full motor power in the legs had returned, ataxia was developed. Both knee-jerks were readily obtained, but there was no ankle clonus. The plantar reflexes were active. In the right leg ataxia and loss of sensibility to touch and pain were more marked than in the left, but there was no loss of muscular sense; the sphincters were not affected.

The second case was one of acute transverse myelitis, with complete motor and almost complete sensory paralysis of both legs to touch, temperature and pain. In this case also, on return of motor power, decided ataxia developed and persisted even after complete return of motor power. The knee-jerk was not marked and there was ankle clonus on left side but not on the right.

In these two cases a stage intervened between the complete motor paralysis and return of muscular power, in which, with almost complete motor power, there were considerable defects of coordination and ataxia. I have not been able to obtain Kast's original article, and therefore cannot speak positively of the exact amount of sensory disturbance present, but Erb, referring to them says: "there was the most exquisite ataxy, without very marked disturbance of sensibility and especially without any loss of the muscular sense."<sup>7</sup>

The two cases above referred to, wherein normal sensation was combined with increased patellar reflex, were reported by Seeligmüller<sup>8</sup> as cases of Friedrich's disease. They were two brothers whose parents were first cousins, and whose mother and maternal aunt were highly neurotic. Both brothers had locomotor and static ataxia, in one the static being predominant. In both there was absolutely no loss of sensation, and there existed increased patellar reflex, and nystagmus. The plantar reflex was absent in both; the abdominal reflexes were present. There was no ankle clonus and no disturbance of speech.

Friedrich, to whom Seeligmüller sent his cases for an opinion, expressed a doubt as to whether they were true cases of his disease, presumably in view of the presence of the retained patellar reflex and the presence of psychological symptoms which existed in both, namely: forgetfulness and dreamy states in one, and forgetfulness, migraine, dreaminess, and inverted sexual passions in the other. But as Seeligmüller points out, the father, who was otherwise perfectly well, had the same forgetfulness, and, as Ormerod remarks, the connection between tabes and paralysis of the insane is well known. Even if there should have been some cerebral disease it would scarcely account for the spinal symptoms. It seems to me, all things considered, that Seeligmüller was more likely right.

Not the least interesting question connected with the case of Mary D. is the seat of the lesions in the cord. It is a remarkable fact, considering the grouping of the symptoms, that out of seven autopsies<sup>9</sup> of Friedrich's disease thus far recorded,<sup>10</sup> (including the

<sup>4</sup> Ross, Diseases of the Nervous System.

<sup>5</sup> Neurolog. Centralbl. No. 2, 1885.

<sup>6</sup> Schmidt's Jahrbücher, 1883, B. 200, Brain, Vol. 7, p. 553.

<sup>7</sup> Neurolog. Centralbl. No. 2, 1885.

<sup>8</sup> Archiv. für Psychiat., etc., Bd. 10, S. 222.

<sup>9</sup> This does not include Dr. Smith's case.

<sup>10</sup> Abstracts of this article will be found in Ormerod's Digest.

case reported by Kahler and Pick) in six there was found sclerosis, not only of the posterior columns, but of the lateral as well. In several there was sclerosis of anterior columns.

Of these seven cases the condition of the tendon-reflexes was, unfortunately, noted in only three; in all three the patellar reflex was absent, though there was lateral sclerosis as well.

How are we to explain the absence of all symptoms of lateral sclerosis in these cases on one hand, and on the other hand, of the presence of the knee-jerk in exceptional cases of ordinary tabes, and of the exaggerated jerk in Seeligmüller's cases and mine? The key to this question I believe is given by the autopsies of other cases of systemic spinal disease, not Friedreich's, in which a combination of systemic lateral and posterior sclerosis existed. An excellent digest<sup>12</sup> of these cases has also been made by Ormerod, who has collected twenty cases in all. Of these the patellar reflex was noted as lost in eight and exaggerated in six cases, reported by Strumpell (two cases), Westphal (one case), Raymond (one case), Rabasin (one case), and Déjérine (one case). Of these the most instructive was Déjérine's.<sup>13</sup> The symptoms were those of tabes, namely: slight locomotor, but marked static ataxy; *exaggeration of patellar reflex*; *ankle clonus*; paresis of legs; anaesthesia and analgesia of the legs, distributed in patches.

Death from broncho-pneumonia. At the autopsy there was found chronic posterior spinal meningitis, atrophy of posterior nerve roots and cutaneous nerves, sclerosis of lateral columns in lumbar and dorsal regions. This sclerosis was wedge-shaped, the base reaching the periphery and occupying the posterior part of the lateral columns, but stopping before reaching the posterior horns (direct cerebellar and crossed pyramidal tract?). The posterior columns were sclerosed the whole length, *excepting in the lumbar enlargement*, which was nearly unaffected.

In the other four cases, all of which, however, presented more decided spastic symptoms, the disease of the posterior columns did not reach the lumbar enlargement. These cases, therefore, support Westphal's opinion, based on his one case where the spastic symptoms were present, and several other cases where they were not—that if the posterior sclerosis involved the lumbar enlargement, the lateral sclerosis was manifested by paresis only, without rigidity, and the patellar-reflex is absent, but if the posterior sclerosis did not extend into the lumbar enlargement, the symptoms of lateral sclerosis predominate.<sup>14</sup>

If the case of Mary D. (the subject of this paper), is properly classified as one of Friedreich's disease, we may assume that the disease has not to any great extent involved the lumbar enlargement; and thus explain the fact that the patellar-reflex is not abolished. Finally, the exaggeration of the latter may be owing to the same conditions which cause an increased patellar reflex in transverse myelitis when the lesion is above the lumbar enlargement; or, if we suppose the same anatomical changes to be present which were found in the six autopsies of Friedreich's disease mentioned above, it is possible that the lateral columns are slightly affected. This would account for whatever amount of paresis is present.

<sup>12</sup> Brain, July, 1885.

<sup>13</sup> Archiv. de Physiologie, Nov. 15, 1881.

<sup>14</sup> Ormerod, loc. cit.

## REPORT ON MEDICAL CHEMISTRY.

BY WILLIAM B. HILLS, M.D.

### ACTION AND METAMORPHOSIS OF SOME SUBSTANCES IN THE ANIMAL ORGANISM IN RELATION TO DIABETES.

K. Albertoni,<sup>1</sup> finds that acetone is not injurious, and even in large doses produces only intoxication. When given to healthy persons in larger doses than three cubic centimetres it is passed unchanged. When alcohol, glucose, or butyric acid was given to dogs or rabbits, neither acetone nor aceto-acetic acid could be detected in their urine. Isopropyl alcohol is partly converted into acetone, partly passes unchanged. Ethyl aceto-acetate or aceto-acetic acid produce nothing like diabetic coma, but sometimes cause the urine to become albuminous. Levulinic acid causes prostration and rapid death; its formation may possibly be the cause of the sudden death sometimes occurring from diabetes.

### CHANGES IN THE CHEMICAL COMPOSITION OF CERTAIN SECRETIONS DURING CHOLERA.

The results of investigations made by G. Pouchet<sup>2</sup> are the following. In cases of cholera, the bile collected very shortly after death is colorless and of a gelatinous consistency, and contains a large proportion of water. The greater part of the solid matter consists of albumin and mucin, but leucine, tyrosine, and glucose are always present, together with fat globules, crystals of fatty acids and cholesterol. The bile also contains products of the decomposition of the bile pigments, which oxidize and reproduce the color when exposed to the air after removal of the albuminoids.

The vomitus frequently contains constituents of the bile.

The alvine ejections are very watery and almost colorless. They contain a relatively large proportion of urea and sodium chloride, especially the latter. They contain the products of the reduction of bile pigments, but are almost invariably free from skatole. Aptomaine can be extracted with chloroform. The urine during the period of reaction contains a larger proportion of organic matter, especially urea, and a smaller proportion of inorganic salts. Sulphates are present in somewhat higher proportion with respect to the amount of urea, but the quantity of sulphur eliminated in the form of sulpho-acid is very small, and, in many cases *nil*. The quantity of sodium chloride present is only one-tenth the normal amount, and the proportion of phosphates, especially earthy phosphates, is also diminished. Amongst substances not normally present, the urine contains bile salts in variable quantity, albumen in somewhat large proportion (5-9 grams per litre), glucose, often in very small quantity, and a peculiar albuminoid. The urine contains a very small proportion of a fixed alkalioid, which does not resemble that extracted from the alvine ejections.

The blood serum contains a relatively large proportion of bile salts, and in one case it gave the chemical and spectroscopic reactions of bile pigments.

### A NEW LEVOROTATORY SUBSTANCE IN THE URINE.

E. Kuntz<sup>3</sup> has discovered in the urine of diabetic pa-

<sup>1</sup> Journal of the Chemical Society, London, June, 1885, page 683, from *Chemisches Centralblatt*.

<sup>2</sup> Journal of the Chemical Society, London, May, 1885, page 576, from *Compt. rend.*, 100, pages 220 and 362.

<sup>3</sup> *Zeitschrift f. Biol.*, 28, page 165.

tients taking chloral hydrate a laevorotatory body which is not identical with other laevorotatory substances which have been described as existing in urine. Analysis gave a formula for hydroxybutyric acid. But, as it does not agree in properties with any of the hydroxybutyric acids known, he has assigned to it the name pseudohydroxybutyric acid. In fifty-two cases observed, the acid occurred only in the urine of the most severe, and in those which at the same time gave the ferric chloride reaction. The acid itself does not give a color reaction with ferric chloride. The author suggests that it may account for the lower percentages of sugar sometimes indicated by the polarimeter than by titration with Fehling's solution.

W. Müller<sup>4</sup> has made investigations to discover if possible the cause of the disagreement between the above-mentioned methods for the determination of sugar, and went so far as to discover that levulose was not the cause of the discrepancy, and to conclude that a laevorotatory substance of an acid nature was present in many diabetic urines. Becoming aware of Kulz's discovery, he abandoned further researches on the subject. The presence of hydroxybutyric acid in a case of diabetes mellitus has also been proven by Minkowski.<sup>5</sup>

#### DETECTION OF SUGAR IN URINE.

In testing urine for sugar with copper solution, the blue coloration frequently disappears and passes into yellow. C. Giacomo<sup>6</sup> finds that neither coloring matter, gum, albuminoids, nor extractive matters cause this change, as, after their removal by means of animal charcoal and lead acetate, the sugar reaction sometimes fails; if, however, an alcoholic extract of the urine extract is treated with concentrated alcoholic zinc chloride, filtered and evaporated after forty-eight hours, then the presence of sugar will be indicated by the copper solution. It is the creatinine, so removed, which prevents the reduction of the copper salt by the sugar, as it reduces the copper salt and combines with the cuprous oxide produced to form a white granular powder soluble in alkalis. This reaction is so delicate that 1/1000 of creatinine can be detected. The sugar reaction only takes place when all the creatinine present has combined with cuprous oxide; so that in the presence of creatinine a larger quantity of copper sulphate is required, and Trommer's test requires to be so modified that ten or twelve drops of tartaric acid, as much copper sulphate, and an excess of potassic hydrate are added to the urine.

#### DETERMINATION OF CHLORINE IN THE URINE.

Chlorine in urine cannot be estimated directly by Mohr's method, since uric acid, coloring matters, and other urinary constituents are also precipitated, and the results obtained are therefore too high. W. Zuelzer<sup>7</sup> recommends the following process: 10-15 cc. of the urine are acidulated with nitric acid and the chlorine precipitated with silver nitrate; the silver chloride is removed by filtration, and dissolved in ammonia; from this solution the silver is precipitated by colorless freshly-prepared ammonium sulphide, or better, potassium sulphide, the excess of sulphide re-

moved by cadmium nitrate, and an aliquot part of the filtered liquid acidulated with nitric acid, neutralized with calcium carbonate, and titrated by Mohr's method.

#### TOXICOLOGY. — NICKEL AND COBALT.

F. Garkens<sup>8</sup> states that nickel salts, like those of mercury and arsenic, when absorbed into the system, set up inflammation in the glands of the intestinal tract. Nickel acetate acts with much greater energy, when injected subcutaneously, than when taken through the stomach, as in the latter case, absorption of the poison is largely prevented by the formation of insoluble nickel compounds.

Stuart<sup>9</sup> has studied the action of sodium nickel citrate and the corresponding cobalt compound. In rabbits, both metals pass into the bile, intestinal secretions and urine. The latter is colored brown by cobalt compounds. The cobalt separates as a purple phosphate when the urine undergoes putrefaction.

#### NITRO-GLYCERINE.

According to M. Hay<sup>10</sup> the poisonous action of this compound cannot be explained by the action of its constituents. The symptoms are similar to those produced by amyl and potassium nitrites. The author found that, of the three NO<sub>2</sub> groups present in nitro-glycerine, only one is removed by the action of alkalis as nitrate, the other two combining with the alkali as nitrite, whilst the oxygen set free oxidizes the regenerated glycerine. An alcoholic nitro-glycerine solution reacts rapidly in this sense with an alcoholic sodium hydrate solution with development of much heat. The formation of nitrite, however, occurs even on digesting at 40° an aqueous solution of nitro-glycerine (1:8000) with a little sodium hydrate (0.2 per cent); the reaction being complete in about ten minutes. Blood at the temperature of the body acts similarly; the blood becomes chocolate colored, as is the case when it is exposed to the action of amyl or potassium nitrite. Spectroscopic observation reveals the methæmoglobin band. Reducing agents reproduce the red color of hæmoglobin, as in the case of the nitrites above mentioned. Hence nitro-glycerine acts by its conversion into nitrite.

#### BRUCINE.

T. Lauder Brunton<sup>11</sup> has made some experiments with pure brucine, and concludes that it has a convulsant action resembling that of strychnine; but the action is not only weaker in itself but is so much lessened in the case of mammals by the rapid elimination of the poison, as to give rise to no symptoms when the brucine is taken by the mouth. Its convulsant action is shown very distinctly when the brucine is injected in solution into the abdominal cavity, so that it is rapidly absorbed, and the whole or nearly the whole of the quantity administered is able to act upon the organism, there being no time allowed for its excretion. When it is taken into the stomach on the other hand, excretion appears to go on *puri passu* with absorption; there is no large quantity of brucine at any one time

<sup>4</sup> Journal of the Chemical Society, London, June 1885, page 762, from Pflüger's Archiv, 35, page 76.

<sup>5</sup> Chemisches Centralblatt, 1884, page 106.

<sup>6</sup> Journal of the Chemical Society, London, June, 1885, page 762, from Chemisches Centralblatt, 1884, p. 185.

<sup>7</sup> Berichte der deutschen chemischen gesellschaft, 1885, p. 320.

<sup>8</sup> Journal of the Chemical Society, London, June 1885, page 681.

from Chemisches Centralblatt, 1884, page 13.

<sup>9</sup> Berichte der deutschen chemischen gesellschaft, 1885, page 161, from Arch. f. exp. Pathol. 18, page 141.

<sup>10</sup> Journal of the Chemical Society, London, June 1885, page 681, from Chemisches Centralblatt, 1884, page 108.

<sup>11</sup> Journal of the Chemical Society, London, March 1885, page 143.

in the blood, and the animal does not suffer. The difference between the effects of the two appears therefore to be one of degree rather than of kind, and to be chiefly dependent on the more ready elimination of brucine. The latter, like strychnine, produces death by convulsions and not by paralysis, but like curara, it is innocuous when taken into the stomach though fatal when injected under the skin.

#### ARSENIC.

For the estimation of arsenic in judicial cases, H. Beckurts<sup>12</sup> recommends the following new method founded on numerous experiments made by Pelnt and himself. The substance to be examined is reduced to small pieces when necessary, and mixed to a thin paste with 20–25 per cent. hydrochloric acid, and about twenty grams of a four per cent. solution of ferrous chloride. The mass is then distilled at the rate of about three cubic centimetres per minute, until about one-third has passed over. Substances containing much water are previously evaporated with sodium carbonate; or a more concentrated hydrochloric acid may be used. If not too much arsenic be present, all goes over in the first distillate; otherwise 100 c.c. more hydrochloric acid are added, and the distillation is repeated. The presence of ferrous chloride reduces the volatility of mercury, antimony, and tin to a minimum. The distillate, after dilution with water, can be examined directly in Marsh's apparatus. Quantitatively the arsenic can be precipitated as sulphide, or as the magnesium salt, after oxidation and removal of excess of acid by evaporation, or finally volumetrically after neutralization with alkaline carbonate. By this method the whole of the arsenic from arsenious and arsenic acids passes over. The sulphide is largely decomposed by a first distillation, and a second distillation increases the amount of arsenic carried over. Of metallic arsenic, the oxidized portion goes over entirely; of the unoxidized portion a little only passes over.

Beckurts<sup>13</sup> has experimented with 10 per cent. and 15 per cent. hydrochloric acid, and with 19 per cent. sulphuric acid with reference to their employment in Marsh's apparatus. Drying tubes charged with calcium chloride, with and without stick potash, were used. He found that the mirror appeared in much less time with the 15 per cent. hydrochloric acid than with the sulphuric acid; also that the employment of the potash is unnecessary.

The author states that arsenic can be perfectly removed from hydrochloric acid by fractional distillation with the addition of ferrous chloride. The more concentrated the acid, the more readily does the arsenic distil over in the first portions. When acid of 30–40 per cent. strength is distilled, the first 30 per cent. contains the whole of the arsenic, the next 60 per cent. portion is free from arsenic; a 20–30 per cent. acid, free from arsenic, is thus obtained.

#### CARBONIC OXIDE.

A. P. Fokker<sup>14</sup> describes a modification of Fodor's method for the detection of carbonic oxide. One or two cubic centimetres of the blood to be tested is placed in a shallow beaker, which is floated in a porcelain dish full of water, the beaker being kept in a vertical position

by means of three perpendicular brass wires which carry above a watch glass containing a little palladium chloride solution. A glass shade is inverted over the beaker so that it stands in the dish of water, and two-thirds of the air in the glass shade is exhausted by means of an india-rubber tube. The water in the dish is then boiled, which causes the coagulation of the blood in the beaker, and the carbonic oxide escapes and reduces the palladium chloride in the watch-glass above. If traces only are present, the reduction does not take place immediately and the apparatus should be allowed to stand for twenty-four hours. In this manner it is possible to detect the presence of carbonic oxide in a single drop of blood.

#### RECOGNITION OF NITRIC ACID STAINS ON TEXTURES.

H. Fleck<sup>15</sup> recommends the following method, when the stains have already been washed with water. The stains must be cut out and heated with a twenty per cent. solution of caustic potash. Xanthoproteate of potassium is formed, and colors the solution deep orange; on diluting with ten volumes of water, filtering and neutralizing with sulphuric acid, yellow flakes separate; these are collected on a filter and treated with ammonia, when a deep orange-red color is produced. These flakes cannot be mistaken for those produced by picric or styptic acids, since both these acids are soluble in boiling water. A control experiment should be made with a piece of woolen rag, previously steeped for twenty-four hours in nitric acid.

#### DETECTION OF CYANIDES IN THE PRESENCE OF COMPOUND CYANIDES.

Cyanides, when in the presence of compound cyanides, cannot well be detected by the ordinary methods. It is necessary to find a substance which, whilst freely decomposing the cyanide, will leave the ferrocyanide untouched. According to W. J. Taylor,<sup>16</sup> this condition is fulfilled by hydrogen sodium carbonate. All that is required in qualitative analysis is to distil with an adequate volume of water and an excess of hydrogen sodium carbonate. If the preliminary examination shows the presence of mercury, a few grams of zinc must be added, as mercuric cyanide is somewhat refractory, but is readily decomposed in presence of metallic zinc.

#### PREPARATION OF NON-ARSENICAL SULPHURETTED HYDROGEN.

F. Gerhard<sup>17</sup> recommends a solution of hydrosulphide of magnesium. When this is warmed, a uniform evolution of sulphuretted hydrogen takes place and can be regulated by regulating the temperature. The evolution of gas begins at about 60° and is completed at about 95°. The hydrosulphide of magnesium may be prepared by mixing an alkaline sulphide or sulphhydrate, or even calcium sulphide with a salt of magnesium; the resulting mixture containing a salt of the alkali or alkaline earth, together with the magnesium sulphide. If ammonium sulphide is employed, the gas should be passed through a wash bottle containing weak acid, to neutralize the ammonia gas and the ammonium sulphide which accompany the sulphuretted hydrogen. Calcium sulphide is cheapest, but is liable to be impure and to contain much insoluble matter. If used, it should

<sup>12</sup>Journal of the Chemical Society, London, April 1885, page 139, *Ann. Arch. Pharm.*, 6, 363.

<sup>13</sup>Journal of the Chemical Society, London, April 1885, page 110, *Ann. Arch. Pharm.*, 6, 3, page 681.

<sup>14</sup>Journal of the Chemical Society, London, April, 1885, p. 115, from *Chemisches Centralblatt*, 1885, p. 300.

<sup>15</sup>Journal of the Chemical Society, London, May, 1885, page 595, from *Chemisches Centralblatt*, 1884, page 716.

<sup>16</sup>Journal of the Chemical Society, London, February, 1885, page 190, from *Chemical News*, 50, page 227.

<sup>17</sup>Archiv der Pharmacie, May, 1885, page 381.

be made by reducing gypsum with carbon. One part is to be mixed with three parts water, and three parts crystallized magnesium chloride. If potassium or sodium sulphides are used, they may be made by saturating a solution of potassium or sodium hydrates in three to five parts of water with sulphuretted hydrogen: to this solution a quantity of magnesium chloride or sulphate, about double the amount of alkali employed, is added.

## Reports of Societies.

### MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATH- OLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

JUNE 9, 1885.

Through the courtesy of Harvard College, this meeting of the section was convened in the Hall of the Medical School on Boylston Street.

The Section was called to order at 8.10 o'clock. The chairman being absent, Dr. T. W. Fisher was chosen chairman *pro tem*. The reading of the records of the last meeting was omitted. The following communication was read by the secretary.

#### NORFOLK DISTRICT MEDICAL SOCIETY.

Roxbury, Boston, May 16, 1885.

DEAR SIR,—At the Annual Meeting of this District Medical Society, on May 12th inst., after the society had listened to Dr. H. C. Ernst's able paper upon the subject of "Cholera," and to the ensuing discussion, and impressed with the great importance of the necessity of the purity of this community's Water Supply, upon the motion of Dr. E. P. Gerry, of Jamaica Plain, this society voted:

"That a committee of five members of this District Society be appointed to confer with a similar committee of the Suffolk District, to take into early consideration the impurities of the Boston Water Supply, and to request their co-operation with this District Society in urging upon the Mayor of the city of Boston, the vital importance of promptly using all those means which the law allows to prevent further contamination of this Water Supply and to remedy the contamination that exists."

The following named members of the district were appointed the committee for the above purpose:

Chairman, Dr. E. P. Gerry, Jamaica Plain.  
Dr. A. H. Nichols, Roxbury; Dr. J. H. Streeter, Roxbury;  
Dr. H. C. Ernst, Jamaica Plain; Dr. C. F. Willington, Roxbury.  
Respectfully,

GEORGE D. TOWNSEND, M.D., Secretary *pro tem*.

P. S. Dr. Gerry informs me that an official of the Water Department will provide an engineer to aid the committees in any incident inspection of the Water Supply.

G. D. T.

The following committee was appointed from this Society to co-operate with the committee appointed by the Norfolk District Medical Society.

Chairman, Dr. George B. Shattuck.  
Dr. C. F. Folsom, Dr. Vincent Y. Bowditch, Dr.  
A. L. Mason, Dr. H. J. Barnes.

Before the presentation of the regular papers of the evening, Dr. E. B. KELLOGG, by permission, exhibited a fetal monster which had been born a few hours before the meeting, and gave the following history of the case:—

Mrs. H., aged thirty-four, gave birth, June 9th, inst., to a boy, after normal labor of about sixteen hours. Position, the third (right occipito-sacro-iliac.) *Ante-partum* diagnosis: hydrocephalus. The speaker being called away, Dr. S. C. Thayer kindly delivered the child. There was considerable hemorrhage. The placenta was excessively large, friable, lobulated, with large cellular

cavities. Portions of it resembled calcarious degeneration. It was adherent and had to be removed piecemeal by the fingers. The amniotic fluid was large in quantity and flocky in appearance. The child breathed for thirty minutes after birth.

The entire areolar texture of the body was uniformly oedematous and of a dark purplish hue.

The history of the case is meagre. The father is Irish, the mother, French. She admitted taking, during the early stages of pregnancy, large quantities of "cotton root-bark and ergot," prescribed by a "practicing druggist," who informed her that it would surely "bring her 'round all right.'" She had procured one abortion. I had delivered her twice, and the first living child was born, except the head while the mother sat upon the water-closet. Crawling into her bed with the child's body protruding from the vagina she thus remained from 8.30 to 11.30 p.m., when I was called. I delivered the after-coming head. Child asphyxiated. Adherent placenta. Second living child delivered after normal labor, lived only two weeks and died with symptoms of congenital syphilis. Again adherent placenta. No obtainable syphilitic history.

The following is a report of the character of the fetal monstrosity, kindly furnished by Dr. Gannett:

The specimen is that of a male fetus, evidently at full term, well nourished and well developed except for the following appearances about the head and neck. The face is flattened and does not project beyond the anterior line of the body; the face, and anterior surface of neck and body being in the same plane. The neck is short and wide. The tissues forming the scalp posteriorly and laterally and those covering the back of the neck are greatly thickened and boggy, forming a sort of hood for the back of the head, which hangs in a fold reaching to the spines of the scapulae. That portion of the covering of this appendage formed by the scalp, is covered with hair; the rest is free from hair. The tumor extends anteriorly, on the top of the head, as far as the middle line of the skull.

The mass is freely movable and quite boggy to the feel. A vertical section through it, shows it to be formed externally of a well-formed skin of the usual thickness, beneath which and forming the mass of the tumor is a loose connective-tissue meshwork enclosing spaces, which vary in size from a pin's head to a large English walnut. Where the tumor is thickest these cavities are the largest, on the borders they are the smallest. The contents are a thin clear fluid, resembling lymph. A microscopical examination showed the cavities to be lined by a thin, flat endothelium, hence they are to be regarded as lymph-spaces.

The skull, together with its periosteum, as well as the vertebral column with its arches, are in every respect well formed and in no way vary from the normal, so far as size, shape or development are concerned.

The tumor is formed by a tissue occupying the seat of the subcutaneous connective-tissues, representing in its structure a cavernous tissue, that is, a series of cavities the walls formed of connective tissue, lined by a thin, flat endothelium and containing lymph.

The tumor is then a *Cavernous* Lymphangioma involving the subcutaneous connective-tissue of the scalp posteriorly and of the back of the neck.

Dr. J. W. ELLIOT showed an ovarian cyst which he had removed by laparotomy on the previous day at the Free Hospital for Women. The cyst was unilocular and about the size of a child's head. It contained

two quarts of almost clear fluid. Its relations to the fallopian tube and peritoneum indicated that it was without doubt a cyst of the broad ligament. The cyst wall was somewhat thicker than usual, and on the inner surface near its base was a mass of *papillary growth*.

Dr. Elliot thought the specimen might interest the society, because Mr. Doran, an assistant of Sir Spencer Wells, in a recent work on the pathology of ovarian tumors had advanced the idea that the papillary growths have their origin in the broad ligament. Certainly the specimen at hand supports Mr. Doran's theory.

As the papillary tumors are malignant, this must revolutionize the old idea of treating cysts of the broad ligament by tapping. The specimen was instructive in another way in that a papillary growth was beginning in a small tumor and would in a short time have become incurable, on account of its malignancy. Dr. Elliot thought the lesson to be learned was to urge *early operations*.

The patient had been almost completely disabled by this small tumor. The operation was exceptionally simple, lasting about fifteen minutes. Recovery was rapid.

Dr. F. H. HOOVER exhibited a new electric accumulator and the corresponding apparatus for the production of incandescent electric light as perfected by Dr. Felix Lemon and Mr. Arthur Vesey of London, and manufactured by Weiss and Son. It is fully described in a recent number of the *Lauret*.

The appliance is very small and compact, so that it can be carried in the coat pocket; and the lamp is arranged on an extensible hand-piece, so that it can be placed in the mouth, nose, vagina, rectum or other accessible parts without danger of injury to the most delicate organs.

Dr. W. N. BULLARD read a paper entitled

#### A CASE OF PROGRESSIVE MUSCULAR ATROPHY.

With presentation of the patient.<sup>1</sup>

Dr. MORTON PRINCE showed a patient with marked symptoms of progressive muscular atrophy, described at page 371 of *JOURNAL*.

Dr. W. EVERETT SMITH, of Framingham, read a paper upon

#### HEREDITARY ATAXIA, WITH SIX NEW CASES.<sup>2</sup>

and presented one patient who was afflicted with this rare form of ataxic disease. Dr. Smith also showed microscopic sections of the spinal cord, and explained the distribution and character of the degenerative lesion.

Dr. JAMES J. PUTNAM described the lesion found in the specimens of the cord sent to him for examination as consisting principally in a combined sclerosis of the posterior columns and the crossed pyramidal tract, both its anterior and lateral portions, with almost complete destruction of the nerve-fibres in the posterior nerve-roots. There was, besides, a considerable degree of degeneration of the gray matter, and slight affection of the motor nerve-roots. The anterior ganglion cells were greatly reduced in number, and many of those which remained showed various marked signs of disease. The walls of the arteries in the diseased portions, and the central longitudinal arteries as well, were greatly hypertrophied.

The changes, on the whole, were rather of the nature of degeneration than that of active inflammation; or at least the signs of active, primary growth of the connective tissue were not so marked as in some other form of sclerosis. The membranes were thickened over the posterior and lateral columns. The specimens were anatomically interesting also, on account of the presence of a small, well-formed supplementary canal in the median line, a short distance below the principal canal, and, like it, blocked with round cells. Dr. Putnam had seen a boy and girl with this disease in marked form, the only children in an Irish family, in which, according to the mother's account, no other neuroses had been noticed. Vertigo had been from the first a marked symptom.

These cases were seen many years ago, and the knee-jerk had not been tested, but the plantar reflex was noted as greatly exaggerated, so much so, that in one case the attempt to walk with bare feet on stone or gravel brought on muscular contractions, which, for a few moments, made locomotion impossible. Sensibility was essentially normal. He had also seen two separate cases which he believed to be of this type, although no others of the family were affected.

Dr. SEGUIN, of New York, said:—You are very kind in calling on me in this way, and I have listened with great pleasure and profit to Dr. Smith's able paper, and have appreciated the opportunity of hearing his very interesting statements. All I could say in addition would be to give a summary of the cases I have seen of this tolerably rare disease, and I will simply read a table, giving the general symptoms, such as those published in the April number of *Brain* of this year.

I have seen two families affected with this disease. In only one of them was there any hereditary neurotic element. In each family there were three children affected. In one, three out of five, and in the other three out of nine.

The first family, in which there were three out of five, were living in New Jersey, and the cases were first brought to me in 1877. I saw two of them at that time, and went out of town a few days ago to examine the three survivors. The first was Lizzie, who manifested the symptoms at four years of age, beginning with a weakness of the neck. She then presented ataxia of the arms and legs, accompanied by the "Romberg" symptoms. There was no true paralysis at that time; the legs were simply weak, and the tendons Achillis tense. There was no tremor. I saw her about a week ago, twenty-two years after the commencement of the symptoms; she was unable to stand, and was sitting in a chair, with a curvature. The legs were very ataxic, and the tendons Achillis tense; there was a tremor in the neck; she had jerkings in the legs, similar to Dr. Smith's patient. These symptoms were noticeable while sitting in a chair; her grasp was very good, twenty-one or twenty-two degrees on the dynamometer. There was the slightest possible degree of anesthesia, the sole reflex was very much exaggerated, the spinal column deviated to the left. There was also a little forward curvature, the speech slightly jerky, the special senses normal, and the cerebellum normal.

The second case in that family was ten years of age when the walk was noticed to be peculiar. He died in 1883 through an accident not ataxic. There were "Romberg" symptoms, chewing and swallowing were

<sup>1</sup> Vide p. 369 of *Journal*.

<sup>2</sup> Vide p. 361 of *Journal*.

CASES TABULATED TO MATCH DR. ORMEROD'S TABLE IN *Brain*, 1884, pp. 120 to 131.

Designation.	Age and symptoms when first seen.	Duration of Disease when first seen.	Ataxic symptoms; present, absent, or doubtful; Romberg's symptoms.	Motor System. (a) True Paralysis. (b) Tremor. (c) Spasms. (d) Contractures. (e) Tremors. (f) Chorea. (g) Chorea muscles.	Sensory symptoms. Pains, anæsthesia, etc.	Tendon and Skin affect'ns.	Spinal Column.	Organs of Speech. Tongue, Lips, Speech.	Special Senses.	Visceral and Vascular Functions.	Cerebral Functions.
Lizzie K. Dr. Sequin.	Yrs. 4. Ankle weak.	14 y'rs. 22 y'rs. Living in 1885.	Ataxia of arms and legs. Romberg's symptom present. Cannot stand; legs parietic and ataxic; legs parietic.	No true palsy. Legs parietic; tendo-achillis tense. Tremor only in neck while writing. No chorea. Jerking of legs. Grasp R. 21°, L. 22°.	Occasional cramps in legs. No pains or numbness. Slightest anæsth. felt.	Sole reflex exaggerated. No patellar reflex.	Sclerosis to Left; Torsio lumbiar.	Jerky speech. No chorea.	Normal.	Normal, except cold feet.	Normal.
Lindley K. Dr. Sequin.	10. Walk peculiar.	5 years. Died 1886, six years later.	Ataxia of arms and legs. Romberg's symptoms present.	No true paralysis. No tremor, chewing and swallowing difficult. Jerking of legs. Choreaiform movements of body in speaking.	None observed.	No patellar reflex.	Bent over near end of life.	Speech thick and slow.	Normal.		Maniacal at the last.
Nettie K. Dr. Sequin.	7. Peculiar walk and lateral curvature.	8 years or more. Living 1885.	Ataxia of arms and legs. Romberg's symptoms present.	No true paralysis. (Legs weak.) No tremor. Tendo-achillis a little tense. Grasp R. 34°, L. 12°.	Nerve numbless, or sharp pains.	No patellar reflex.	Cervico dorsal Sclerosis to Right	Normal.	Normal.	Normal. Cold feet.	Normal.
J. H. Dr. Sequin.	7. Weakness of legs.	11 years.	Ataxia of arms and legs. Romberg's symptoms present.	No true paralysis. No tremor. Grasp R. 37°, L. 41°.	Nerve numbless. Some sharp pains in spots like needle thrusts. Slight anæsth. of feet, legs and fingers. No sharp pains; but growing pains.	Not noted.	Not noted.	Speech normal, atrophic of the optic nerve.	Partial atrophy of the optic nerve.	Normal.	Normal.
M. H. Dr. Sequin.	15. Difficulty in walking.	17 years.	Ataxia of arms and legs.	Paralysis of legs. Chorea tremor of arms and neck, and face in speaking.		Not noted.	Not noted.	Speech thick and slow; not syllabic.	Sight is dim.	Normal.	Normal? (Silly manner.)

cul, as Dr. Clark states. He had choreaic symptoms in speaking. He was bent over a great deal towards the end of his life, special senses were normal, was insane and had prolonged screaming spells from apparent cause.

Netty was affected at the age of seven years, and showed lateral curvature, for which she was taken to Philadelphia, where I saw her for the first time, 1 years after the beginning of the disease. Her tendo-achillis were both tense, she never had numbness or sharp pains, her speech was normal, also the special senses. The two survivors I saw last week. The other family consisted of nine members of whom three died at the age of three or four years, of unknown diseases. One sister had the same disease; I saw her, she died in consequence of confinement. The first patient of this family I saw in 1879, at my father's, who stated that the first symptoms began at the age of seven years with weakness of the legs and ataxia in the arms and legs. The grasp was forty-seven. This patient had numbness and occasional sharp pains like needle pricks, spinal column normal, tongue ataxic, normal cerebral functions. I saw the second patient at home; she was unable to walk, and had been a public beggar some years. Her symptoms had begun at the age of seven, with choreaic tremors in the neck and face. There were also present in the family observed by Dr. K. There was some anæsthesia of the legs and arms, speech was slow, his manner was silly, but his integrity was fairly preserved. On account of the difficulty of his speech he had been arrested several times by the police for drunkenness.

In a summary I may say that a striking peculiarity in these cases of mine has been the absence of marked anæsthesia. In one or two cases the symptoms were those pointed out by Dr. Putnam. I have had opportunity to examine one of these cases after death, but I will not engage the attention of the society at this longer time.

My friend Dr. Starr intrusted me with two specimens to present to the society. They will be pretty

clear, I think, to the naked eye. You will notice the singular appearance of the section of the spinal cord; I will pass them round for your observation.

The Chairman said:—Owing to the lateness of the hour, the discussion of the able papers presented this evening must now be suspended. The society has listened with great interest to Dr. Sequin, and a motion to adjourn will now be in order.

Adjourned at 10.20 o'clock.

#### MASSACHUSETTS MEDICAL SOCIETY. COUNCILLORS' MEETING.

A STATED meeting of the Councillors was held at the Medical Library, Boston, on Wednesday, 7th inst.

The meeting was called to order by the President, Dr. C. D. HOMANS, at 11 o'clock, A.M.

The following were appointed delegates to other medical societies:—

Vermont Medical Society.—Drs. S. W. Abbott, of Wakefield; E. P. Hurd, of Newburyport.

New York Medical Society.—Drs. J. L. Sullivan, of Malden; L. R. Stone, of Newton.

New York State Medical Association.—Drs. H. W. Williams, of Boston; G. E. Francis, of Worcester.

In accordance with the recommendation of the Committee on Membership and Resignations, three Fellows were allowed to retire, and seven, who had lost their membership under By-Law VI, by removal from the State, were dropped from the roll.

It was voted that the town of Stoughton be transferred from the Norfolk to the Plymouth District, though contrary to the unanimous report of the Committee which had been appointed to consider the question.

The following amendment to the By-Laws was passed, and referred to the Society for concurrence:—

In By-Law XIX, line 20, page 13, insert the words

"five in number, who shall also act as a Committee on Finances;" and omit the words, in lines 21 and 22, "a Committee on Finances."

#### MEETING OF THE SOCIETY.

An adjourned meeting of the Society was held at 12.30 P.M. at the same place and on the same day.

It was voted to concur with the Councillors in the above-mentioned amendment to By-Law XIX., and also in the following amendments passed by the Councillors in June last:—

By-Law XX., lines 14 and 15, instead of the words "Thursday before the last Saturday of September and of February," read "third Thursday of September and of December."

By-Law XX., lines 31-33, omit the words "provided, however, that the whole amount paid to any one Board shall not exceed the sum of sixty dollars for any single year."

By-Law XXIX., line 29, omit the words "a Committee, who shall report the same to."

#### A "HOUSE EPIDEMIC" OF PNEUMONIA IN SWEDEN.

DR. FR. RUDBERG gives a brief account in the *Eira* of an epidemic of pneumonia occurring at the end of last year in a workmen's barrack at Sandarne, near Söderhamm, in Sweden, where there are five of these barracks situated in a row at a distance of a couple of hundred feet from one another on a piece of sandy soil near a pine wood. The epidemic was confined to one of these barracks, there only being a single case in the remaining four at the same time, and very few in the surrounding districts. This building was constructed of wood, and had sixteen rooms arranged in two stories, there being a common porch to every two rooms. Each room was occupied by a separate family. The total number of inhabitants was seventy-eight, of whom forty-seven were over fifteen years, and thirty-one under that age. The first case occurred on November 16th, in a boy of eight; subsequent cases occurred on November 27th, and December 1th, 7th, 11th, 14th, 16th, 19th, and 20th. Of these there were four males and five females, one boy and one girl being under ten, but all the rest between twenty and forty. Six cases occurred in the lower story, and three in the upper. The disease appeared to have no tendency to pass from one room to the adjoining one, or even to another room on the same story; and in no case was more than one inmate of a room affected; but one woman living at a distance, who occasionally visited some of those who had the disease, was attacked by it herself on December 11th. It should be stated that there was plenty of intercommunication among the families. The writer does not mention any of the clinical characters of the epidemic.—*Lancet*, Sept. 19.

Dr. Murrell advises that every physician keep an antidote bag, which should contain every drug and instrument needed in the ordinary cases of poisoning. It should always be kept filled and ready for use; so that, in case of emergency, the doctor could take it along and for it, and not be compelled to look for stray bottles or instruments at a time when a life may depend upon a minute.

## Medical and Surgical Journal.

THURSDAY, OCTOBER 15, 1885.

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#### THE RELATION OF PHYSIOLOGICAL CHEMISTRY TO THE PRODUCTION AND CONSUMPTION OF FOOD.

THE Malthusian theory has never had much terror for the average inhabitant of the United States, nor have we yet felt called upon to consider the propriety of suggesting the tonic of "penny dinners" for our public school children that they may be equal to their tasks. In fact the wastefulness of American households of all classes is proverbial—a wastefulness arising quite as much from ignorance as to the best ways of preparing and combining food, as from reckless purchasing—and there is no doubt that a French or German family would live, and live well, upon what an American family of the same class throws away. The time is coming, however, and is not so far off in our thickly-settled Eastern States, when the secret of getting ahead and of getting something out of life besides an opportunity to labor for its support, will be found to lie in a truly scientific selection and combination of foods. In Germany, the Government has employed Professor König to work up this subject and furnish the people with practical suggestions.

Mr. Edward Atkinson, Chairman of the Section on Economic Science and Statistics, delivered an address before the American Association for the Advancement of Science, at its recent meeting, on the "Application of Science to the Production and Consumption of Food;" in which we find statistical statements calculated to impress the reader with the importance of a local application of tabulated dietaries furnished by Prof. W. O. Atwater, of Middletown, Conn., under the head of a "Standard Ration."

If we accept as facts the statement that "the average product to each person in this most prosperous country, measured in money at the point of final distribution for final consumption, does not exceed fifty to fifty-five cents worth per capita, and that our whole accumulated wealth, aside from land, does not exceed two or at the utmost three years' production;" and another statement that "in order to give each person of our present population five cents' worth more per day, we must produce and distribute one thousand million dollars' worth more than our present annual

product;" and still another statement that "if our present population of over 57,000,000 is reduced to the equivalent of 50,000,000 adults, by counting two children under ten as one adult, and then assign to each of the 50,000,000 one egg every two days at the price of one cent each, then the annual value of the product of hens' eggs would be equal to the annual product of gold and silver of all our mines." If these statements are accepted as facts, then it ought not to be very difficult for the most practical and unimaginative mechanic or day laborer to realize the importance and the profit of beginning a true study of food, and of heeding the teachings of a true science of nutrition.

The human machine, as well as any other, requires a certain amount and a certain kind of fuel to accomplish certain results. If that necessary fuel can be provided for twelve cents for which the individual is accustomed to expend one hundred cents, he gains either so much time from the hours of labor or adds so much money to his savings. At present the mere price of food in our country is calculated as constituting sixty per cent of the cost of living, even for those who are fully and continuously occupied on the plane of common laborers. But Professor Atwater attempts to show this class how to maintain themselves in full vigor at a cost of thirty or forty per cent of their ordinary income. There is, undoubtedly, a much wider choice in the ration of food necessary to sustain an adult in full vigor and health than is ordinarily recognized.

In this country all classes consume much more meat than they really require, and many individuals of all classes much more meat than is really good for them. Now protein is the force-producing element of food, and Professor Atwater, in whose laboratory at Middletown the analysis of food products for the exhibition at the Smithsonian Institute was made, shows that a pound of protein in a sirloin of beef at twenty-five cents per pound costs one dollar, whereas a pound of protein in oat meal or corn meal costs twelve or fourteen cents. Chemical investigations show, moreover, that in the oat meal of the Scotch, in the baked pork and beans, the fried fish ball, or the brown bread of the New Englander, and in the corn meal and bacon of the Southern negro, the right proportion of the elements of food are found combined at the lowest cost.

Of the three most important classes of the nutrients of food, protein is the most expensive, costing five times as much as the same weight of the carbohydrates, and nearly twice as much as the same weight of the fats. The exact physiological values of the nutrients in different foods, depending upon their digestibility and their functions and the proportions in which they can replace each other, are in the present state of knowledge, not ascertainable; but protein is physiologically the most important.

Professor Atwater adopts the standard of nutrients in a daily ration for a laboring man at moderate work, of Professor Voit, of Munich, namely: 118 grammes of protein, 56 grammes of fats, 500 grammes of car-

bhydrates: and constructs upon this standard several tables for daily rations at a cost of twelve cents or less, twelve to fifteen cents, fifteen to twenty cents, and twenty to forty-five cents, respectively. The amount and the cost of each article is given. In other tables, taken from the German of Dr. Meinert, the amounts of the three important nutrients in each article is also appended.

It is easy to see from such tables — rudimentary as the knowledge upon which they are based confessedly is — that the purses and stomachs of a large part of our population admit of very great alleviation, and that too without the introduction of a more enlightened cuisine. The physiological chemist has here a noble field before him, in which to labor with the sociologist and the political economist.

#### A MEDICAL STAR CHAMBER.

THE Executive Committee of the committee appointed to arrange for the meeting of the International Medical Congress in America, in 1887, has recently held a meeting in New York City. An editorial in the *Journal of the American Medical Association* contains all the information concerning it that is made public. The little that is vouchsafed us has certainly the merit of exciting curiosity as to what has been left untold.

To prevent all further misunderstanding both at home and abroad, the committee unanimously adopted the following declaration of independence: —

"That the actions of this Executive Committee are final, not being subject to revision, amendment or alteration, by either the Committee of Arrangements or the American Medical Association."

How will the Committee of Arrangements and the American Medical Association like that?

The opinion of Mr. Randall, delivered no longer ago than last May, was urged in support of interference with the original committee for alleged too great independence of action. If of force at that time it is equally good authority at present.

"I might add, in addition," said Mr. Randall, "that the theory that a select committee created by a body with certain defined powers and duties gives any vested rights — so to speak — which places it above or beyond the power of the creating body to review or regulate, is one not only without precedent in parliamentary law, practice or history, but is untenable on any ground of parliamentary principle."

Professor Frederick S. Dennis was appointed Associate Secretary General, and another was appointed Chairman of the Finance Committee. Why another's name should be concealed from an anxious public we can only conjecture. Is the anonymous gentleman too modest to allow his name to appear? Is some nameless individual to assume the expenses of the Congress? Is secrecy necessary as a safeguard against theft, or is the Committee ashamed of its appointment? It must be a very bad choice indeed which can be worse than such ostentatious secrecy. It would seem as

though this branch of the enlarged committee was bound to destroy what little respect was left for the proposed International Congress.

## Miscellany.

### BOSTON DISPENSARY.

THE statistics of this institution for the year ending September 30, 1885, are as follows:—

The number of new patients treated at the central office is 18,246, classified as follows:—

Medical Department.—Men, 2,220; women, 4,461; children, 2,076; total, 8,757.

Surgical Department.—Men, 1,338; women, 659; children, 574; total, 2,571.

Department for Diseases of the Skin.—Men, 635; women, 329; children, 260; total, 1,224. Diseases of the Nervous System.—Men, 345; women, 210; children, 45; total, 600. Diseases of Women.—Women, 107. Diseases of the Throat and Nose.—Men, 396; women, 496; children, 363; total, 1,255. Diseases of the Eye.—Men, 68; women, 113; children, 120; total, 301. Diseases of the Ear.—Men, 104; women, 133; children, 142; total, 379. Diseases of the Genito-Urinary System.—Men, 678; women, 5; children, 2; total, 685. Diseases of the Rectum and Anus.—Men, 66; women, 48; children, 11; total, 125.

Dental Department.—Men, 393; women, 632; children, 917; total, 1,942.

The number of visits made by patients old and new at the Central Office is 35,298, classified as follows:—Medical, 15,559; surgical, 20,739; total, 36,298. The number of new patients treated in the Districts is 12,535, including 238 cases of midwifery. (Classified as follows: Men, 2,286; women, 1,620; children, 5,629; total, 12,535. The results of treatment in the District are as follows:—

Discharged, cured or relieved . . . . .	11,273
Removed to Hospitals . . . . .	903
Died . . . . .	343
Remaining under treatment . . . . .	81

Under treatment at last annual report . . . . .	12,600
	65

12,535

The number of new patients treated at the Central Office and in the District is . . . . . 30,781

Number of cases of midwifery attended during the year . . . . . 238

Number of cases of midwifery attended since July, 1856 . . . . . 4,445

Whole number of patients since Oct., 1796 . . . . . 301,172

Whole number of patients since July, 1856 . . . . . 782,369

Average daily attendance at the Central Office . . . . . 122

Largest number present any one day, Aug. 7 . . . . . 223

Smallest number present any one day, Dec. 20 . . . . . 41

Number of recipes put up at the Central Office during the year . . . . . 11,715

Number of house recipes . . . . . 33,101

Number of district recipes . . . . . 8,614

Largest number of recipes put up in one day, May 1 . . . . . 226

Smallest number of recipes put up in one day, Oct. 31 . . . . . 58

Number of paid recipes . . . . . 38,349

Number of free recipes . . . . . 3,366

Surgeons: Drs. Charles E. Inches, J. Foster Bush, Samuel J. Mixer and George N. Monks. Physicians: Drs. Robert Disbrow, Joseph P. Oliver, Robert M. Lawrence, John Dixwell, Thomas M. Rotch, Claudius M. Jones, Henry C. Haven, Harold Williams, James J. Minot, George M. Garland, Edward M. Buckingham, Vincent Y. Bowditch, William C. Emerson, Charles G. Weld, Robert B. Dixon, Frederick W. Vogel, Russell Sturgis and Rufus A. Kingman.

Department for Diseases of the Skin.—Physicians: Drs. Francis B. Greenough and Abner Post. Diseases of the Nervous System.—Physicians: Drs. Morton H. Prince and William N. Bullard. Diseases of Women.—Physicians: Drs. Francis H. Davenport, John W. Elliot, F. Howard Lombard and John B. Swift. Diseases of the Throat and Nose.—Physicians: Drs. Thomas A. DeBlois and John W. Farlow. Diseases of the Eye.—Physician: Dr. Charles H. Williams. Diseases of the Ear.—Physicians: Drs. Franklin H. Hooper and George A. Leland. Diseases of the Genito-Urinary System.—Physicians: Drs. George H. Tilden and Francis H. Watson. Diseases of the Rectum and Anus.—Physicians: Drs. Walter J. Otis and William D. Hodges.

Obstetrical Department.—Physician: Dr. Charles M. Green.

Dental Department.—Dentist: Dr. Joseph E. Waitt. District Physicians: No. 1. Dr. Willis B. McMichael. No. 2. Dr. Edward W. Warren. No. 3. Dr. Thomas F. Sherman. No. 4. Dr. James S. Howe. No. 5. Dr. Hayward W. Cushing. No. 6. Dr. George G. Hayward. No. 7. Dr. William F. Temple. No. 8. Dr. Winfred B. Baneroft. No. 9. Dr. Frederick W. Doggett.

Apothecary, Frank H. Clark. Assistant Apothecary, Frederick H. Dudley.

W. H. H. HASTINGS, *Supt.*

## Correspondence.

### RESIGNATION OF DR. HENRY J. BOWDITCH AS VICE-PRESIDENT OF THE PROPOSED INTERNATIONAL CONGRESS.

BOSTON, October 8, 1885.

MR. EDITOR.—Since Dr. J. S. Billings, as General Secretary of the Committee for arranging the International Congress for 1887, informed me that I was selected as one of the vice-presidents of the Congress, I have had no official notice either of my summary displacement by the new committee at its meeting in Chicago (June 21) or of my reinstatement by the same committee (Sept. 3). For this and other reasons to be named, I ask a place in your Journal for the following statement. When urged by some friends to sign the protest made in several cities, by gentlemen opposed to the action taken at New Orleans, I replied, "It would be absurd for me to do so, because the committee has already expelled me from office."

Since that time I have watched with interest the course pursued by the *Journal* of the American Medical Association, and also that of the new committee for the International Congress. I have read with pain the perpetually recurring bitterness and insinuations against all those who had dared to express opinions adverse to the doings of the Association, or those of its new Committee. I was surprised and disgusted while reading the editorials of August 1st, entitled "The International Medical Congress and its Enemies," and that of August 29th, "International Med-

ical Congress of 1887 and the American Medical Association." From these editorials any foreigner reading them would not have the least suspicion that the controversy on the "Code" had any share in the embroglio, at present existing. I wholly deny that those who now disapprove of the course the Association and its Committee have taken, are the "enemies of the International Congress." On the contrary, they are, in my opinion, its best friends.

Notwithstanding my objection to such editorials, I have continued to decline to sign the protest in the hope that, by so acting, I might perchance do something toward the promotion of professional harmony in America.

But the last manifesto of the Committee and gross assumption of despotic power for making all future arrangements for the Congress (*vide* "Executive Committee of the Ninth International Congress," *Journal American Medical Association*, September 3d) convince me that I can remain no longer in the position to which the new committee (as I learn from the journals) placed me without my knowledge or consent at their meeting in September.

That manifesto by the new committee is equalled by nothing in the history of medicine in this country, save the arrogant position taken by the Judicial Council of the American Association, at its meeting in Cleveland in 1883. The Council, through its chairman, declared that the Council "took the responsibility" of requiring every member to sign *annually* the Code of Ethics, or to lose his right to meet his fellows at the gatherings of their Association for the advancement of the sacred cause of Medical Learning!

That decision of the Council was disgraceful alike to the Council as declaring its assumption of power which it did not legally possess, and to the Association for its pusil-

lanimity in submitting, *even to the present day*, to the insult then inflicted upon it, — a so-called scientific and learned body.

To one who looks behind the scenes and knows whose intellectual power, combined with honest but misguided bigotry, has influenced the Council of the American Association, there is no difficulty in understanding the present position of the "Committee for the International Congress."

The same dominant mind governs both. I loathe all such ungenerous and bigoted work, and therefore retire from office in the same public manner that I have been placed there. In declining thus publicly the honor it would confer on me, I am only imitating the example set by the Committee in its intercourse with me.

Respectfully yours,

HENRY L. BOWDITCH, M.D.

P. S. By a singular coincidence, I have received to-day, since the above was in type, from the Chairman and Secretary of the Committee, official notice of my appointment to the office of Vice-President of the International Congress. Upon mature reflection I cannot alter my decision, as above given.

### ANIMAL VACCINATION.

Boston, October 13, 1885.

MR. EDITOR. — Upon my return from the country my attention was immediately directed to Dr. S. C. Martin's statement in the JOURNAL of last week. With your permission I will prepare a reply for next week's issue.

Very truly yours,

THOMAS WATERMAN.

### REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 3, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	543	109	20.16	18.03	10.86	1.66	4.23
Philadelphia	927,985	334	106	10.50	14.70	2.70	2.10	3.30
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	380,406	150	46	16.66	18.55	9.22	2.66	2.66
Baltimore	408,520	135	52	24.42	22.94	4.11	2.93	12.58
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	44	11	25.36	24.97	11.33	4.54	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	21	10	33.32	9.52	23.80	—	9.25
Charleston	52,286	—	—	—	—	—	—	—
Lowell	61,051	24	—	16.64	20.80	—	4.16	12.48
Worcester	68,583	22	11	36.41	13.66	13.66	4.55	13.66
Fall River	56,863	18	5	27.77	22.22	11.11	5.55	—
Cambridge	59,660	17	8	41.16	5.88	23.33	5.88	16.66
Lawrence	38,825	9	—	11.11	11.11	—	—	—
Lynn	45,861	17	4	5.88	5.88	—	—	5.88
Springfield	37,577	9	2	33.33	11.11	11.11	—	22.22
Somerville	29,922	9	2	22.22	33.33	—	11.11	—
Holyoke	27,894	6	2	—	16.66	—	—	—
New Bedford	33,333	8	1	25.00	25.00	—	—	25.00
Salem	28,084	8	2	12.50	—	—	12.50	—
Chelsea	25,709	6	1	33.33	16.66	—	33.33	—
Taunton	23,674	7	3	14.28	11.28	—	14.28	—
Gloucester	21,713	4	2	—	50.00	—	—	—
Haverhill	21,705	3	—	33.33	—	—	33.33	—
Newton	19,759	—	—	—	—	—	—	—
Brockton	20,783	—	—	—	—	—	—	—
Malden	16,107	8	3	—	—	—	—	—
Newburyport	13,716	4	—	—	50.00	—	—	—
Waltham	14,609	3	1	—	66.66	—	—	—
Fitchburg	15,375	5	1	20.00	20.00	—	20.00	—
Northampton	12,866	3	1	—	—	—	—	—
95 Massachusetts towns	—	48	13	20.84	18.72	8.32	8.32	4.16

The population of the Massachusetts cities in the above report is that of the State Census, of May 1st, 1885.

Deaths reported 1,465: under five years of age 586; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 274, consumption 249, lung diseases 106, diarrheal diseases 113, diphtheria and croup 72, typhoid fever 41, malarial fevers 16, whooping-cough 10, scarlet fever six, cerebro-spinal meningitis six, small-pox four, measles two, typhoid fever one, puerperal fever one. From malarial fever, New York 10, Baltimore three, Philadelphia two, Providence one. From whooping-cough, New York four, Philadelphia three, Baltimore, Providence and Somerville, one each. From scarlet fever, New York three, Boston two, Philadelphia one. From cerebro-spinal meningitis, New York and Philadelphia two each, Worcester and Fall River one each. From small-pox, New York, three, Fall River one. From measles, New York and Lawrence one each. From yellow fever, Boston one. From puerperal fever, Baltimore one.

One case of small-pox reported in Lowell.

In 115 cities and towns of Massachusetts, with an estimated population of 1,419,999, (estimated population of the State 1,565,104), the total death-rate for the week was 14.06 against 15.05 and 15.76 for the previous two weeks.

For the week ending September 12th in the Swiss towns there

were 28 deaths from consumption, diarrheal diseases 18, lung diseases 11, small-pox three, whooping-cough two, scarlet fever, diphtheria and croup and typhoid fever one each.

The death-rates were: at Geneva 8.1; Zurich 3.9; Basle 21.9; Berne 22.9.

For the week ending September 19th in the Swiss towns, there were 20 deaths from diarrheal diseases, consumption 17, lung diseases seven, typhoid fever, diphtheria and croup each three, small-pox and whooping-cough each two, erysipelas one.

The death-rates were: at Geneva 13.2; Zurich 2.0; Basle 12.9; Berne 21.8.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending September 19th the death-rate was 17.1. Deaths reported 2,925: infants under one year of age 779; acute diseases of the respiratory organs (London) 152, diarrheal 183, scarlet fever 49, whooping-cough 46, fever 41, measles 36, diphtheria 32, small-pox six.

The death-rates ranged from 11.4 in Huddersfield to 28.6 in Preston; Birkenhead 20.2; Birmingham 12.7; Blackburn 14.4; Brighton 17.3; Hull 15.7; Leeds 15.3; Leicester 18.0; London 15.7; Liverpool 21.4; Manchester 20.6; Nottingham 17.8; Sheffield 17.3; Sunderland 17.1.

In Edinburgh 14.0; Glasgow 19.1; Dublin 22.9.

The meteorological record for week ending October 3d, in Boston, as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.		Thermometer.		Relative Humidity.				Direction of Wind.		Velocity of Wind.		State of Weather. <sup>1</sup>			Rainfall.
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Direction.	
Saturday, Oct. 3, 1885.																
Sunday...27	30.131	59.1	66.9	53.2	88.0	78.0	88.0	84.7	W.	S.E.	N.E.	5	4	3	C.	C.
Monday...28	30.194	56.7	69.5	54.9	86.0	91.0	91.0	89.3	N.	S.E.	O.	8	9	0	C.	C.
Tuesday...29	30.146	57.9	65.6	52.6	79.0	62.0	78.0	73.0	N.E.	E.	N.	6	12	6	C.	C.
Wednesday...30	30.025	55.5	66.3	50.6	75.0	64.0	70.0	69.7	N.	E.	N.W.	10	8	10	C.	C.
Thurs., Oct. 1	29.741	55.3	64.8	48.3	78.0	71.0	85.0	78.0	N.	E.	N.E.	7	10	7	C.	C.
Friday...2	30.025	55.1	65.2	50.6	95.0	85.0	100.0	96.6	N.E.	E.	N.E.	7	16	6	C.	T.
Saturday...3	30.039	61.6	66.7	54.7	100.0	96.0	93.0	96.3	E.	S.	S.W.	10	3	6	G.	R.
Mean, Week.	30.055	55.9	63.9	48.3				84.0								0.25 1.50

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 3, 1885, TO OCTOBER 9, 1885.

BARTHOLOMEW, J. H., assistant surgeon and captain. Ordered from Fort Ringgold, Texas, to Fort McIntosh, Texas, for duty as post surgeon. S. O. 125, Department of Texas, September 28, 1885.

WUSL, DANIEL, assistant surgeon and captain. To be relieved from duty at camp at Rock Springs, Wyo., and return to his proper station, Fort Reed Steele, Wyo. S. O. 99, Department of Platte, October 1, 1885.

BLAIR, VICTOR, assistant surgeon and captain. Sick leave of absence further extended six months, on surgeon's certificate of disability. S. O. 227, A. G. O., October 3, 1885.

BRUNELL, G. E., assistant surgeon and first lieutenant. Granted leave of absence for one month. S. O. 215, Department of East, October 6, 1885.

STEPHENSON, W. M., assistant surgeon and first lieutenant. Relieved from duty at Fort Niobrara, Neb., and ordered for duty at camp at Rock Springs, Wyo. S. O. 99, Department of Platte, October 1, 1885.

CLARKE, A. R., assistant surgeon and first lieutenant. Leave of absence extended one month. S. O. 230, A. G. O., October 7, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 10, 1885.

BROOK, GEORGE A., surgeon. To United States Steamship "Brooklyn."

PITTS, HENRY B., assistant surgeon. To Naval Hospital, New York.

HALL, JOHN H., passed assistant surgeon. Detached from Naval Hospital, Mare Island, Cal., and ordered to the "Hartford."

SWAN, ROBERT, past assistant surgeon. Detached from Naval Hospital, New York, and ordered to the "Brooklyn."

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDING OCTOBER 3, 1885.

BAILLACHE, P. H., surgeon. Detailed as chairman of Board for the physical examination of officers of the Revenue Marine Service, September 28, 1885.

VAN SANT, JOHN, surgeon. Order to New Orleans, La., revoked; to proceed to St. Louis, Mo., October 2, 1885.

PURVANCE, GEORGE, surgeon. To proceed to Louisville, Ky., as inspector, October 1, 1885.

GASKAWAY, J. M., surgeon. Detailed as chairman of Board for the physical examination of officers of the Revenue Marine Service, October 3, 1885.

GODFREY, JOHN, surgeon. Order of September 16 amended, to proceed without delay to Louisville, Ky., September 28, 1885.

GOLDSBOROUGH, C. B., passed assistant surgeon. Order of September 16 amended, when relieved, to proceed to Chicago, Ill., October 1, 1885.

IRWIN, FAIRFAX, passed assistant surgeon. Detailed as recorder of Board for the physical examination of officers of the Revenue Marine Service, September 28, 1885. To examine physically, and instruct crews of the Life Saving Service, Third District, in the method of restoring the apparently drowned, October 3, 1885.

BANKS, C. E., passed assistant surgeon. Detailed as recorder of Board for the physical examination of officers of the Revenue Marine Service, October 3, 1885.

#### SOCIETY NOTICE.

AMERICAN ACADEMY OF MEDICINE. The American Academy of Medicine will hold its next annual session at New York, on October 28 and 29, 1885.

#### BOOKS AND PAMPHLETS RECEIVED.

Session of 1885-86. Annual Announcement of the New York College of Veterinary Surgeons and School of Comparative Medicine. New York.

## Original Articles.

## SIMPLE CATARACT EXTRACTION.

BY HENRY W. WILLIAMS, A.M., M.D.,

Professor of Ophthalmology in Harvard University.

For more than twenty years, the influence of von Graefe of Berlin was paramount in regard to the methods of extraction of cataract. After having for a considerable time advocated Waldaus's plan, for out-scooping combined with iridectomy; a shallow spoon being passed through the external upward incision and carried behind the lens to effect its evulsion; von Graefe abandoned this method, and substituted therefore a plan of his own, which consisted in making a linear incision, wholly within the limits of the sclera, just beyond the upper border of the cornea, and then doing iridectomy so as to allow of extraction of the lens through a smaller incision than that made in the ordinary flap extractions.

Notwithstanding some obvious objections to this method, the authority of von Graefe caused it to be very generally adopted, almost unquestioned. But experience soon proved, that whereas its immediate advantages had perhaps been over-estimated, dangers almost unknown to other methods were concomitants of this operation. Of these, the most serious was the not very infrequent occurrence of subsequent loss of the non-operated eye, from migratory inflammation caused apparently by the implication of the iris and ciliary body in the scleral cicatrix. For this and other reasons, various modifications were nearly everywhere gradually substituted for von Graefe's method, so far as regarded the place and the form of the incision; though the iridectomy was retained. Within a few months a sudden revulsion of opinion has taken place, leading to a somewhat general abandonment of operative methods which had been so long and so largely in favor.

The number of the *Annales d'Oculistique* for December, 1881, contained an article by Dr. de Wecker of Paris, whose reputation as an operator of ability and large experience is well known. A complete translation of this important communication, on which Dr. de Wecker gives, at length, his reasons for the conclusions he has reached "after having long and carefully studied and submitted to experimental trial all the methods of extraction of cataract," would be interesting to your readers; — but I must content myself with a brief summary. These conclusions, and the operative method now advocated by Dr. de Wecker, are similar to the opinions and practice I have for many years maintained.

From the commencement of 1880 till the end of November 1884, 1,289 extractions were done at the clinique of Dr. de Wecker, in which a corneal section made exactly at the junction of the transparent border of the cornea with the sclera, was adhered to. At first, in the majority of the cases, the excision of a portion of iris was done, because of the fear that patients operated on by the simpler methods might run the risk of glaucomatous complications. But the occurrence of several cases of subsequent glaucoma where an entirely correct iridectomy had been done, shook Dr. de Wecker's confidence that any guarantee against glaucoma was afforded by this means. He therefore came to the conclusion that iridectomy, causing more mutilation of the eye, should not be done, if, with equal

safety in operating, as perfect visual acuteness could be obtained without it, while preserving completely the normal aspect of the eye. *This transition point, he says, we have actually reached.*

Dr. de Wecker goes on to say, that when he advised, ten years since, a return to simple flap extraction, he had already eliminated the alleged advantages of the excision of the iris from an antiphlogistic point of view, and had pointed out, as is now generally admitted, that every complication immediately after extraction is due to infection of the wound; upon which any excision of the iris could have no preventive effect. On the contrary, the preservation of the iris secures a better condition of the corneal section, and affords a guarantee against the entangling of the capsule of the crystalline in the corneal wound, and, as its consequence, the sympathetic inflammation of the other eye. Since the recent works of Knies, Leber and Deutschmann, Dr. de Wecker is disposed to insist much more on the cleanliness of the internal surfaces of the wound, and the influence this may have in preventing sympathetic ophthalmia. "No one can deny," he says, "that cases of sympathetic inflammation after operations were almost unknown in the time of David, Wenzell, Beer and Sichel, and it is indisputable that the appearance of a traumatic ophthalmia migrating from one eye to the other, coincided with the adoption of the peripheral sections and their combination with iridectomy."

"As a means of preventing infection of the wound itself, iridectomy is rather injurious than useful; in the sense that the extent of surface liable to infection is increased and a more direct path for infecting material is thus opened towards the capsule of the crystalline, the ciliary body, and the choroidal lymphatic spaces."

"More recently, it has been admitted, that, with equally good coaptation, incisions made wholly within the limits of the cornea are even more quickly healed than those within the sclera."

"In following attentively the evolution of the operation for cataract in recent times, every one could observe that having gone with von Graefe to the extreme of periphericity of the section it was quickly perceived that this was going too far. Therefore the operators who had adopted the method of this great master retraced their steps, and have more or less resumed the placing their sections within the transparent part of the cornea. But they find, although their incisions are no longer peripheral but are made so as not to extend into the sclera, nevertheless, cases of sympathetic ophthalmia occur from time to time if they continue to combine iridectomy with their corneal sections. This clinical observation teaches, that it is not sufficient to abandon the peripheral incisions; but that it is also necessary, as far as possible, to give up incisions of the iris."

The combination of cocaine anesthesia with instillations of eserine; together with the agglutination of the wound by means of iodoform, is regarded by Dr. Wecker as of great advantage in the method of simple extraction. "Thanks to the anesthesia which we owe to Koller, the troublesome contractions of the ocular muscles are avoided, prolapse of the iris is not likely to occur, or, if this should happen, it can be easily replaced; the iris remains long under the influence of the cocaine and eserine, and the occlusion of the wound by iodoform prevents the escape of aqueous humor which favors subsequent hernia of the iris."

De Wecker operates as follows: Five, and then three minutes before the operation, a few drops of a solution containing .50 centigrammes of hydro-chloate of cocaine, and .0002 milligrammes of corrosive sublimate in 10 grammes water, are put into the eye. Using this antiseptic solution he does not bathe the conjunctiva but he carefully washes the edges and surface of the eyelids with a solution of four per cent. boracic and one per cent. salicylic acid; in which solution the dressings afterward applied to the eyes are also to be dipped.

In making the section care is taken that it shall include, as exactly as possible, the upper third of the cornea. The knife, one half the size of that of von Graefe, being entered near the outer sclero corneal border, is carried steadily across the anterior chamber, being held parallel to the iris, to the point of counter-puncture exactly opposite to the point of entrance, and by the upward and onward movement of the knife a flap of perfect regularity is obtained. As the flap is thus slowly formed the patient feels no pain, and does not contract the ocular muscles, and prolapsus of the iris is not likely to take place; but if this should occur, the capsule is to be opened with the kystistome without regard to the hernia of the iris. Gentle pressure is then made with a finger placed against the lower edge of the cornea, while the upper border of the incision is slightly depressed with the upper lid. As soon as the crystalline begins to show itself in front of the iris, all pressure is discontinued, the lids being kept gently separated. The iris being in place and the pupil quite black, the patient's vision may be tested; after which the wound is to be cemented with iodoform. A hard rubber tampon which had been kept in a solution of carbolic acid is dipped into the powder of iodoform, and a layer of this, one millimetre in thickness is applied over the whole extent of the corneal wound. This process completed, the upper lid is drawn over the cornea, and, without removing any excess of iodoform which may remain at the inner canthus, dressings moistened with the boracic solution are applied over the lids, and these are covered with salicylated cotton and a bandage.

Similar views of this subject were published, a little later, by Dr. Gaderowski of Paris, also an operator of celebrity; and the example of these distinguished men has already been followed by operators of repute, in this country as well as abroad, who until recently had retained strong preferences for the original or the modified method of von Graefe; but who, dissatisfied with the results they had obtained, were ready to welcome the departure which, if not absolutely new, has found new advocates whose opinion has great value.

(To be continued.)

The following subjects were discussed at the International Congress on the Abuse of Alcoholic Drinks, recently held at Antwerp: the effect of legislation on drunkenness; the relation between drunkenness and fiscal measures applied to the trade in alcohol; the influence of temperance societies on the consumption of alcohol, on crimes and mortality in the countries where these societies exist (America, England, Denmark, France, Sweden, Norway, and Switzerland); report on the results of coffee houses in England; the results obtained in England by "Inebriate Homes." The Congress will meet again two years hence.

## SO-CALLED MYCOSIS FONGOIDE.<sup>1</sup>

BY GEORGE H. TILDEN, M.D.,

Physician, Department of Diseases of the Skin, Boston City Hospital.

*Syn. Beerscheimähnliche multiple Papillargeschwülste der Haut. Inflammatory fungoid neoplasm, Granuloma sarcomatodes cutis, Granuloma fungoides cutis, Sarcoma cutis, Lymphadenie cutane.*

ONE of the twigs on the topmost branch of Alibert's arborescent classification of cutaneous diseases bears the name Mycosis Fongoide, employed by that Dermatologist to designate an uncommon affection of the skin, which has since been described by various authors under half a dozen different titles. An instance of this disease came under my observation at the Boston City Hospital, in August of last year, having been sent to me by Dr. Vincent Bowditch.

The patient was twenty-eight years of age, a man of robust build, whose family history gave no information of importance in connection with his malady, and whose condition had always been one of uninterrupted good health until his twenty-fifth year, when the first manifestations of the disease appeared. These consisted in the development of several small red and desquamating spots, situated about the elbows and attended by intermittent attacks of pruritus, which affected principally the outer sides of the arms, and were a source of much annoyance. The skin, in general, however, retained its normal aspect for several months, at the end of which time there appeared, irregularly distributed over the face, abdomen and arms, many erythematous spots and patches of various sizes and individually of a fugitive character, which were attended and followed by desquamation and severe itching, the latter being aggravated by any exposure of the skin to the air, by the influence of perspiration and by indulgence on the part of the patient in alcoholic liquors. According to his account, there was never anything like the formation of vesicles in connection with these lesions, which always retained their dry and scaly character.

This condition of the skin obtained with periods of remission and relapse, for about a year and a half, the general condition of the patient, meanwhile, remaining perfectly good. It was not until nearly two years after the beginning of the disease that there appeared several small cutaneous nodules of a red color, situated upon the left cheek and throat, the attention of the patient being first called to them by their interference with the act of shaving. Some of these nodules spontaneously disappeared and no others became manifest until two or three months later, when there appeared upon the inner and lower part of the right thigh, a small red papule, which increased with slow and constant growth until it was represented by a cutaneous tumor the size of an orange. In consistence this tumor was moderately firm and its upper surface was denuded of epidermis, of a dirty yellowish color, and exuded a thin fluid, which, upon exposure to the air, readily dried to a thin crust.

Shortly after the first appearance of this growth, there showed themselves in both groins, many papules of a like nature, which remained quiescent for several months, but eventually those in the left inguinal region developed with great rapidity, forming a mass of thickly crowded fungous excrescences of a reddish

<sup>1</sup> Read at the Annual Meeting of the American Dermatological Association, August 27, 1885.

brown color, irregular shapes, lobulated and fissured in appearance, and covered with epidermis, the largest of them being the size of an English walnut. During the six months previous to the time I first saw the patient, numerous lesions in the shape of papules of various sizes had appeared on different parts of the body, more abundantly in and about the axilla and upon the neck and scalp than elsewhere, and many of them had developed into tubercles and some into tumors.

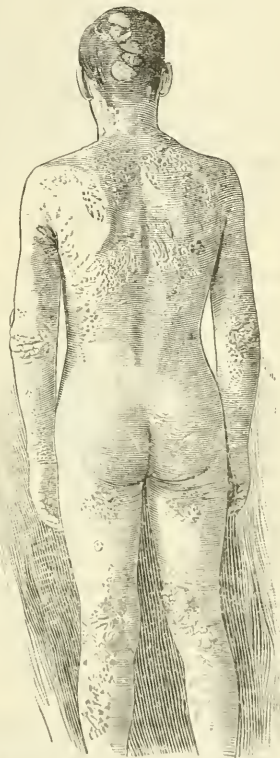
Upon the back of the head there was a large oblong patch of irregular outline, composed of flat tumors, measuring five by three inches in extent, and elevated nearly one-half an inch above the cutaneous level, the surface unevenly fissured and covered for the most part with epidermis. The color of this patch was pale red and its consistence soft and doughy, although at the time of their first appearance, these tumors were, according to the patient's account, much harder than when I saw them. The scalp, with the exception of the area taken up by this group of tumors, was thickly covered with hair.

The forehead presented a collection of several large, flat, red papules, which were combining to form a large circular lesion of slight elevation and covered with epidermis, but of harder consistence than those upon the scalp. Upon the right cheek, near to the angle of the mouth, was a tumor, circular in outline, elevated nearly an inch above the level of the surrounding skin and somewhat larger than a silver half dollar. Its upper surface was slightly convex, deprived of epidermis, of a pink color with shadings of yellow, studded with numerous red points and covered with a thin glaze, which was easily removed by friction or by the influence of warmth and moisture, thus allowing the escape of a reddish fluid, which upon exposure to the air again dried to a thin crust. In consistence this tumor was firm, being much more dense than those upon the scalp, the softness of which approached fluctuation.

Almost surrounding the neck of the patient was a broad collar of a dusky red color and nodulated surface, formed by the coalition of papules and tubercles, extending upwards, as far as the jaw, and below, draping itself with irregular outline upon the breast and shoulders. Just above the elbow joint, on the outer side of the left arm, was a moist tumor, similar to but smaller than the one upon the cheek, and immediately below it was a patch of combined papules and tubercles resembling those upon the neck. Upon the upper part of the back over the apex of the right scapula, on the right thigh below the fold of the nates, on the back of the left thigh and in the right popliteal space, were flattened tumors and groups of tubercles of various grades of consistence and covered with epidermis of a pale red color. There were many papules and tubercles isolated and in groups, in and about the axilla and groins, while the abdomen, thighs and arms were covered with erythematous spots and patches, interspersed with papules and tubercles, which varied in size from that of a small pea to that of a filbert. None of these lesions were pedunculated or connected with the skin by a narrow neck, but all were attached by a base as large or larger than their tops. On the right thigh and in the left groin were tumors which have already been described.

Although they presented much diversity in size and appearance, these lesions began as erythematous spots from which were gradually developed papules, at first

of small size, of pale red color and covered with smooth epidermis. Simple increase in the size of these lesions had transformed many of them into tubercles the size of a filbert, and several of them into veritable tumors. Wherever large numbers of such papules and tubercles came into contact with one another, they coalesced, forming patches of greater or less extent,



This plate is merely intended to show in a general way, the distribution of the eruption on the back.

irregular outline, with nodulated and fissured surface, and of a darker, more violaceous color than the primary and isolated nodules. For the most part these patches of conjoined lesions were covered with epidermis and only here and there were they excoeriated and oozing. In none of the cutaneous lesions was there any retrograde change represented by the formation of pus or by deeply destructive ulceration, although the softness of some of the tumors suggested a fluid or semi-fluid contents, and one of them having been incised, discharged a dark red, almost black, grumous fluid. The large and protuberant tumors were luxuriant growths, from the surface of which, in some instances, the epidermis had been cast off, exposing to view the pathological tissue of which they were composed, and from some of these excoeriated tumors there had been occasional hemorrhage of moderate amount. They resembled very much in appearance, although they greatly exceeded in size, the moist fun-

gous, oozing tubercles, which are sometimes met with in connection with parasitic syphilis. When exposed to the air the thin, slightly bloody fluid exuded from their surface, dried to a thin crust, which was easily removed by friction or moisture. Decomposition of this fluid caused the patient to oftentimes emit a strong and peculiar odor, which resembled the united smells of sour cabbage and Parmesan cheese, being exceedingly offensive.

Within two years there had been apparent to the patient painless enlargement of the lymphatic glands in the groins and axillæ. The inguinal glands of both sides were much enlarged, having attained the size of large almonds, while along the outer edges of the pectorales muscles and behind the ears over the mastoid processes, lymphatic glands were to be felt as large as good sized peas. This enlargement of the lymphatic glands was of indolent and painless nature and they were unattached to the surrounding tissues, forming subcutaneous tumors over which the skin was freely movable.

The patient suffered no pain, and the cutaneous lesions were not sensitive to pressure but were, however, attended with severe and widely spread itching, causing him to scratch vigorously, secondary lesions due to energetic use of the finger nails being manifest in several parts of the body. The patient was anæmic, the skin and mucous membranes being pale and the skin in general dry and rough. He complained of an unwanted feeling of weakness and easy loss of breath from slight exertion, together with violent beatings and palpitation of the heart, and the most trivial occurrence was oftentimes sufficient to throw him into a state of nervous excitement. There had been a loss of thirty pounds from the normal weight of one hundred and eighty pounds, but there was no emaciation, the patient's appetite was good, and there was fairly good performance of the digestive and excretory functions of the body. There were nowhere any cicatrices or atrophic spots on the skin, no cutaneous anæsthesia, no deafness nor failure of vision, and there had been no hæmorrhages from any of the mucous membranes, and no cough nor hæmoptysis. The result of the physical examination was as follows:

The ophthalmoscope detected nothing abnormal. The heart presented a systolic murmur heard over its base which was probably caused by anæmia, and there was sometimes irregular and rapid action of the organ, very likely due to the same cause.

The lungs were normal and the liver and spleen were not enlarged. The urine was found to be normal. Examination of the blood by Dr. Gannett showed the number of red globules in a cubic millimeter to be 3,722,000, and the number of white corpuscles 23,333, that is, moderate anæmia together with increase in the number of white corpuscles, giving a ratio of one white corpuscle to one hundred and fifty-five red, the normal ratio being about one white to five hundred red.

August 6th. The patient entered the hospital on the surgical side in the service of Dr. G. W. Gay, who kindly turned the case over to me. He was placed in one of the hospital tents, given the tincture of the chloride of iron, extra diet and received subcutaneously once a day, four minims of Fowler's solution of arsenic. Under these conditions he gained fourteen pounds in weight and rapidly improved as to his general condition, although no noteworthy change took place in the

state of the skin. The liberal use of an ointment containing one per cent. of carbolic acid gave him the most relief from the intolerable itching with which he was afflicted, more especially during the night. He left the hospital August 18th, but remained under observation until November.

August 30. Since leaving the hospital many of the erythematous spots which were upon the abdomen, thighs and arms had developed into papules.

September 5. Much of the diffuse erythematous redness about the chest had entirely disappeared, the restored whiteness of the skin contrasting in a striking manner with the red and violaceous color of the numerous papules and tubercles which were scattered about.

September 18. There was some improvement in the general condition, but no marked change on the part of the skin.

November 3. The patient complained of increasing weakness and shortness of breath upon exertion, which constrained him to remain quiet. A most striking change had taken place in several of the cutaneous lesions. The large tumor on the cheek near the corner of the mouth had entirely disappeared and its original site was covered with epidermis, while the largest tumor of all, that upon the right thigh, was also covered with epidermis and had diminished in size by nearly one-third. There was excessive desquamation all over the body and the inner surface of the thighs had assumed an eczematous condition, oozing in places and covered with yellow, honey-like crusts. There was also remarkable alteration in the appearance of the face which within a week had become extensively infiltrated, the skin being of a dull copper color and the countenance one of swollen rigidity, with effacement of the lines of expression.

This was the last time I saw the patient, as he afterwards disappeared, probably on account of the fatal and hopeless prognosis which he received in reply to a request for information as to his prospects. I afterward heard indirectly that he died in March of the present year, that is, about three years and eight months after the beginning of the malady. Before death he had been affected with gradually increasing exhaustion and diarrhœa. Two of the smaller nodules were excised while he was in the City Hospital and given to Dr. W. W. Gannett, pathologist to the hospital for examination, and the following is his report of their histological structure:

"Report on two nodules sent for examination by Dr. G. H. Tilden, August 13, 1884.

"Both nodules were hardened in Müller's fluid and later in strong alcohol. After the hardening process had been completed, the larger nodule measured 11 mm. in diameter, and was elevated 5 mm. above the level of the surrounding skin; the smaller nodule had a transverse diameter of 10 mm. and an elevation of 5 mm. The epidermis was intact upon them.

"A series of vertical sections was made with the microtome and then examined, stained and unstained, in various media. Sections were also brushed.

"Sections of the smaller nodule showed the following appearances:—

"All the layers of the epidermis, from the horny layer to the rete, were intact and showed no variation from the normal.

"The superficial parts of the corium, including the papillæ, showed the presence of masses of small round

cells arranged in groups of varying size and form, some being nearly circular, others irregular, others branching. In the centre of many of them a blood-vessel was to be made out. After brushing, these masses were found to be made up of a very delicate connective-tissue stroma, in the form of a fine mesh-work of connective-tissue fibres enclosing spaces. Each of these spaces enclosed one or two small round cells, having a large distinct nucleus with very little protoplasm about it.

"These cells correspond, morphologically, to lymph-corpuscles; their arrangement in the mesh described, makes this a cytogenous or lymphoid tissue.

"Where the above described patches were small and isolated the interlying connective-tissue of the corium showed nothing unusual. Where they were larger and in closer proximity, the intervening tissue of the corium was found to be converted into bundles of well-marked spindle-cells lying parallel to one another.

"In the deeper layers of the corium nothing remarkable was observed beyond a slight degree of round-cell infiltration of the adventitia of some of the blood-vessels. In the sub-cutaneous connective-tissue no appearances varying from the normal were discovered.

"Sections of the larger nodule showed appearances varying from those in the smaller nodule as follows:—

"The epidermis was intact.

"The papillae on the peripheral parts of the nodule were distinct; those in the central part, however, were very small; the rete Malpighi presenting a wavy line. This change was undoubtedly due to the pressure of the growing tissue beneath.

"The upper half of the corium was at least three times the usual thickness and was wholly occupied by a cytogenous tissue like that described in connection with the smaller tumor.

"This large area of lymphoid tissue was subdivided into smaller ones by narrow bundles of parallel-lying spindle-cells, which by anastomosis formed a coarse reticulum, having much the same relation to the lymphoid tissue that the reticulum of a lymph-gland has to its follicles.

"In parts of the lymphoid tissue were to be seen numerous red blood-corpuscles which from their arrangement were evidently contained in vessels, that is, in capillaries.

"The lower half of the corium, that portion bordering on the subcutaneous connective-tissue, showed many patches of lymphoid tissue, large and small, and of the greatest variety of form. Where this tissue was not present in patches one could make out round-cell infiltration in the spaces between the larger connective-tissue bundles and elastic fibres.

"In the subcutaneous fat-tissue the adventitia of the blood-vessels showed here and there round cell infiltration.

"The process in the larger nodule is evidently the same in character as in the smaller one, only more advanced. One has to do in both nodules with the development of a true lymphoid tissue in the corium; that is, a lymphoma.

"In neither of the nodules was any evidence of a neoplastic or degenerative change discovered.

"Several months after the histological examination of the above specimens had been made, Kündeleich and Auspitz announced their discovery, in lymphomata like the above, of micrococci, which they claim are the specific micro-organisms of this affection.

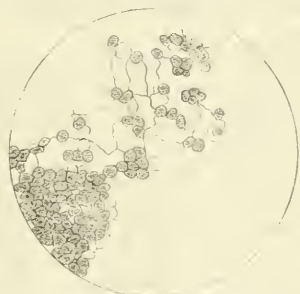
"Although the nodules now described had been hardened in Müller's fluid and alcohol and were consequently much less adapted than fresh specimens or those hardened in absolute alcohol for demonstrating micro-organisms, yet the attempt was made to find them.

"Thin microtome sections were stained in Ehrlich's gentian-violet solution, then treated by Gram's method and examined in benzol balsam with an Abbe illuminating apparatus and a Zeiss 1-12 oil-immersion, but with a negative result.

"Sections were kept in alcohol for two months, then stained with an aqueous solution of methyl-blue, partially decolorized in alcohol and examined as before, but with a like negative result.

"Of course no special weight is to be attached to negative evidence in specimens hardened as the above were."

W. W. GANNETT, M.D.



Portion of brushed section showing the fine network of connective tissue present in the tumors, and the character of the cells of which the latter were composed. Drawn with the help of a camera lucida, Hartnack ocular iii, objective vii.

The first description of this disease by Alibert, was published more than fifty years ago, and since that time a sufficient number of cases have been placed on record to furnish us with a good picture of its clinical aspects. There is no instance of the malady having occurred in more than one member of the same family, and as a rule, the sufferers therefrom have been healthy individuals, free from venereal disease and of good family history, so that the elements of heredity, contagion, and syphilis may be eliminated from consideration.

In addition to the case reported in this paper, I have been able to find accounts more or less complete, of twenty-nine instances of this malady. The deaths of sixteen of these cases have been recorded, and the results of eleven autopsies have been published. One case of recovery is mentioned by Bazin as having taken place after an attack of migrating erysipelas, the patient remaining well for several years afterward, and the other cases were lost sight of, many of them in a condition which gave no hope of recovery.

Of these thirty instances of this disease, twenty-three occurred in males and seven in females, a remarkable disproportion in the matter of sex. The malady shows a tendency to develop in late adult life, more than one-half of the whole number of patients being forty years of age or over, at the time of the appearance of the disease. Of the remaining cases, one-half occurred in individuals of over thirty years of age, so that in only about one-quarter of all the cases, has the affection developed before the thirtieth year. The most advanced

age at which the disease has been known to occur is sixty-eight years, which was the age of Demange's patient; and there is no instance of its having developed before the twentieth year, if we exclude the case of an infant, reported by Landonzy to the Soc. de Biologie, which case has not been included in the above collection on account of its doubtful and exceptional character. The duration of the disease is usually from two to four years, with the extremes of two, four and five months in the cases reported by Galliard, Naether, and Debove, respectively; and of eight years, in one of Hardy's cases, mentioned by K  bner, and twelve years, in a case of Bazin's, reported by Guerard and Lorda. In a remarkable instance of this malady published by Port, there had been for thirty years, beginning with the fifth year of life, an almost continual manifestation of the various kinds of inflammatory, cutaneous lesions, and it was not until his thirty-fifth year, about six months before his death, that the characteristic fungous excrescences of mycosis fungoide began to show themselves.

The disease usually begins with the appearance on any and all parts of the body, of cutaneous lesions, which present no special characteristic by which they may be distinguished from changes which are met with in other and common affections of the skin. They may either be erythematous and urticarial in nature; may resemble eczema in being vesicular, moist, and covered with crusts, or may simulate psoriasis and lichen, by reason of their dry, infiltrated, and scaly character. At first, of a more localized and temporary nature, these lesions in the course of time, become more numerous and more tenacious of place, attended with greater thickening of the skin, and accompanied by pruritus of extreme severity, which is the only subjective symptom of which the patients complain. There are, however, exceptions to the above general rule, and the affection may begin with the immediate appearance of the tumors which are peculiar to it. Such was the case in the instances of this affection published by Demange, Galliard and Debove, which seem to have been of more acute development and shorter duration than usual. In two of these three cases, the tumors appeared first upon the breast, in the other upon the head; and in two of them there took place very early in the malady, extensive infiltration of the skin of the face, giving to the countenance the so-called leonine expression, seen in leprosy and scleroderma. After a longer or shorter period of time, during which the patients suffer from these apparently inflammatory changes in the skin and the attendant pruritus, and during which time there not infrequently occurs temporary cessation of symptoms, there appear the strange growths which are peculiar to mycosis fungoide, which foreshadow its fatal termination, and before the arrival of which, a diagnosis is impossible.

These tumors may arise either from pre-existing pathological patches in the skin, or they may develop in cutaneous regions which have hitherto been unaffected by disease. They consist in well-defined, rounded elevations of the skin, at first moderately firm and elastic in consistence, covered with smooth epidermis of a pale red color, and their attachment to the skin by a pedicle or narrow neck is very exceptional. They remain confined to the skin and are always movable with it, even in the most advanced stage of their development. After they have attained a certain size, which, as in the present case, may be considerable, they remain un-

changed for a long period of time; but there takes place in some of them, sooner or later, a change which is one of the most notable features of the disease, namely, their disappearance by absorption, which may coincide with the appearance and growth of similar tumors in other parts of the body. When these growths have reached a large size, the epidermis may be cast off, as in several tumors of the present case, and superficial erosion occur; this process, however, not being inconsistent with the integrity of the tumors affected by it, which retain their size and shape, constituting the moist, fungous excrescences peculiar to mycosis fungoide. This form characterized by superficial loss of substance, is the more common variety of retrograde change, but there may also occur rapid and extensive destruction of these tumors, in which case they soften and open externally, thus forming large, suppurating, cutaneous ulcers.

In most of the cases, there has been painless enlargement of many of the lymphatic glands to a greater or less extent, and like the cutaneous tumors, this lymphatic enlargement may disappear by absorption. As a rule, the general condition of the patient is unaffected until after the appearance of the tumors; but eventually they become anemic and debilitated, toward the end appear fever and diarrhoea, which together with increasing exhaustion, and in some cases, the formation of extensive and suppurating ulcers of the skin, close the scene, death generally taking place from marasmus.

Such is the clinical course of a malady, the pathological nature of which has given, and still offers sufficient opportunity for speculation, and the information furnished by the microscopic and post-mortem examinations remains to be considered. The results of microscopic examination of these tumors agree in showing the epidermal layers of the skin to be in a normal condition, but sometimes thinner than usual; the papillae flattened and broadened, but well defined in most cases; and an infiltration of the connective tissue of the corium with round, granular, nucleated cells, resembling leucocytes in appearance. These cells may be disposed in groups and gathered around the blood-vessels, an arrangement which is more apparent in sections taken from tumors before they have reached an advanced stage of development, in which latter event, the cellular infiltration may extend as deep as the subcutaneous fat-tissue, in some cases replacing entirely the normal structure of the corium. Blood-vessels, hair follicles, and cutaneous glands may sometimes be seen imbedded in this collection of cells, and their sheaths infiltrated with similar elements. Ranvier was the first to detect and call explicit attention to the existence in these tumors of delicate, connective-tissue fibres, anastomosing so as to enclose spaces nearly circular in form, in which lie the lymphoid cells, a structure such as was found by Dr. Gannott in the specimens from the present case, and which is considered to be characteristic of cytogenous tissue. The existence of this meshwork has been remarked by all of the French observers, and the fact that careful brushing of thin sections is necessary to determine its presence, may account for its having been overlooked by several investigators.

The most noteworthy fact to be derived from the autopsies is the negative one of the absence in any of the internal organs of metastatic growths similar to those in the skin. The nearest approach to such a condition of things was found in the autopsies reported

by Dühring and Galliard, in each of which was detected in the walls of the bladder, beneath the mucous membrane, round-cell infiltration resembling that in the skin, while in addition to this Galliard describes the presence in the heart, lungs, liver and testicles, of small circumscribed collections of leucocytes, "apoplexies lymphatiques," the character of which was determined by the microscope. In one case only, that of Debove, were the tonsils the seat of ulceration, following an enlargement of these glands which had been apparent during life. In the great majority of cases there was found increase in size of the lymphatic glands in various parts of the body, a change which the microscope has shown to be of the nature of hyperplastic enlargement. In two instances some of these enlarged glands were found to contain small collections of pus and there was also purulent infiltration of the surrounding connective tissue. In only two cases was the spleen notably enlarged, in three cases it was slightly increased in size, and in the rest, of normal dimensions. The details with regard to changes in the other internal organs are slight and possess no special significance.

The theories with regard to the pathological nature of mycosis fungoïde are three in number:

- I. That it is generalized sarcoma of the skin.
- II. That the new formation of lymphoid tissue in the skin renders the disease a variety of pseudo-leukæmia.
- III. That the new growths are so-called infective granulomata of the skin, that is, young connective-tissue tumors associated with the presence of special microorganisms.

As to the first hypothesis, the weight of evidence is against the disease being sarcomatous in nature. The clinical course of the disease and the appearance of its cutaneous lesions are unlike the same factors in the cases of multiple sarcoma of the skin as described by Köbner and Kaposi. The curiously unstable character of the pathological products of mycosis fungoïde, their comparatively rapid appearance and subsequent disappearance by absorption and by necrosis, are conditions not usually observed in connection with sarcomata which, generally speaking, are permanent and stable growths. The microscopic structure of the tumors of mycosis fungoïde is that of a lymphoid tissue rather than that of typical sarcoma, while the absence of so-called metastatic growths is the absence of what is one of the most marked tendencies of some varieties of sarcoma.

With regard to the affection being leukæmic or pseudo-leukæmic in nature, this theory is based solely upon the microscopic structure of the tumors of mycosis, more particularly upon the presence therein of a finely-meshed cell holding reticulum, such as is found in lymphatic glands and in cytogenous tissue, generally so called. So little is known as to the true nature of leukæmia and pseudo-leukæmia that speculation as to their possible relationship with mycosis fungoïde is rather barren of definite conclusions, but it may be said that something more than the knowledge of the minute structure of pathological products at any one stage of their development, is necessary to render evident their pathogenesis. In none of the very few cases of mycosis fungoïde, in which the blood has been examined, has there been found sufficient increase in the number of the white corpuscles to constitute typical leukæmia, while in only two of the autopsies has there

been found notable enlargement of the spleen, an enlargement which together with that of the lymphatic glands is an essential feature in pseudo-leukæmia.

A remarkable case, which demands attention in this connection, has recently been published by Kaposi, as a hitherto unrecognized form of disease, under the name "Lympho-dermia perniciosa." Up to a certain point the features of this case bear some likeness to those of mycosis fungoïde. There was the same preliminary manifestation of chronic inflammatory changes in the skin attended with pruritus and lasting a year, followed by the development of numerous cutaneous tumors and enlargement of the lymphatic glands. The tumors in this instance, however, did not disappear by absorption or form the typical moist fungous excrescences of mycosis fungoïde, but simply softened, opened and formed suppurating ulcers.

In addition to the above phenomena, these ultimately developed undoubted evidence of leukæmia, which was confirmed by the autopsy.

There was marked increase in the number of the white blood corpuscles, the spleen was found after death to be four times its normal size, and nodules were detected in the lungs, pleura and medullary cavities of the bones, which together with the cutaneous lesions were shown by the microscope to be composed of cytogenous tissue. The only other instance in which the development of lymphoid tumors in the skin accompanied the course of typical leukæmia was in a case reported by Biesiedeckí, in which case there is no mention of retrograde change in any of the tumors, the appearance of which was preceded by the development of the general leukæmic condition, and not as in Kaposi's case, followed by it.

Within the year Rindfleisch and Auspitz have each described the existence in the pathological products of mycosis fungoïde, of microorganisms, the presence of which is considered characteristic of the so-called infective granulomata, represented by tubercle, lupus, leprosy, rhinoscleroma, and most recently of all, syphilis. Rindfleisch describes them as streptococci, which he expressly states are to be seen only within the blood vessels, the plugging of whose calibre by these microorganisms is sufficient in his opinion to give rise to the cellular infiltration of the surrounding tissues, while their removal by the force of the blood current, is supposed to account for the peculiar disappearance by absorption of the lesions of mycosis fungoïde. Auspitz, on the other hand, using the same methods of staining, states that there exist large numbers of micrococci in the pathological tissue outside of the blood vessels. It is impossible to avoid the suspicion that the presence of these micrococci, mentioned by Auspitz, is simply accidental. There is nothing to be said concerning the latest theory, except to remark the discrepancy between these observations, and bearing in mind the prevalent rage for the detection of microorganisms, to await further developments. It is possible that these observations point in the wrong direction; it is not impossible that therein may eventually be found the answer to the naïve question of Demange with regard to mycosis fungoïde. "*N'y a-t-il donc pas là quelque chose de spécial qui nous échappe encore ?*"

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## THE RAPID FATALITY OF TUBERCULOSIS WHEN INVOLVING THE PHARYNX.

BY THOMAS AMORY DE BLOIS, M.D.

It would be a waste of words to speak of the usually fatal termination of Tuberculosis in general. No case of undoubted Laryngeal Tuberculosis has ever been known to recover, but when the tubercle implants itself in the mouth or pharynx, the fatal termination is as noticeable from the rapidity with which it supervenes as for its inevitability.

In proof of this I would bring to your notice the following cases:

CASE I. William M., a messenger, employed at the City Hospital, about nineteen years of age, was

frequently treated by me during the spring of 1884, at the City Hospital Out-Patient Department for catarrh of the pharynx and larynx. There did not seem to be the usual small amount of improvement which follows the treatment of these cases. There was a good deal of cough, but although I never examined the lungs, I understood that they were supposed to be somewhat affected. He soon after left the hospital, as I believed, to seek improved health in the West. He went, however, to New Hampshire, and after his return came to the Throat Clinic at the City Hospital, where I saw him the last of February.

On examination I found three deep ulcerations of the posterior wall of the pharynx and the bottom and ragged edges of these were studded with small yellowish spots which were apparently tubercle in different stages, some broken down and some not. The larynx, although greatly swollen, did not show any ulcerations or tuberculous nodules.

From the records of Dr. F. W. Draper's ward, in which this patient was, I quote the following notes of the case:

"On examination 19th. William M., aged twenty, single, born in Boston. Father, mother and two sisters died of consumption. Does not drink, except a little beer. No venereal history; always well up to a year ago, then began to cough and have pain in the right lung. Eight years ago raised a tablespoonful of blood, bright red in color, not clotted, and it came up without coughing. Patient has had night sweats for about a year, cough has grown worse for about three months, has lost twenty-eight pounds in the past year, complains of sore throat and catarrh. Temperature 101, pulse 90, respiration 28. Urine normal. Lungs showed physical signs of incipient phthisis in both upper thirds, more marked in left than in right. Patient was put on oil malt, cough mixture, atrophy, etc.

"February 28th. Examination of throat by Dr. De Blois shows it to be Pharyngeal Tuberculosis. Epiglottis and aryepiglottic folds swollen, but very little ulceration.

"March 15th. Application of four per cent. solution of cocaine gives temporary relief.

"March 20th. Examination by Dr. J. Orne Greene showed chronic purulent inflammation of right tympanum, and was syringed out with one to eighty carbolic acid solution.

"March 29th. Slow retrogression, growing weaker.

"April 7th. Amphoric respiration and tympanic resonance in cardiac area, failing fast. April 7th. Discharged, dead, no autopsy."

As to the local treatment of this case, which I saw from day to day whenever the patient was able to come to the Out-Patient Department, it consisted mainly in the careful cleansing of the pharyngeal ulcerations, and whenever possible, the insullation of iodoform, under which treatment they somewhat diminished in size, but in this case, as in a case of laryngeal tuberculosis which I treated, iodoform appeared to distress the patient.

I cannot speak too highly of the action of a ten per cent. solution of cocaine which I used; it so relieved the dysphagia that deglutition became possible, and the patient came to have his pharynx painted immediately before his dinner so as to be sure of having one good meal during the day.

Shortly before his death, which it will be observed occurred within two months after the appearance of

the pharyngeal ulcerations, there were some small ulcerations on and around the larynx.

CASE II. Mrs. Rosa B., aged twenty-nine, consulted me at the Boston Dispensary on July 8th of this year. She said that she had been suffering for some time past with a sore throat. Upon examination I found the entire soft palate studded with small canary-colored points about as large as the head of a good-sized pin, and many of them larger. Some had pushed their way to the surface of the mucous membrane, in fact protruded above it, so that when the patient's head was slightly moved, it was easily seen that they were projections. As they approached the lower border of the velum, they were in most cases broken down, and discharged a thin, watery secretion. The uvula presented a surface covered with ulceration.

These masses of tubercle covered the anterior pillars of the fauces and the edges of the tongue at their junction with it. The walls of the pharynx seemed to be free from the disease.

On examining the larynx, the epiglottis showed three or four spots at its upper border and the aryepiglottic folds contained two or three, but these were in a far less advanced condition than those on the velum.

This examination was repeated by Drs. Leland, V. Bowditch, Bullard and others. Dr. Bowditch made an examination of the chest for me and found dullness and crackles in the left clavicular region.

The patient was at this time far advanced in pregnancy and I ventured the assertion, to her friends, that she would remain about the same until after parturition, and would not long survive that event.

Deglutition was not very painful, and the patient was moderately well nourished. She stated that the sore mouth had only been of three weeks' standing. Her family history, as regarded phthisis was very bad. There was no suspicion of syphilis. She further stated that she had been examined at the Carney Hospital, and Dr. Bullard, who saw her, has kindly furnished me the following notes.

June 22d, 1885. Rosa B. Phthisis, Follicular Pharyngitis and Uvulitis. Has sore throat; has had a cough for three months, now slight; hæmoptysis ten days ago; pain in left side; catarrh of left eustachian tube; dullness with moist râles and bronchophony in right front; bronchial respiration with dullness left apex behind; bowels regular; prescribed Hypophosphites, etc.

The subsequent history of this case was not a long one. As I had anticipated, she did pretty well until the birth of her child, about five weeks after my first examination, then the disease advanced with great rapidity, the ulceration of the tubercles rapidly increased until the mouth was filled with this suppurating mass. Nourishing the patient became next to impossible, and she died from exhaustion on September 7th, three weeks after parturition, and less than three months after the first trouble in the mouth was observed.

The treatment was about the same as in the first case, food and opium, and iodoform and cocaine locally.

Reviewing two other cases reported by me in a paper read before the American Laryngological Association, May, 1884, and making a brief synopsis of their histories.<sup>1</sup>

The first was that of a man of thirty, who noticed

a soreness of the palate in December, 1882, and died from exhaustion at the Carney Hospital on the 8th of March following, a little over four months.

The second was that of a young woman of twenty-four, who, having been under treatment for Laryngeal Tuberculosis, developed about the first of September, 1883, a tuberculous ulceration of the right tonsil. She was received at the City Hospital and there died from exhaustion on the 22d of October following, or within two months after the pharyngeal deposit.

There have been from other sources, generally European, about twenty-five cases reported, and these almost always with rapidly fatal terminations.

Whatever the results may have been from the treatment of tuberculosis of the lungs there has been but one in the variety of which I speak, death has inevitably ensued, and in the four cases which have come under my care, have, by but little exceeded three months in time. Indeed, so invariably has this been, that should a case be reported terminating in recovery, it would be sufficient ground for distrusting the diagnosis.

That this rapid fatality can be accounted for on the score of the interference with nutrition is hardly true, for severe laryngeal ulcerations certainly make deglutition much more difficult, and yet the duration of life in such cases, I have found somewhat longer.

There seems to be an amount of distress inherent to the pharyngeal ulceration which we find under no other circumstances. In both of the first cases mentioned, although the tubercles had invaded the larynx, yet the voice was not interfered with beyond a slight hoarseness, and it was not from the larynx that the pain in swallowing proceeded.

## CASES OF GLYCOSURIA.

BY J. B. AYER, M.D.

I WILL venture to define glycosuria as a *symptomatic* form of saccharine diabetes where polyuria is absent, or, if present, soon disappears, which yields to treatment though subject to relapse, and does not affect unfavorably the general health.

In importance it rests between the *temporary* form of diabetes (connected with weaning, with convalescence from acute disease, etc.), and *true* diabetes with polyuria, excessive thirst and emaciation.

A recent writer upon the subject of diabetes, Satterthwaite (*Medical Record*, April 11, 1885.) states that cases of this kind are comparatively uncommon, but *occasionally* occur among old and obese men, though sometimes in the middle period of life. I believe, however, that glycosuria is by no means rare among the middle-aged and old, and that it often exists for a long time unrecognized.

Whether the different forms of diabetes should be grouped together pathologically will be discussed later.

I will give a brief account of four cases of glycosuria seen during the past year.

CASE I. October 2, 1881. I was attending a lady sixty-five years of age for a mild attack of bronchitis. She was exceedingly nervous, at times her nervous system was with great difficulty kept under control. She was well nourished with a tendency to corpulence. When she mentioned that she was troubled with pudendal irritation I examined the urine and found a large amount of sugar, although the amount of urine did not

<sup>1</sup> New York Medical Journal, November 8th, 1884.

exceed the normal. She told me that she had always been very fond of sugar, keeping it in her room and consuming three pounds each week, in addition to the ordinary amount required in cooking!

From November 1882, to April 1883, she was under the care of Sir Andrew Clark of London, for "nervousness and acid urine." He gave her a written statement (twenty months before I saw her) that an excess of uric acid was present in the urine, but that he had never found sugar.

Dr. E. G. Cutler early examined a specimen of the urine with the following result: acid; sp. gr. 1041; urea, chlorides, sulphates, and earthy phosphates, normal; albumen, a faint trace; sugar, twenty-two grains to the ounce. By microscope, torula spores, flat epithelium, a few leucocytes, and a couple of narrow hyaline casts. The albumen and casts evidently had no connection with disease of the kidneys.

A week later she had recovered from the bronchitic attack. The urine was normal in amount, acid, sp. gr. 1035, contained no albumen but seven per cent. of sugar.

When I found the large percentage of sugar I was alarmed in regard to her condition, especially as she was unwilling to restrict herself in the matter of diet; insisting upon still taking what most persons would consider a satisfactory amount of starch and sugar. Moreover she kept the house and could not be induced to go out of doors.

I was much surprised, as well as gratified to find that, in spite of neglecting my advice, she enjoyed good health during the winter.

April 29, 1885, I found that she had a poor appetite and was somewhat debilitated, and also noticed a slight roughness of the finger-ends. Gave tonic treatment. June 25, 1885, patient again needed a tonic mixture, although she was no more debilitated than could be expected from her voluntary confinement to the house.

The urine at this time contained seven and one-half per cent. of sugar. Less than three pints in twenty-four hours was voided.

August 29, 1885, she reported that she had taken a daily walk during the preceding two months, and had been out of town for a few days.

Although very careful in all other particulars, and anxious regarding her health, she did not wish to speak of the diabetic condition, although she admitted that pudendal irritation was present.

As she has improved in every respect, (especially in regard to the nervous symptoms,) and probably has not enjoyed such good health for several years, we have tacitly ignored the subject of glycosuria, although I have no doubt that the urine still contains a large percentage of sugar.

CASE II. Gentleman, forty-eight years of age, has been under my care four years for sequelæ of syphilis contracted in 1875. He is corpulent; height five feet seven inches; chest measurement, inspiration, forty-two inches; expiration thirty-nine inches; waist, forty-two inches; weight fluctuation during past four years between one hundred and ninety-seven and one hundred and eighty-five, present weight one hundred and eighty-seven.

From July to November, 1880, I treated him for squamous patches upon the hands; in October 1881, for blotches on the hands; during the summer of 1883 for a slight induration of lower lip; in November and December, 1884, for an eczematous patch on the wrist, and superficial ulceration of lips.

He bore iodide of potash well, but could take only small doses of mercury. The mercury, however, was more effective.

Examinations of urine in 1880 showed specific gravity fluctuating between 1015 and 1023: it was not thought necessary to examine for sugar.

November 30, 1884, he casually mentioned that he was slightly troubled with irritation at the end of the urethra, and said that for some weeks he had been more thirsty than usual. The amount of urine was found to be normal, but containing 2.08 per cent. of sugar. He was asked to partly abstain from starch and sugar.

December 1. Amount of urine three pints; sugar 5.35 per cent.

December 6. Urine two pints. Sp. gr. 1038. 6.9 per cent. sugar. He was placed upon full diabetic diet and ordered Clemen's solution of arsenite of bromine, three minims, largely diluted, after each meal.

December 19. No sugar.

December 26. Is allowed one slice of crisp toast, one lump of sugar, and one potato daily. Urine sp. gr. 1027, contains a trace of sugar.

January 2, 1885. No sugar.

January 4, 1885. 1019, minute trace of sugar.

January 11, 1885. 1021, no sugar.

January 22, 1885. 1027, no sugar.

January 25, 1885. 1023, no sugar.

February 4, 1885. 1029, trace of sugar.

February 22, 1885. Passes two pints in twenty-four hours, no sugar.

The urine was examined after eating. He said that he noticed a good effect from the rigid diet. Four years ago, (shortly before he came under my care,) he had been treated for uric acid diathesis. I had never found an excess of uric acid in his urine, but some myalgic symptoms and (as he expressed it) a "logy feeling of the bowels," were probably connected with the uric acid tendency.

Patient attended to his business regularly during the spring and summer, returning gradually to his usual diet, which did not include an excess of hydrocarbons.

I did not see him professionally during this time, but called upon him September 12, and asked him for a specimen of his urine. "I will send it if you wish," he replied, "but I do not believe it is necessary to examine it as I have not felt so well for many years as I do now."

The specimen contained two and one-half per cent. of sugar, and a decided layer of albumen, but no casts. Amount less than normal. He was again placed upon full diabetic diet and Clemen's solution.

September 26. Urine less than three pints daily. Acid 1022; no sugar. Decided layer of albumen; urea about normal; nothing abnormal on microscopic examination.

October 4. Urine three pints; acid 1018; no sugar. Less albumen, although a decided trace. Microscopical examination negative.

He was ordered to continue diabetic diet, but to substitute for Clemen's solution small doses of biniodide of mercury with iodide of potash for psoriatic patches upon the wrist.

CASE III. Gentleman, sixty-seven years of age. Was under my care two months in the early part of the present year for cystitis and prostatitis accompanied by the usual nervous excitement.

Although he took a large amount of fluids at first, I never found an excess of urine. At times less than three pints of urine was voided in twenty-four hours.

When I first began to examine the urine the specific gravity of specimens passed after meals fluctuated between 1027 and 1030 and contained two per cent. of sugar and a large sediment of pus.

Under a restrictive diet (containing however, a large amount of milk,) and Clemen's solution, the sp. gravity fluctuated between 1019 and 1025, and the percentage of sugar was lowered to 1.68 and less.

Taking into consideration the nervous state, which accompanied the disease of the urinary organs, I was surprised to find the glycosuria kept well under control, and could not believe that it was a symptom of importance in the case.

CASE IV. Gentleman, over fifty years, has suffered from neuralgia and myalgia, and has passed an excess of uric acid.

May 13, 1885, he told me that he had recently noticed a sticky deposit on his linen, and said that there was slight pruritus about the meatus urinarius. He had always been a great water-drinker, and was then drinking somewhat more than usual.

He had always taken sugar to excess. The urine, passed two hours before dinner of that day, had sp. gr. 1035 and contained 6.9 per cent. of sugar. Urine passed one hour after the completion of dinner was of sp. gr. 1034, and contained five per cent. of sugar.

For a few days he voided a little more than the normal amount of urine, but soon the amount was reduced to three pints in twenty-four hours.

At first I allowed a limited amount of starch and sugar in his diet.

June 9. Urine had sp. gr. 1027; sugar two and six-tenths per cent.

July 3. 1022, no sugar.

July 16. 1028, about three per cent. of sugar.

July 22. 1027, trace of sugar.

He was now placed on Flint's dietary and milk, and given Clemen's solution, three minims three times daily.

August 5. Urine strongly acid; sp. gr. 1025; minute trace of sugar; the sediment contained uric acid crystals, appearing microscopically as flat chisel-ended plates, the edges of the crystals modified by the saccharine urine as described by Dr. W. M. Ord.

August 10. The urine was acid, sp. gr. 1027, and contained one per cent. sugar. Patient had been indulging in green corn.

August 14. It was acid; sp. gr. 1026, and contained a minute trace of sugar.

August 22. For the first time during the three months of treatment there has been noticed an increased amount of urine and a large amount of sugar.

On inquiring I found that it was due to a temporary nervous condition depending upon anxiety.

September 3. Normal amount of urine but a large percentage of sugar.

September 11. Urine acid; sp. gr. 1019; no sugar, is feeling remarkably well.

September 19. Acid; 1026; no sugar; microscopically, a few oxalate of lime crystals; urea normal.

September 30. Sp. gr. 1026; no sugar.

The influence of the mind and nervous system upon the glycosuria was very marked. Patient had not for years suffered so little from neuralgic symptoms. The

loss of a few pounds of flesh has improved his general health. He is a very active business man, and has not been in better health for many years.

I am greatly indebted to T. Metcalf & Co., for the numerous quantitative analyses of sugar reported.

These four patients whose ages range between forty-eight and sixty-seven, are all in a position to give themselves the best of care, and none have ever taken alcohol to excess.

They are all stout; the waist measurement corresponding to chest inspiration more closely than to expiration.

In each case the discovery of sugar in the urine was a surprise to me, for the thirst and polyuria were absent or of short duration, and none of the debilitating symptoms which accompany diabetes mellitus were present; on the contrary the three cases I am following have, while losing a few pounds of superfluous flesh, gained strength in a marked degree and now enjoy better health than for many years past. The gentlemen are very active business men.

In all these cases the uric acid diathesis, and in three the functional disturbance of the nervous system preceding the discovery of sugar in the urine were strong proofs that the glycosuria was *symptomatic* in character.

Claude Bernard stated: "The glycosuria which is accidental, *symptomatic*, and transitory, does not constitute the special disease for which the name of saccharine diabetes ought to be reserved; it no more constitutes diabetes than albuminuria when symptomatic of the heart, or serious fevers, constitutes the special affection, Bright's disease."

Prout stated as long ago as 1810, that "A saccharine condition of the urine is much more common in dyspeptic and gouty individuals than is supposed. I have seen many cases of the kind in old people, and my experience is that glycosuria occurring in advanced age in gouty persons is not the terrible symptom which it is often held to be."

The direct dependence of glycosuria upon an uric acid diathesis has been recognized by several writers.

Dr. Dyce Duckworth in his paper (in St. Bartholomew's Reports for 1879) upon "Some irregular Manifestations of Gout," speaks of the importance of the relation undoubtedly existing between the gouty diathesis and glycosuria.

"I believe," he says, "that many cases of temporary glycosuria are due to gouty conditions. The fleeting presence of glucose in the urine of many elderly persons may be thus explained. It has long been recognized that such an affection, which in many cases is undeserving of the name of diabetes mellitus, for the simple reason that there is no diabetes in the strict sense of the term, is not really a grave one. The presence of glucose is found to alternate with that of uric acid. In the aged but little importance should be attached to the symptom — under forty years of age, however, glycosuria, even of gouty origin, is a most grave matter."

Charcot speaks of uric acid gravel or gout *alternating with diabetes*, and speaks of this form of diabetes as "in general relatively benignant, especially if the patient follow a suitable diet."

The nervous element was a still more important etiological factor in the three cases.

All writers agree in maintaining that prolonged nervous excitement, worry, mental strain, or mental shock are frequent causes of glycosuria.

Senator states (Ziemssen's Cyclopaedia) that "psychical impressions have proved the immediate occasion of the disease or have aggravated it after temporary improvement has taken place—as well those of *sudden occurrence* like fright, anxiety, or anger, as those of *longer duration* like grief, solicitude, and cares. Examples of this were known to T. Willis (1645) and in subsequent literature they are found constantly repeated in great number, especially in times of stirring or shocking events. For instance, the period of engrossing stock speculation in Berlin exerted an unmistakable influence upon the development or the aggravation of diabetes. Immoderate mental strain, too, is occasionally specified as the only ascertainable cause."

It has been shown by experiment that a diet containing starch or sugar in great excess may cause glycosuria.

In two of our cases the patients have always eaten an immoderate amount of sugar.

Case two brings up the question whether or not syphilis is a predisposing cause of glycosuria.

Blau (Schmidt's Jahrbücher, 1884), states that the connection between syphilis and diabetes has been but rarely observed, very few autopsies showing an etiological connection. He agrees with Scheinmann that "Diabetes can hardly be considered of syphilitic origin without brain lesions."

There have never been any symptoms of cerebral disturbance in our case.

We come now to the interesting question whether diabetes mellitus and glycosuria are alike from a pathological standpoint. Are they essentially the same disease, differing in degree only?

It is humiliating to answer that in spite of the time and study given to the subject during the past few years by eminent observers we must still admit our ignorance of the exact pathology of diabetes. We do not yet know that it is a *distinct disease* having definite lesions.

In 1848 Claude Bernard proved that puncture of the fourth ventricle of the brain produced hyperaemia of the liver and glycosuria. The connection between the brain and liver, as stated by Silver, is by way of sympathetic fibres in the medulla oblongata which descend in the spinal cord to the lower cervical or upper dorsal vertebra, thence to leave the cord to join the gangliated sympathetic and so ultimately to reach the liver.

Irritation of the brain in the neighborhood of the fourth ventricle cannot be the most frequent cause of glycosuria, for Dr. Windle who examined one hundred and eighty-four records of autopsies of diabetes where the brain was examined, reports that in ninety-one the brains were apparently normal. In twenty-three per cent. only were there lesions of the medulla oblongata, and no one change was seen in more than four cases. He found greater diversity in the lesions of the brain than in any other organ.

The same observer reports seventeen examinations of the sympathetics, in nine of which the ganglia were found abnormal. Five of the nine showed an increase of connective tissue and thickened cell-capsules, with diminution of cells and of medullated fibres in ganglia.

The sympathetic system is deservedly receiving the most attention in connection with the etiology of diabetes.

Dr. Hale Whyte reported (*Lancet*, London, December 20, 1884), four cases of diabetes mellitus where

microscopic examination showed abnormal sympathetics usually of a chronic inflammatory character.

Dr. Windle also found that, in eighty-four of two hundred and twenty livers examined, microscopical examination failed to discover any change pathognomonic of diabetes. In only sixty-nine cases was congestion with or without enlargement, found.

In 115 cases out of a total of 271, the kidneys showed no pathological signs which could be connected with diabetes.

In the pancreas the changes were in the direction of atrophy, only sixty-five out of 139 being normal.

The *Lancet* draws the following conclusions from the debate upon the pathology of diabetes at the London Pathological Society in 1883:—

"Diabetes is not associated with definite structural lesions of any organ; it is due to disturbance of functions of the liver brought about apparently by a peculiar condition of the circulation in that organ; this condition, vaso-motor paralysis, can be induced experimentally in the living animal.

"The question was left open whether in diabetes this vaso-motor paralysis is caused *directly* by disease of the sympathetic or *indirectly* by the action of some chemical fault originating in the chylipoetic viscera or in the blood itself."

Albuminuria frequently occurs in connection with glycosuria. It was unexpectedly found in cases one and two. According to Senator it is not a form of Bright's disease, as nothing more than hypertrophic swelling and fatty infiltration of renal epithelium are found—changes on the border line between the physiological and pathological state.

Claude Bernard discovered that irritation of the fourth ventricle a little above the "sugar-point" caused albuminuria, and that a considerable amount of irritation in that neighborhood would cause both albuminuria and glycosuria—the former through sympathetic fibres passing from the spinal cord to the abdominal plexus and thence to the kidneys.

As to treatment. In spite of the first case, which is evidently doing well without much regard to my advice, I do believe in full *dietic, hygienic, and medicinal* treatment for cases of glycosuria, and cannot agree with Ralfe, who has recently stated that the influence of diet upon glycosuria is not so marked as in diabetes mellitus.

In 1875 I saw Murchison prescribing sugar freely in a case of diabetes, but now most observers agree with Tyson "that the normal assimilating action of the liver stores up carbo-hydrates as glycogen and then gives them out as glucose or maltose to be oxidized; *this being deranged*, such foods become useless and *aggravate the glycosuria*."

The Dietary of Austin Flint, Jr., is an excellent one, especially such dishes as minced beef, turkey or chicken with poached eggs, scrambled eggs with chipped smoked beef, pickled salt cod-fish with eggs, and omelettes in great variety.

Milk, I would add to his diet-list, agreeing with Tyson that in the early stages of diabetes Lactine or Sugar of Milk is quite assimilable and does not in the slightest degree contribute to the production of glycosuria.

I cannot agree with Flint in believing that in two or three weeks patients lose their craving for prohibited articles of food, yet can testify that patients readily adapt themselves to the new diet and that in a surpris-

ingly short time it is no longer irksome. I think that he is wise in allowing a crust of half a French roll (or a thin slice of toasted bread,) occasionally in preference to gluten-bread, on the ground that then he knows the exact amount of starch given.

I would not give glycerine.

The hygienic treatment should be carefully carried out. Exercise in the open air, sponge bathing and friction (with Turkish towel), should be commended.

As for treatment by drugs a good tonic is indicated. Arsenic has been recommended for a long time, and I feel favorably disposed to Clemen's solution of arsenite of bromine, although from these cases it would be difficult to estimate its exact worth. I believe that is a *sedative tonic*. The preparation manufactured by T. Metcalf & Co., contains one per cent. of arsenious acid. The dose I have used was from two to four minims, largely diluted, after meals.

Tonics containing the phosphates are undoubtedly of great value in connection with a diabetic diet.

Constipation due to change of diet is easily regulated by Hunyadi water.

I would keep patients under full treatment at least a month after the disappearance of sugar from the urine, and then drop the medicine and *very gradually* add starch and sugar to the diet-list, testing the urine weekly.

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

October 5, 1885. Dr. F. GORDON MORRILL, in the chair.

Dr. T. A. DEBLOIS read a paper on

#### "THE RAPID FATALITY OF TUBERCULOSIS WHEN INVOLVING THE PHARYNX."<sup>1</sup>

Dr. F. H. HOOPER spoke of the rarity of the disease. At the Throat Clinic at the Massachusetts General Hospital, during the past five years, not a single case had been observed.

On looking up the statistics, Dr. Hooper had found it stated that out of three to four hundred cases of tuberculosis which came to Guttmann's clinic, only one per cent. was affected by tuberculosis of the pharynx. Another observer met with only ten cases out of a total of sixteen thousand patients. Although twenty per cent. of all these were affected by disease of the air passages, and it was always in those patients in whom tuberculosis of the lungs and larynx was very far advanced that this complication was manifested.

Considering Dr. Strassmann's results in regard to tuberculosis of the tonsils, Dr. Hooper thought it singular that tuberculosis of other regions of the pharynx was so seldom encountered. Strassmann's investigations showed that in nearly every case of pulmonary phthisis small miliary tubercles and bacilli were found in the tonsils. It is rare for tuberculosis of the tonsils to lead to caseous degeneration or destruction of the organs, which may account for its being solidification seldom seen clinically as is the disease in other parts of the upper pharynx.

Dr. E. O. ORIS asked what the condition of the lungs was in the first case.

Dr. DEBLOIS replied that there was some modification but no cavity formation.

Dr. KNIGHT said that cases of tuberculosis of the pharynx were very rarely reported, and stated that he had never seen but one case. Dr. Cohen had for a long time doubted its existence until he had seen a case where there were no signs in the chest, the patient complaining only of soreness in swallowing food, and gradually the characteristic yellowish tubercular spots appeared.

He did not feel that one could be so sure about the universal fatality of the affection, for there existed somewhat the same doubt regarding the diagnosis as existed in diphtheria; where some observers reported many cases with a large percentage of mortality, and others reported as many cases with only a small percentage of mortality. The interference to deglutition undoubtedly was a prominent factor in causing a fatal termination.

Dr. Knight also spoke of the difference in fatality of cases of laryngeal tuberculosis. Where the posterior parts of the larynx were involved, a fatal termination quickly followed. This rapid fatality occurs when there is a perichondritis.

Dr. Knight said that there were, however, many cases where there was a superficial ulceration and great congestion, which could be greatly relieved where there is trouble confined to and about the vocal chords life may continue a long time.

Dr. Knight suggested that these cases involving the pharynx would be appropriate for the bichloride treatment as they could be so easily reached.

Dr. J. B. AYER read a paper on some

#### "CASES OF GLYCOSURIA."<sup>2</sup>

Dr. F. C. SHATTUCK expressed great interest in hearing the valuable paper which illustrated how unimportant saccharine urine often is in those who have reached middle life and are of a full habit. The term glycosuria seems to be used by the reader in a somewhat different sense from that given to it by some, who include under this head transitory and intermittent conditions, under the term diabetes persistent conditions. The term is a most convenient one in practice, and this very convenience favors perhaps looseness of application. To the lay ear the word diabetes has a very ominous sound, the affection denoted by it being considered one of the most serious to which flesh is heir.

The relation of the mild to the severe cases is, as the reader suggests, almost equally obscure and interesting. If sugar in the urine is but a symptom common to several distinct conditions, is the pathology of the mild different from that of the severe case? It is difficult to see why the same or similar causes, but of different intensity and acting on different organisms, should not produce very widely differing effects. It may well be that a failure to diagnose diabetes before the patient presents the classic symptoms of polyuria and increased thirst and appetite with progressive emaciation, is quite analogous to overlooking phthisis until large cavities are formed. In other words, we know much more about diabetes in its maturity than about its formative or even its youthful periods.

The speaker then briefly alluded to several cases seen during the past year. A lady of fifty, spare and of nervous temperament, consulted him about a year

<sup>1</sup> See page 392.

<sup>2</sup> See page 393.

ago and asked that her urine be examined, as she had noticed a dryness of the lips of late, and her grandmother and mother had both died of diabetes. There was slight polyuria and the urine contained nine per cent. of sugar. Under strict diet the sugar disappeared entirely and the quantity came down to the normal. She now does well under a moderately restricted diet, and is in much better condition than a year ago. The second case was that of a very vigorous young man of twenty-four, seen several times in consultation. The sugar was looked for about a year ago, and for two years previous to that time he suffered from headache, dyspepsia, and neuralgic pains. During the past year the improvement has been decided and the patient does not seem likely to hear out the bad prognosis assigned to the periods of life under forty. The third case was one of genuine diabetes in a child of four years, brought to the Massachusetts Hospital for eczema of and about the vulva. Dr. White, on hearing that the child made a great deal of water and that the diapers became stiff when dry, caused the urine to be examined. Sugar was found in large amount, and the case was referred to the medical department. In so young a child belonging to a poor family the withholding of starch and sugar was, of course, impracticable, and the patient died of diabetic coma about a month after it first came under observation.

Dr. C. E. STEDMAN inquired if there were any cases of recovery recorded where there was sugar in the urine of patients under twenty years of age.

Dr. AYER said that cases were almost always fatal under forty years of age.

#### MEETING OF THE PHILADELPHIA PATHOLOGICAL SOCIETY.

SEPT. 24, 1885, the President, Dr. E. O. SHAKESPEARE in the Chair.

Dr. WILLIAM OSLER, presented specimens of

##### TENIA ECHINOCOCCUS.

This rare parasite was reared experimentally by feeding a dog with hydatids from the liver of a pig. The animal was killed about seven weeks after the feeding, when the small intestine was found to contain many hundreds of the mature tape-worms. The portion of bowel exhibited had many adherent to the mucous membrane. From the small size of the worms, only a few lines in length, they are very apt to be overlooked. Cobbold states that the only specimens procured in England have been experimentally reared. Dr. Leidy has never met the adult worm in this country. That it must occur here from the dog is very evident from the frequency with which echinococcus cysts (the larvae) are met with in the hog and other animals.

##### CYSTICERCUS CELLULOSUS.

Dr. OSLER exhibited the heart, brain, and a portion of the flesh of a pig containing the "measles," as the larvae of the *tenia solium* are called. Both organs were thickly studded with the cysts, which were also very numerous throughout the muscular system. The animal was fat and had seemed to suffer very little inconvenience. Attention was called to the cysts beneath the tongue, and to the possibility of telling whether an animal was mensured by an examination of this part during life. Microscopic slides of the para-

sites were shown and a slide of a cysticercus, with a very large caudal vesicle, from the omentum, in which situation they may grow to the size of a walnut.

##### DISTOMA HEPATICUM: EFFECTS ON THE LIVER.

Dr. OSLER also showed the liver of an ox with enormous enlargement of the bile vessels and calcification of their walls, due to the chronic inflammation excited by the presence of the flukes. The main ducts were thicker than the thumb, and even the smaller tubes were hard as the stem of a clay pipe. The liver substance was wasted, but not cirrhotic. In spite of this extensive disease, the animal was well nourished. Specimens of the flukes in spirit and mounted were also shown.

Dr. WILLIAM PEPPER presented before the Society the specimens of

##### TENIA FLAVO-PUNCTATA

Described by Prof. Leidy in the *American Journal of the Medical Sciences*, July, 1884. This species has never but once before been seen and recognized, and then by Weinland, of Boston, in 1858. Both specimens were expelled from young children and averaged twelve inches in length.

Dr. PEPPER also presented the head and neck of a specimen of

##### TENIA MEDIO-CANELLATA.

It occurred in a young man. A course of starving, followed by castor oil and pelletierine, removed a portion of the worm; afterward, a repetition of the starving process without the castor oil, but with the alkaloid, brought away the entire worm dead.

Dr. PEPPER said he was particularly interested in this series; it spoke forcibly of the necessity of studying comparative pathology. The specimens were very perfect and more instructive than more highly-organized species. In practice, he had found the *T. medio-canellata* as difficult to expel as the *tenia solium*. The exhibition of the small variety, the *flavo-punctata*, taught the necessity of a careful examination of the stools.

Dr. DE SCHWEINITZ exhibited the kidneys, ureters, and bladder from a man who died after the operation of

##### LITHOLAPAXY.

The patient, aged seventy-three, had for two years previous to the operation, suffered with straining during the act of micturition, and other symptoms of hypertrophy of the prostate gland and vesical calculus. The urine contained albumen, pus, epithelium and granular casts, and had a sp. gr. of 1018. The patient's habits were intemperate. The operation of litholapaxy was performed, marked difficulty having been experienced in the introduction of the instruments. After the operation, the patient exhibited great restlessness, precordial pain, and rapid, feeble pulse. Later he became comatose, and died twenty hours after the operation, the immediate cause of death being, apparently, the formation of a heart-clot. The post-mortem examination was made about ten hours after death:—

Body well made; nothing of note anteriorly; the usual ecchymoses posteriorly. *Thorax*.—Old, pleuritic adhesions on the right side; left side free. Lungs crepitant with slight posterior congestion. Heart surrounded with fat; muscular fibres flabby; valves normal; firm, "chicken-fat" clot within right ventricle.

*Abdomen.*—Position of viscera usual; marked deposits of fat in the omentum; liver slightly enlarged, soft, but otherwise normal; both kidneys granular and containing cysts; bladder thickened and showing two spots of ecchymoses on the mucous surface. Prostate enlarged; other organs normal. Brain and membranes not examined.

Dr. TYSON thought this case added one more to the list showing the impropriety of crushing for stone when kidney disease was present. He did not know why, but under such circumstances the cutting operation was more suitable. Dr. TYSON cited the case of Louis Napoleon, as an instance of the danger of crushing in the presence of kidney disease. Dr. TYSON said, in answer to a question of Dr. Barton's regarding the kidneys, that they were contracted, though not markedly so, as there was good secreting structure left. The cysts were part of the pathological anatomy of granular kidney. He believed the cause of death to be uræmia.

Dr. G. G. DAVIS said that in such cases the post-mortem examination was in reality of the nature of an investigation. Death might be due to direct violence done the urethra, the prostate, or the bladder; or it might be due to extension of inflammation to the peritoneum, or to unknown cause, as in the present case.

Dr. DE SCHWEINITZ said that the urethra was not examined, and agreed with Dr. Tyson that the cause of death was uræmia. This was the more probable because an officious attendant, against orders, had administered rather full doses of morphia.

Dr. HENRY BEATES presented a specimen of

#### SYMPHYSEAL ABSCESS AND NECROSIS OF THE TIBIA.

Removed by amputation at the middle of the thigh. The patient is a strumous man, who three years previously, had suffered from an attack of obstinate sciatica accompanied by a marked degree of muscular atrophy of the affected limb, followed by lameness. Two years later, a swelling developed at the femoral side of the gluteo-femoral crease, which opened and discharged small fragments of necrosed bone. The sinus was finally healed and fair health enjoyed for several months. Seventeen weeks ago, osteitis of the tibial head developed, followed, in a short time, by suppurative synovitis. The pus perforated the ligamentum posticum and burrowed beneath the gastrocnemius, elevating it and the posterior tibial muscular structures from the bone. Free incision evacuated this, but the destructive process continued, resulting in the formation of sinuses and complete disintegration of the joint. Hectic was pronounced, and to save life, amputation was performed on the day previous. Longitudinal section through the femoral joint and tibia discloses the extensive destruction effected in so comparatively short a time. The articulating surface of the condyles is denuded of its cartilage, and the surface of the bone is roughened. The patella is bound firmly to the trochlear portion of the condyles. The articular elements are destroyed. The head of the tibia is completely necrosed and broken down. The medullary canal of the tibia throughout its entire extent is infiltrated with pus. The surface of the bones is also the seat of the morbid process. The pus from the joint has burrowed upward beneath the internal and external vasti muscles and deprived the femur of its periosteum for a considerable distance. The anterior face of the tibia is similarly denuded, while the crest at the middle is the seat

of ulceration. At the time the disease occurred, the patient first noticed a chancre. Six weeks later, the secondary phenomena developed and were promptly met with anti-syphilitic remedies. Was the strumous disease influenced by the syphilis? The specimen was referred to the committee on morbid growths for microscopical examination, with instructions to look for tubercle bacilli, and for those said to be peculiar to syphilis.

Dr. DAVIS was desirous of knowing if the disease of the head of the tibia was due to scrofula or syphilis; the worm-eaten character of the ulcer on the tibia looked like syphilis.

Dr. CHARLES M. WILSON inquired if there had been fevers, rigors, and evidences of pyæmia in this case. It was undoubtedly one of osteo-myelitis, and in a similar case of traumatic origin which he had exhibited, rigors had been present.

Dr. JURIST asked how the presence of acute syphilis in the patient would affect the prognosis of the operation. Dr. BEATES replied that there had been symptoms of septic fever, and as the acute symptoms of syphilis had been absent for some weeks, he did not think this would move the prognosis.

Dr. LOUIS JURIST presented the larynx and trachea removed *post-mortem* from the body of a man, aged thirty-eight, a bookkeeper, who had suddenly died. He had not had syphilis. He had taken cold on Saturday and had a sore throat; on Tuesday, he chatted with the Doctor, and an examination gave no evidence of anything except ordinary pharyngitis; on Wednesday, he went to his business; on the evening of that day the doctor was sent for in haste, and on going at once, found the man dead. Nevertheless, a hurried laryngotomy was done and efforts were made to restore the heart, but without avail.

Dr. JURIST removed the larynx through the thoracic cavity. He was in doubt as to the mode of death. The lungs were fairly healthy, though cheesy on one side. There must have been an abscess present.

Dr. TYSON was surprised that marked improvement should have followed the treatment by emetics and sedatives, as the abscess must have been present; perhaps the outlying œdema was subdued and the condition thus improved.

Dr. WHARTON had had no experience in such cases, but agreed with Dr. Jurist that the operation of tracheotomy, and not laryngotomy, was indicated.

Dr. JURIST was in doubt in regard to the diagnosis; it rested between perichondritis and a subsequent abscess or phlegmonous laryngitis. He was inclined to the former view.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, October 15, 1885.

THE ENTIRE INDEBTEDNESS OF THE ACADEMY PAID OFF.

Dr. F. A. CARTER, on behalf of the Board of Trustees, reported that a payment of \$2,000 had just been made, which covered the amount remaining on the original mortgage of \$10,000, on the building; so that the Academy was now entirely free from debt.

#### THE KRACKOWIZER PRIZE FUND.

The Secretary read a letter announcing that certain friends, both lay and medical, of the late Dr. Emil

Krackowizer, an eminent surgeon of the city and a devoted friend of the New York Academy of Medicine, would present the sum of \$1,155 to the Academy: to be known as the "Krackowizer Prize Fund," on condition that it should offer every three years from the accumulated interest of this amount a prize for the best essay or book on a medical topic. The donors suggested that it should be left to the wisdom of the Council of the Academy to determine whether the prize should be awarded as a recognition of the best literary medical production of America during the previous three years, or of the most satisfactory solution of a question or problem proposed for competition. Also that the President and Corresponding Secretary of the Academy and the Presidents of the College of Physicians and Surgeons, the University Medical College, and the Bellevue Hospital Medical College, officiating at the time of the award, should constitute the Prize Committee, unless the Academy or its Council should decide differently. The communication was referred to the Council with power.

DR. STEPHEN SMITH read a paper on

THE COMPARATIVE RESULTS OF OPERATIONS IN  
BELLEVUE HOSPITAL.

As we drift with current events, he said, we but imperfectly estimate the real advance which any act or science with which we are daily familiar has made within a limited period; and there was perhaps no better place in which to test the progress of practical and operative surgery than the wards of Bellevue Hospital, which had within its walls and environments all the conditions that in modern times are regarded as unhealthful and unsanitary. It was built between the years 1811-16, on the made lands of a cove of East River, without drainage or adequate sewerage, and without regard to ventilation; while before its occupation as a hospital it had been used both as a prison and an almshouse. Its wards had, from time to time, been crowded with patients suffering from typhus and typhoid fevers, small-pox, puerperal fever, cholera and yellow fever; and although many changes had been made in its interior, yet the great and most serious defects of location and construction still remained.

The surgeons of this hospital had always ranked among the best in the city; and yet the practice of surgery here had, within a few years, undergone so complete a revolution that one of the older surgeons would scarcely realize that he was in the same institution where he had practised a decade ago. He would see with horror operations fearlessly performed that he had formerly regarded as without the pale of legitimate surgery. He would witness procedures in the after-treatment of operations which would seem to him to be fantastic, and even ludicrous. His astonishment would be extreme on finding that the first week passed without fever, and that no change in the dressings had been made. But, perhaps, the most remarkable feature of modern practice would be the rapid convalescence and final complete recovery, without complication or exhaustion, of ordinary operations, which formerly gave so much trouble and anxiety.

Whereas, before the use of anesthetics the most important general principle governing the operation was celerity, Dr. Smith said that now one thought and purpose occupied the mind of the surgeon, and that was, recovery without suppuration. Taking up the performance of operations, such as amputations, for in-

stance, he described the methods by which absolute cleanliness is now secured, in contrast to the former practice, when in the simple failure to secure ordinary cleanliness of the surface, wounds were more frequently poisoned and induced to suppurate than from any other cause. Then, having referred to the past and present methods of closing wounds and of after-treatment, he went on to say that if we followed the wounds treated by these two methods from the first to the last dressings, the contrast was remarkable. If the wound was large, fever formerly began on the second or third day, announcing suppuration, and from this date, for weeks after, the dressings were changed daily, one, two, or three times. The fever generally ran high, with consequent exhaustion and depression of the patient. Septicæmia, as now understood, was the intermediary fever of that day, and was regarded as a usual, if not a necessary, sequel of all considerable operations. Following this fever, or rather insidiously regrafted upon it, were chills, fever, and profuse sweatings, now recognized as pyæmia, but then regarded as only another stage of surgical fever. Few, indeed, survived this fever; and in the diffused or metastatic abscesses revealed at the autopsy, the surgeon discovered a cause of death quite beyond his power to prevent, control, or even comprehend.

The vast change in the progress of operated cases during the past ten years, he went on to say, could scarcely be recognized. Surgical fever with all its disastrous variations, was, in practice, rare now in Bellevue Hospital. Pus, as an outcome of surgical operations, was a thing of the past. The wound was now dressed with no expectation that fever would arise, that suppuration would occur, or that the dressings would require renewal. The patient slept and ate well from the first, and the surgeons often removed the dressings only to find the wound united; a condition of affairs which was true not only of incised wounds, but equally of wounds of amputation, excision, ligation of arteries, etc.

Turning from this review of the normal stages of operations in general to particular operations, Dr. Smith said that many curious illustrations of the remarkable progress of practical surgery in this hospital were to be found; in proof of which he cited the treatment of compound fractures, amputations, excision of the larger joints, and ligation of the large arteries. If the major operations were now performed with so much success, he continued, it followed that the minor ones were correspondingly successful; a good instance of which was afforded in the improvement in the treatment of cold abscesses. Perhaps the most marked illustration of the great improvement in operative surgery in Bellevue, however, was to be found in the unvarying success which attends the treatment of simple fracture of the patella by wiring together the fragments; a procedure which embodies the very spirit and genius of the surgery of to-day, namely: boldness to audacity in the conception of an operation, and conservatism the most absolute in the method and means employed in executing it. This operation was now accepted as legitimate, and no procedure, so inherently dangerous when performed according to old methods, had ever proved more successful.

After briefly referring to the success attending gynaecological operations in this hospital, Dr. Smith said, in conclusion, that in reviewing the surgical practice

of Bellevue, it was not difficult to determine the essential feature of the present methods as compared with those of the past. Cleanliness was the one great object to be obtained in all operations. Whatever might be the final conclusion of scientific students as to the cause of putrefaction in wounds, practically it was determined that the surgeon might, with almost absolute certainty, protect an ordinary open wound from supuration. To effect this object he found that he had simply to resort to those measures which are known to secure perfect cleanliness of the wound. The agents now relied upon and found efficient were: (1) Soap and water to external parts. (3) Carbolic solutions for the instruments. (3) Bichloride solutions to all surfaces and tissues. (4) Iodoform for external dressings. The conditions regarded as essential to success might be summarized as follows: A clean operator; clean assistants; a clean patient; clean instruments; clean dressings.

## DISCUSSION.

DR. ALFRED C. POST said that he could cordially endorse the sentiments expressed by Dr. Smith, more especially in regard to the matter of thorough cleanliness. He thought there was still some room for question as to how far antiseptics, so-called, contributed to the admirable results which are now obtained in surgical practice. The great point he believed to be, perfect cleanliness and the seclusion of the wound from malign influences from without. His doubt as to the value of antiseptics had its origin in the reported experience of the renowned gynaecological surgeons of Great Britain, such as Lawson Tait and Dr. Thomas Keith, who had discarded their use. They trusted entirely to thorough cleanliness, and had even expressed the opinion that antiseptics added slightly to the mortality of such operations as they were accustomed to perform. It has to be noticed, however, that these surgeons were always careful to have their sponges and ligatures treated with antiseptic solutions beforehand. Still, they did not cleanse their hands with antiseptics, and applied no antiseptic dressings after their operations. Personally, Dr. Post said he was somewhat disposed to believe in the efficacy of antiseptics; but at the same time, he felt a little staggered by the extraordinary success of the surgeons referred to, without them. The success of Spencer Wells, who still employed antiseptics, was not as great as that of Lawson Tait and Dr. Keith. But, at all events, whatever the reason was, the fact remained that the improvement in surgical practice had been very marked.

DR. W. G. WYLIE stated that until three or four years ago, ovariectomy was not performed at Bellevue Hospital, on account of the great mortality attending the operation there. When he was an interne in the hospital in 1870 Listerism was just beginning to attract attention. It had, at all events, taught us the lesson of perfect cleanliness. He believed, however, that antiseptics were really beneficial, although it was doubtless true that their employment had been carried to excess. Every one who employed coverings of cotton-wool, which was one of the best agents which we possessed for protecting parts from deleterious influences, was, in fact, using a Lister dressing. Tait and Keith, on account of the extraordinary cleanliness which they practised, might not require antiseptics; but should their hands become contaminated in per-

forming operations or autopsies, he did not think they would hesitate to use antiseptics on their own persons. For himself, he made use of them simply as a supplementary measure; and if he was certain that he could secure absolute cleanliness without their assistance, he would not employ them either. But all surgeons engaged in active practice, are liable to contamination, and therefore he thought it was much safer not to dispense with antiseptics. Tait's recent statement in regard to these agents was simply an expression of the present reaction against them, and he thought it was likely to do great harm by rendering surgeons careless, so that they would not adopt those measures of extreme cleanliness which were essential to the highest success in practice. Dr. Wylie said, in conclusion, that when he came out of Bellevue, after his service as an interne in its wards, he was of the opinion that the whole place ought to be pulled down; but now, although there was certainly much to be desired about the arrangements of the building, he was convinced that, with the methods at present in vogue, the most excellent results could be obtained there. It was a great injustice to Lister to cry down antiseptics, as we never knew what cleanliness was until he taught us.

DR. F. V. WHITE said that he should like to inquire of Dr. Smith whether he was accustomed to get bony or ligamentous union in treating fractures of the patella in the manner described.

DR. W. M. CARPENTER remarked that the various points of Dr. Smith's paper had passed before his mind like a very pleasant panorama. He had begun to frequent the wards and dead-house of Bellevue about twelve years ago, and was perfectly familiar with the history so graphically related this evening.

What struck him particularly, in looking back over this period, was the absence at the present day from the dead-house of the hospital, of those grave internal lesions, such as surgical kidney, which used to be so common there. There was certainly a remarkable and most gratifying change in this respect, and, as far as he could recollect, he had not seen a case of surgical kidney for five or six years. Such pathological conditions were now, fortunately, a thing of the past. Again, in former times, autopsies in cases in which death resulted from surgical operations were very frequent; but this was no longer the case, and all these happy results had, as all knew, followed upon the adoption of what is known as antiseptic surgery.

DR. SMITH said that he had not intended to discuss antiseptics or any theories respecting them in his paper. It was his own opinion, however, that the improvement in surgical practice which he had described, was due simply to the securing of extreme cleanliness.

In the first place, the condition of the surgeon, the assistants, the nurses, and the instruments, etc., were all carefully looked after. Especially was attention paid to the nails, which were formerly one of the most frequent sources of contamination. In the second place, the parts are always washed until thoroughly clean; and not only the parts in the immediate vicinity of the wound or operation, but, in fact, the entire person of the patient. The share that could be claimed for mere antiseptics in the good results noted was probably very slight; but at the same time they had served a most excellent purpose in stimulating us to the carrying out of these measures of perfect cleanliness. Those, therefore, who were now ridiculing antiseptics, he be-

lieved to be doing great mischief. Mr. Tait had made the statement that carbolic acid never came near his patients; but he had met with a patient of that surgeon's who had informed him that in his actual practice he did not discard antiseptics so completely as he would have us believe, and that the minutest care was always observed in regard to his ligatures, sponges, instruments, etc. If, however, the present cry were kept up against antiseptics, great carelessness would be sure to ensue, especially on the part of those who had always been opposed to their use, and, in consequence, very bad results would once more be seen in surgical practice.

In reply to Dr. White's question, Dr. Smith said that he did not know whether bony union was secured in fracture of the patella or not. The results were very satisfactory, however; and so he thought that there must be either bony union or else extremely firm fibrous union.

### Recent Literature.

*Milk Analysis and Infant Feeding. A Practical Treatise on the Examination of Human and Cows' Milk, Cream, Condensed Milk, etc., and Directions as to the Diet of Young Infants.* By ARTHUR MEIGS, M.D. Philadelphia: P. Blakiston, Son & Co. 1885. viii. 102. 8vo.

This little work, the most of which has been previously published as papers read before medical societies of Philadelphia, is a cogent presentation of the opinion of the author that human milk only contains about one per cent. of casein, and never two to four per cent. as has been commonly asserted. It gives in full detail his process of analysis which he acknowledges "is such a tedious one, taking from four to six days to complete a full proximate analysis, that the time required to finish a large number would necessarily be very great." The conclusions are drawn from the result obtained in his analysis of ten samples of milk by his process. One of the samples was the mixed milk of twenty-seven, and another of eight women, while the other eight were each from a different woman. The ten samples thus representing the milk of forty-three women. The principal advice given in the work is that if a child is to be hand-fed from birth, it be upon a mixture prepared in the following proportions. One tablespoonful of good average city milk, two each of the same average city cream, and of lime water, with three of a milk sugar water containing seventeen and three-quarters drachms of milk sugar to the pint. This mixture not to be increased in strength until the child is at least six to nine months of age. Such a mixture would undoubtedly be more generally found to agree with infants than any of the best known manufactured foods to be found in our markets, for it would very much more nearly imitate the composition of average woman's milk.

— Dr. Poulin, in the *British Medical Journal*, recommends for constipation in young children, the use of a tablespoonful of fine bran night and morning in a cup of bread and milk. The bran is warmed in the milk and then poured on the bread.

## Medical and Surgical Journal.

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### PROFESSOR VIRCHOW ON ACCLIMATIZATION.

At the recent meeting of German Naturalists and Physicians at Strasbourg, Prof. Virchow gave an interesting address on acclimatization. Hippocrates, he said, was the first to treat of the influence of the air, water, soil, etc.,—in a word, the climate—on human evolution. We moderns have done little but develop the ideas of Hippocrates; our *cosmopolitanism* is only the practical consequence of the fact that the human race may live anywhere on the globe, provided it can adapt itself to the climate of the locality.

Professor Weismann had said at that same meeting that the acquired anomalies of individuals are not transmissible to their descendants when these anomalies have been produced by a pathological process. Virchow did not share this opinion, for where is the precise limit between physiology and pathology? Where is the *fundamental* difference between the functions of the two? There is no doubt that any special alteration is transmissible; family marks were instanced. Now every alteration is abnormal, without being for that reason a *disease* in the strict sense of the term; but it is always and everywhere a change of the actual state, hence an anomaly with reference to that state.

This transmissibility, this variability, leads to the subject of acclimatization. Every new comer into a strange climate finds himself for a while ill at ease, until a constitutional adaptation is effected; but adaptation carries with it change in the organs functioning. This adaptation may be characterized by slight indisposition or severe illness. We know, however, more about the *diseases* of acclimatization, concerning which there have been important researches, than we do about the minor illnesses. But it is, Virchow thinks, just these slight indispositions that might reveal to us the mode of change of the functions, those organic alterations in correspondence with the environment which constitute the essence of acclimatization.

The principal question which now presented itself to the speaker was this: How far in the white man does the faculty of acclimatization go? What does history teach on this point?

To answer this question satisfactorily it must be

premised that "white" men are divisible into several races, indubitably different. Thus the Semites differ from the Aryans; the first undergo acclimatization more easily than the second. Likewise, the inhabitants of Southern Europe — the Spaniards, the Portuguese, the Maltese — more readily acclimatize themselves than the inhabitants of Northern Europe.

In attempting to explain this greater resistance of the people of the south of Europe to climatal changes, Virchow denied that it was owing to the fact that they live in a hot country: negroes resist badly the influence of a new climate, though this may be as hot as their own: witness the enormous mortality of the negroes of Senegal when transported to another part of the same territory.

This greater resistance of the Southern Europeans is explained by the fact that they contain more Semitic blood than Europeans of the North. "The more the Aryan blood is mitigated by Semitic, the greater the resistance to changes of climate. The first navigators and colonizers were Phœnicians. The Spanish language contains many Moorish words, and "it is certain that there is as much Moorish blood in the veins of the Spaniards as there are Moorish words in their vocabulary." On passing a certain northern limit towards the south, we find everywhere a mingling of Aryan and Semitic blood, and the more ancient and pronounced this mixture, the greater is the force of resistance against change of climate, that is, against the capability of acclimatization.

Virchow proposes to call nations of the Aryan race *pure, vulnerable* populations. For such nations there is a very limited zone to which they can become well acclimated, and this is in North America. The inhabitants of the north of France for instance, who rapidly die in Algiers, readily get acclimatized in Canada; the French Canadians are notably a hardy race.

In Virchow's estimation the Anglo-Saxons and the Germans are ill fitted for the colonization of tropical and sub-tropical countries, nor do their children thrive well there; they are like the palm trees which can be cultivated in our hot-houses, but which can never be acclimated.

The principal alteration due to climatal influences which affects persons immigrating into hot countries, is a kind of anæmia, a defect in the production or elaboration of blood. This anæmia explains the most of the troubles of acclimatization, but merits, as does this entire question of organic adaptation, a rigorous scientific examination. There is here ample scope for the best work of the naturalist and the physician.

### THREE PRIZES FOR MEDICAL ESSAYS.

WE have more than once before this commented upon the singular apathy which has of late years manifested itself among the younger graduates in medicine, in regard to prize essay competition.

There was a time when every ambitious young physician in Boston, felt an eager desire to gain the Boylston prize, and an assurance when gained that a dis-

tinct promise of future success and distinction went with it; and a review of the names of the prize winners through a long series of years shows that this promise was, in most cases, fulfilled. Now, we will not say that those who gain the prize are any less deserving than their predecessors in the first sixty years of the century, but at least those whose names are not on the list, reconcile themselves more easily to the fact.

There must, of course, be a variety of reasons, some of which may be good ones, for such a change: but we are confident that this lack of high grade competition for prizes offered must, on the whole, be interpreted unfavorably to the zeal of the younger portion of the profession. There are, it is true, more prizes offered than there used to be, but, on the other hand, there certainly are in a much larger proportion more doctors than there used to be. There undoubtedly also are more young men with the training, the leisure, and the hospital and laboratory facilities fitting them for the original work demanded by these prizes, than in former years.

The money amount of the prizes offered should in not a few of them prove of itself a considerable temptation, and evidently does in the case of the professional prize competitioner, an individual who bears the same relation to the physician that the draughtsman habitually submitting competitive plans for public buildings does to the architect.

Whatever the sum of money or distinction gained, the best reward carried with these prizes, and this is a reward which others besides the one winner of the prize may share, lies in the thorough study and mastery of some one subject, and in several of the prizes now offered the subject selected for his essay is left in a large degree to the choice of the writers, so that each may cultivate that field which is most interesting or likely to prove most profitable to him individually.

These reflections are suggested by the announcements of three different prizes which have lately attracted our attention. The Warren Triennial Prize, founded by the late Dr. J. Mason Warren in memory of his father, with an endowment fund the accumulated interest of which shall be used every three years, is to be awarded in 1886. The dissertations on some subject in Physiology, Surgery, or Pathological Anatomy should be forwarded to the Resident Physician of the Massachusetts General Hospital on or before February 1, 1886, the arbitrators being the physicians and surgeons of that hospital. The amount of the prize will be four hundred and fifty dollars, and it is open to general competition.

The prize of the Alumni Association of the College of Physicians and Surgeons of New York will be awarded at the next annual Commencement, May 11, 1886. Competition for this prize is restricted to the Alumni of the college, but the only restriction upon the choice of a subject is that, the competing essays must embody the result of *original research* upon some medical subject. The amount of the prize is five hundred dollars, and essays should be sent before April 1,

to any one of the three members of the Alumni Committee.

The Shattuck Prize of the Massachusetts Medical Society will be awarded at the annual meeting of the Society in June, 1888. The interest of the fund left the society by the late Dr. Shattuck was, for many years, largely used in defraying the expenses of the society's publications. Now, in accordance with the expressed intentions of the testator (the publications being to a greater extent otherwise provided for) the committee on publications offer a periodical prize on "The Climate and its Modifications as Influencing Health and Disease, or on any of the Diseases of the Inhabitants of New England," or on *any kindred subject*. We understand that a good deal of latitude may be attached to the words on *any kindred subject*. The competition for this prize is unrestricted—not being confined to members of the Massachusetts Medical Society—and the amount will be one thousand dollars: the essays should be delivered to the chairman of the committee on publications on or before March 1, 1888.

For the first and third of these prizes no award will be made in case no dissertation is considered worthy; but it is scarcely conceivable that the wide choice of subjects and the sums offered should not draw forth really meritorious work for all three competitions.

#### QUARANTINE INSPECTIONS ON THE NORTHERN FRONTIER OF THE UNITED STATES.

UNDER date of October 10th, and through the office of the Supervising Surgeon-General of the Marine Hospital Service, the Treasury Department has issued a circular, printed in full in another column, in which are framed "regulations for the maintenance of quarantine inspections on our Northern frontier."

In our issue of October 8th, we commented upon the measures taken up to that date by the Treasury in response to the request of the Governors of some of the States, to which New York may now be added.

The system of inspection then in force was personally investigated by the Secretaries of the New Hampshire and Maine Boards of Health, Drs. Watson and Young, and we believe was not found in all respects satisfactory by them, the defects being indicated to the authorities at Washington, and probably by this time they have been modified or corrected as far as circumstances permit.

In our previous comments our readers were warned against an exaggerated confidence in these quarantine inspections, exaggerated whenever tempting them to relax individual or local vigilance. Now again—although the inspections are made with more care than at first—we wish to reiterate these warnings. Small-pox is still very active in Canada and is not likely to diminish with the advent of cold weather. We hold now as we have always held, that no system of quarantine or of inspection, however good, will, under such circumstances, exclude the disease from a neighboring country. The rumors in regard to the appearance of

small-pox at several points in Burlington, Vt., give emphasis to this statement.

Fortunately, in the present emergency each individual and each community has the elements of protection largely in its own control, and "quarantine inspection"—though otherwise useful—will do more harm than good if people are encouraged in a false sense of security to the neglect of other precautions.

#### MEDICAL NOTES.

BOSTON.

—The will of the late Mary G. Perkins contains bequests of \$10,000 each to the New England Hospital for Women and Children and the Children's Hospital, and \$5,000 each to the Boston Children's Friend Society and Notre Dame Academy, Roxbury. Her books and the proceeds of certain diamonds are bequeathed to the Newsboys and Bootblacks' Reading Room, and the trustees of the City Hospital are made residuary legatees. The funds so received to be applied to the purchase of medical books, and of artificial limbs and other surgical appliances for patients leaving the hospital.

—The Board of Registration in Pharmacy organized Oct. 6, electing H. M. Whitney, of Lawrence, President, and S. A. D. Shepard, of Boston, Secretary. The Board has issued circulars to the druggists of the State, calling attention to the provisions of the statutes, and announcing that applicants for examination may appear on the first Tuesday of January, May, or October, and on other days which may hereafter be appointed. Applications for registration under Section 3 of the law, may be sent at once to the Secretary, and all should be in previous to Dec. 31. A printed card or label should be sent with the application, in order to avoid possible error as to the name on the certificate to be issued. The Board understands that to begin business, or to have had a practical experience of three years, a part of which is acquired after Jan. 1, 1886, does not come within the intent of the law. No certificates will be sent out until after the regular meeting of the Board, Jan. 5, 1886.

NEW YORK.

—Health Officer Smith has made a report to the Quarantine Commissioners in which he announces the success of the recent experiments in disinfecting rags by the "sulphur vacuum" process. The object was to determine whether the agent would penetrate to the centre of the bale of rags and destroy the germs placed therein, the bale being in a vacuum when the sulphurous acid was introduced. The first experiment and its results were given in a previous communication. The report states that the second experiment, made on the 25th of September last, in the presence of Drs. Briggs and J. B. Taylor, of New York, Dr. Sternberg, of the United States Army, and other experts, was with the purpose of eliminating the possible errors of the tests made on the 26th of August. The bale used on this occasion did not represent the largest and heaviest bales imported; and so the experiments were re-

peated on the 2d of October. In both series of experiments a vacuum representing twenty-eight inches was produced, and a pressure of twenty-six pounds from the introduction of sulphurous acid; while the exposure of the germs (*cholera bacilli* and others), and vaccine virus used was about thirty minutes. Dr. Briggs reported that no development of any kind had occurred in any of the cultures made after the exposure to gas at the end of fourteen days, with the exception that after ten or twelve days there was development of a bacillus that liquified the gelatine; but when this was tested by plate cultures, only the rod bacillus was found—presumptive proof that it had been introduced after the exposure of the sulphurous acid in the course of the manipulation at the laboratory. (This was after the experiment of September 25th.) The results of that of October 2d are thus given: "No development of any kind in any of the cultures made by the germs exposed."

In respect to the result of the exposure of vaccine virus in the bales of rags under the same conditions and at the same time that the various germs were exposed, Dr. J. B. Taylor reported that he collected virus the morning of the experiments in each instance, charging six points that were exposed to the gas with the germs. The same number of points were charged from the same calf at the same time that those were which were exposed to the sulphurous acid. He vaccinated two children in one family, each on the left arm, with the fumigated virus, and each on the right arm with the non-fumigated. The former failed in both instances, while the latter were both successful. With the remaining points four babies were vaccinated, all of which were unsuccessful. Four were also vaccinated with the non-fumigated, all of which were successful. On the 2d of October a similar test was made with the same number of vaccine points, taken and treated in exactly the same manner. On the following day, six infants were vaccinated with the fumigated virus, and all were failures, as before; while of the six vaccinated with the non-fumigated virus, four were failures and two were successful.

Dr. Smith states that the conclusion in his mind after these experiments, conducted as they have been, with much care and labor, is, that the disinfection of rags by the "sulphur vacuum" system can be efficiently accomplished; and that an arrangement by which one or any number of bales of rags can be introduced into a receptacle in which a vacuum of twenty-five inches or upward is produced, followed by a pressure of twenty-five pounds or upwards, by the introduction of sulphurous acid, and the continued exposure of the rags under these conditions for twenty-five minutes, may be considered as satisfactory disinfection of such rags. At the meeting at which Dr. Smith's report was presented, the Quarantine Commissioners passed a resolution to the effect that it was the sense of their Board that the sulphur process for disinfecting rags arriving at the port of New York was satisfactory to its members.

—At the October meeting of the Society of Medi-

cal Jurisprudence and State Medicine, Dr. Wm. M. McLancy read a paper on the subject of cremation, in the course of which he called attention to the fact that whenever cholera has visited New York, it has always hovered around Trinity Churchyard. He further stated that the oldest local physicians claim that it is impossible to raise children on the ground floor of Washington Square, which was formerly used as the Potter's field.

—The report of Dr. John T. Nagle, Registrar of Vital Statistics, to the Board of Health, shows that for the quarter ending September 30, there were 9,950 deaths in the city, a decrease of 38 as compared with the corresponding quarter of 1884. Among the deaths were 7 from small-pox, 74 from measles, 55 from scarlatina, 259 from diphtheria, 144 from croup, 186 from whooping-cough, 3 from typhus fever, 100 from typhoid fever, 45 from cerebro-spinal meningitis, 116 from malarial fever, and 2,527 from diarrhoeal diseases.

—A new hospital, containing thirty beds, has been opened by the city at Gouverneur Slip. The visiting surgeon is to be Dr. O. J. Ward, and the annual surgeon, Dr. J. D. Odell.

—Diphtheria has broken out in Newburgh, on the Hudson, and quite a number of cases have been reported to the Health officer during the past week. Thus far there have been several fatal cases, five of them having occurred among the pupils of one public school; the superintendent will close this. Two cases have been reported among the pupils of another public school also.

### Miscellany.

#### A CIRCULAR REGARDING SMALL-POX IN CANADA.

UNDER the authority of an act approved April 29, 1878, entitled "An Act to Prevent the Introduction of Contagious or Infectious Diseases into the United States," a circular has been issued to the medical officers of the Marine Hospital Service, custom officers and others concerned, calling attention to the prevalence of the contagious and infectious disease of small-pox in Montreal and other places in the Dominion of Canada, and promulgating the following regulations:—

All vessels arriving from ports in Canada, and trains of cars and other vehicles crossing the border line, must be examined by a medical inspector of the marine-hospital service before they will be allowed to enter the United States, unless provision shall have been made by State or municipal quarantine laws and regulations for such examinations. All persons arriving from Canada by rail or otherwise must be examined by such medical inspector before they will be allowed to enter the United States, unless provision had been made for such examinations as aforesaid. All persons coming from infected districts, not giving satisfactory evidence of protection against small-pox, will be prohibited from proceeding into the United States until after such period as the medical inspector, the local quarantine or other sanitary officer duly authorized, may direct. Inspectors will vaccinate all unprotected persons who desire or are willing to submit to vaccination, free of charge. Any such person refusing to be vaccinated shall be prevented from entering the United States. All baggage, clothing and other effects and articles of merchandise coming from the infected districts and liable to carry infection, or suspected of being infected, will be subjected to a thorough disinfection. All persons showing evidence of having had small-pox or varioloid, or who exhibit a

well-defined mark of recent vaccination, may be considered protected; but the wearing apparel and baggage of such protected persons who may come from infected districts or have been exposed to infection, will be subjected to thorough disinfection, as above provided.

Customs officers and United States medical inspectors will consult and act in conjunction with authorized State and local health authorities, so far as may be practical, and unnecessary detention of trains or other vehicles, persons, animals, baggage or merchandise will be avoided so far as may be consistent with the prevention of the introduction of diseases dangerous to the public health into the United States. Inspectors will make full weekly reports of services performed under this regulation. In the enforcement of these regulations there shall be no interference with any quarantine laws or regulations existing under or to be provided for by any State or municipal authority.

JOHN B. HAMILTON,

Supervising Surgeon General United States Marine Hospital Service.

Approved—

DANIEL MAXING, Secretary of the Treasury.

Approved—

GROVER CLEVELAND, President.

## Correspondence.

### THE QUESTION OF A VITAL PRINCIPLE AGAIN.

MR. EDITOR.—I must ask permission to trespass once more on your columns that I may point out what I believe to be the fallacies of Dr. Dwight's last communication.<sup>1</sup>

Dr. Dwight complains that I have confined myself to simple assertion without attempting to show the fallacy of his argument. If he will read once more what I wrote I think he will notice that I attempted to show successfully or unsuccessfully, that his argument was founded on a *petitio* principle, that it broke the Newtonian canon by which we are forbidden to assume the existence of new causes until the inadequacy of existing ones is shown, and I then called attention to a possible explanation, which is gradually being accepted by the leading scientific minds.

I am sorry that to this explanation Dr. Dwight has thought fit to make no reference whatsoever.

In his last communication, Dr. Dwight only restates his former argument, but I am glad to say he has put it in so much more tangible and definite a shape, that it is easier to deal with. In order to be as brief as possible I will come to the point at once.

"My proposition," says Dr. Dwight, "is stated in the following syllogism:—

"Essentially contradictory phenomena (like any other effects) cannot have a common cause.

"The phenomena of living and non-living matter are essentially contradictory, therefore they cannot have a common cause."

Here Dr. Dwight speaks plainly and without ambiguity. "The validity," he continues, "of the second premise, that vital and non-vital phenomena are contradictory<sup>2</sup> is, I conceive, the point at issue." According to the form of argument he has adopted, I agree with him entirely. He then goes on to enumerate six different points in which "living and non-living matter differ essentially." Space will not permit me to consider each of these six separately, but it will be sufficient to take the fifth as being one of the most important and curial. The same fallacy underlies all the others.

"(5) Non-living matter cannot produce its kind. *Living matter can.*" Now as Dr. Dwight truly says, here is a point in which living and non-living matter differ essentially; but the mistake he makes is in not seeing that however much they may differ they do not contradict one another. "This is the point at issue." Now it must be evident that two phenomena may be totally and radically different, but whether they contradict one another is a second question. Essentially different phenomena may not only be due to different causes but be the effect of the same cause; what, for example, is more different than the visual vibra-

tions of a tuning fork and a musical sound? Yet we know that both are only different modes of apprehending the same activity.

Two phenomena, on the other hand, may be said to be contradictory when they cannot exist under the same conditions at the same time. The phenomena of light are contradictory to darkness; a match cannot be luminous and non-luminous at the same time; the ground cannot be dry and wet at the same instant, and therefore we may correctly conclude that these phenomena being contradictory cannot have the same cause.

Now how does the fact that living matter reproduces contradictory non-living matter which does not reproduce. We may say it has additional properties and functions, if you like; the vital functions are something which living matter possesses in addition to those of non-living matter; but how does one exclude the other? On the contrary, living matter possesses the properties of living and non-living matter. There is nothing contradictory in the fact that a tree grows and a tree has weight; or in the growth of a tree and the absence of growth of a stone, or if there were it would not necessarily show a difference of kind in the cause as it might be of degrees.

When we see that one piece of matter, as a lump of albumen, has one set of properties, called physical, and another piece of matter, a lump of protoplasm has, in addition to these, others called vital, there is nothing in the vital properties which contradict the physical, for both can exist at the same time under the same conditions. So that so far as contradiction is concerned there is nothing to indicate that the same kind of "forces" which produce the one do not produce the other. Whether this is or is not the case, must be settled on other considerations. We may not see how the forces, which produce physical phenomena, may also produce vital phenomena, but this may be only due to the imperfections and limitations of human knowledge, and until the inadequacy of all other explanations is proved we have no right to deny that it is the case and to assume the existence of super-material agents. It may be that vital and non-vital phenomena are not the effects of the same kind of activities, but if so, it is not shown by any contradiction that exists; it is only a question of capacity.

I will now state once more what I believe to be the real question involved in this matter of a vital principle. As I have already stated it at sufficient length in my first communication, I cannot be expected to more than indicate it again, notwithstanding Dr. Dwight's omission of all reference to it.

"Are the unknown realities which underlie the physical properties of the inorganic world of the same nature as those which underlies the functions of the organic world?" This is my judgment to the real question at issue. For my part, I believe that an affirmative answer should be given. This same view has been expressed by Mr. Spencer, who has argued that, "Consequently, the final outcome of that speculation commenced by the primitive man is that the power manifested throughout the universe distinguished as material, is the same power which in ourselves wells up under the form of consciousness." This was the view taken by the late Professor Clifford,<sup>3</sup> and has been held by various other able thinkers. It is the view toward which I believe the scientific world is slowly drifting.

Dr. Dwight's criticism on "*prima facie* evidence," I do not think call for extended notice, as I am loth to believe that on maturer reflection he would still maintain them, and I am unwilling to hold him responsible for what I believe to be a merely temporary mental deception, to which any one is liable. On the other hand, there is something naive in characterizing my refusal, to discuss his second argument as an evasion, because, I suppose, I have not the rashness to discuss within the limits of a single paragraph, so extensive a subject as the relation of the mind to the body, upon which volumes have been written. As Dr. Dwight himself says, that "truly enough it would take too much space," evasion would hardly seem to be the correct term.

<sup>1</sup> This Journal, September 21st.

<sup>2</sup> The Italics are mine.

<sup>3</sup> Nineteenth Century, January, 1884.

As to the third argument, the freedom of the will, no one agrees more heartily than I do with Dr. Dwight, that we are all free to act as we please; that a man is "free to reply to an adversary or not." This is a fact which any one can prove for himself as often as he pleases. But I believe it also to be true, that, in whatever way we do act, we are impelled by the strongest motives. Whether this is a "freedom of the will" or not is merely a question of terms; and the possession of this "freedom" is as compatible with that theory of consciousness, which, I maintain, is the outcome of modern scientific speculation, as it is with a spiritual entity. Therefore the argument from the "freedom of the will," is either one of terms or has no bearing on the subject.

Dr. Dwight, in a postscript, quotes Mr. John Fiske in apparent support of his position. I fear that Dr. Dwight has allowed himself to be unwittingly misled by a paragraph or two of a popular essay. It is a very dangerous thing to gather a writer's views for such abstruse subjects, without reading all that he has to say. If Dr. Dwight has read Mr. Fiske's other works, especially his "Cosmic Philosophy,"<sup>4</sup> I think he never would have invoked that writer's authority in favor of a vital principle. I know

<sup>4</sup> See vol. II, pp. 446, and other chapters.

that it is very easy to miss the point of a writer's argument. But it seems to me that to charge Mr. Fiske with maintaining the existence of a vital principle, in anything like the sense in which it is employed by Dr. Dwight—that it was something in addition to and distinct from matter—is very much like accusing the Pope of Rome of atheism, or J. S. Mills of having been an advocate of protection.

In conclusion I may say one word more. Dr. Dwight seems to feel personally aggrieved because I have criticized his opinions, with the same freedom which he used toward the views of those who do not agree with him. While I am sorry if my remarks have wounded him, I think the candid reader will say that one who is thus sensitive to criticism should treat the opinions of others with respectful consideration at least. If there is anything in Dr. Dwight's letter which savors of personal rather than logical criticism I have no desire to make reference to it here.

Very truly yours,

MORTON PRINCE, M.D.

[With this reply from Dr. Morton Prince the editor begs to take leave for the present of the Question of a Vital Principle.—ED.]

# REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 10, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	553	235	24.12	17.53	11.70	5.04	2.52
Philadelphia . . . . .	927,965	340	110	20.59	13.05	3.48	9.28	4.06
Brooklyn . . . . .	644,526	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	390,406	152	43	16.72	18.48	3.96	3.46	4.62
Baltimore . . . . .	408,520	137	71	23.04	17.28	7.68	9.60	1.92
St. Louis . . . . .	400,040	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	110	37	20.90	17.29	3.64	1.82	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	—	—	—	—	—	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	—	—	—	—	—	—	—
Nashville . . . . .	54,400	21	6	28.56	28.56	19.04	9.52	—
Charleston . . . . .	52,286	—	—	—	—	—	—	—
Lowell . . . . .	61,051	18	7	11.11	16.66	—	5.55	5.55
Worcester . . . . .	68,383	11	7	—	18.18	—	—	—
Fall River . . . . .	56,863	19	10	26.30	10.52	—	5.26	5.26
Cambridge . . . . .	59,090	18	4	11.11	16.66	5.55	5.55	—
Lawrence . . . . .	38,825	5	1	—	42.00	—	—	—
Lynn . . . . .	45,861	12	5	—	—	—	—	—
Springfield . . . . .	37,577	12	2	8.33	33.33	—	—	8.36
Somerville . . . . .	29,382	—	—	—	—	—	—	—
Holyoke . . . . .	27,894	—	—	—	—	—	—	—
New Bedford . . . . .	33,383	16	7	12.50	36.75	6.25	—	—
Salem . . . . .	28,084	11	—	—	—	—	—	—
Chelsea . . . . .	25,709	6	—	—	33.33	—	—	—
Taunton . . . . .	23,674	—	—	—	—	—	—	—
Gloucester . . . . .	21,713	5	—	20.00	20.00	—	—	20.00
Haverhill . . . . .	21,795	10	6	—	—	—	—	—
Newton . . . . .	19,759	4	—	—	—	—	—	—
Bruckton . . . . .	20,783	7	3	—	—	—	—	—
Malden . . . . .	16,407	4	2	25.00	—	—	25.00	—
Newburyport . . . . .	13,716	4	—	—	25.00	—	—	—
Waltham . . . . .	14,000	4	1	—	—	—	—	—
Fitchburg . . . . .	15,375	10	6	10.00	20.00	—	—	—
Northampton . . . . .	12,806	2	—	—	—	—	—	—

Population by State Census, of May 1st, 1885.

Deaths reported 1,511; under five years of age 563; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 294, consumption 248, lung diseases 132, diarrhoeal diseases 105, diphtheria and croup 89, typhoid fever 42, malarial fevers 28, whooping-cough 20, scarlet fever 10, cerebro-spinal meningitis seven, measles three, erysipelas three, small-pox one, puerperal fever one. From malarial fever, New Orleans 16, New York eight, Baltimore four. From whooping-cough, New

York 14, Baltimore two, Philadelphia, Boston, New Orleans and Fall River one each. From scarlet fever, Philadelphia six, Boston two, New York and Fitchburg one each. From cerebro-spinal meningitis, Philadelphia three, New York and Fall River two each. From measles, Philadelphia, Boston, and New Bedford one each. From erysipelas, New York, Philadelphia, and Boston one each. From small-pox, New York one. From puerperal fever, Philadelphia one.

Cases reported in Boston: scarlet fever 30, diphtheria 29, and typhoid fever 28.

The meteorological record for week ending October 10th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.				Relative Humidity.			Direction of Wind.	Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.		7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	
Saturday, Oct. 10, 1885.																
Sunday, ... 4	29.651	62.3	73.4	48.7	96.0	80.0	69.0	81.7	S.W.	S.W.	W	7	16	20	O.	O.
Monday, ... 5	29.993	59.1	59.1	45.0	74.0	44.0	65.0	61.0	S.W.	S.W.	S.W.	14	12	12	C.	F.
Tuesday, ... 6	30.148	47.1	53.3	40.9	63.0	92.0	83.0	79.3	S.W.	S.E.	S.W.	4	2	10	O.	R.
Wednesday, ... 7	30.151	42.8	49.2	35.2	80.0	39.0	49.0	59.3	N.W.	W.	N.E.	8	16	9	C.	O.
Thursday, ... 8	30.308	43.8	50.6	36.9	61.0	58.0	67.0	62.0	N.	E.	N.E.	6	10	12	O.	O.
Friday, ... 9	30.210	43.8	52.9	38.8	75.0	60.0	72.0	63.3	W.	W.	W.	8	12	10	F.	C.
Saturday, ... 10	30.149	36.0	63.9	40.1	78.0	41.0	67.0	62.0	W.	W.	N.W.	9	10	8	C.	C.
Mean, the Week.	30.073	49.6	57.4	40.9				67.8								

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

# OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 10, 1885, TO OCTOBER 16, 1885.

IRWIN, B. J. D., assistant medical purveyor and lieutenant colonel. Ordered from Department Arizona to New York City, for temporary duty in charge of medical purveying depot at that place, relieving Captain Henry Johnson, medical storekeeper. S. O. 233, A. G. O., October 10, 1885.

ADDAIR, GEO. W., assistant surgeon and captain. Leave of absence extended one month. S. O. 232, A. G. O., October 9, 1885.

MORRIS, EDWARD R., assistant surgeon and first lieutenant (recently appointed). Ordered for duty in Department Missouri. S. O. 233, A. G. O., October 10, 1885.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDED OCTOBER 10, 1885.

BAILHACHE, P. H., surgeon. To proceed to Tuckerton, N. J., as inspector, October 7, 1885.

AUSTIN, H. W., surgeon. To proceed to Albany, N. Y., on special duty, October 6, 1885.

GASSAWAY, J. M., surgeon. To examine surfmen at Ellsworth, Maine, and other parts of First District, Life Saving Service, October 9, 1885.

# OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING OCTOBER 17, 1885.

BALDWIN, L. B., past assistant surgeon. Detached from Naval Hospital, Philadelphia, and ordered to Navy Yard, Mare Island.

DICKINSON, D., surgeon. Detached from Naval Hospital, Mare Island, and ordered to Training Ship "Portsmouth" as relief to Surgeon A. M. Moore.

MOORE, A. M., surgeon. Detached from Training Ship "Portsmouth" and wait orders.

SHAFER, JOSEPH, assistant surgeon. Detached from Receiving Ship "St. Louis," and ordered to Naval Hospital, Philadelphia, as relief of passed assistant surgeon Baldwin.

HETTER, F. A., assistant surgeon. Detached from United States Steamship "Minnesota," and ordered to the "Tennessee" as relief of passed assistant surgeon Nelson H. Drake.

DEAKE, NELSON H., passed assistant surgeon. Detached from the "Tennessee," 31st inst., and wait orders.

## DEATHS.

Died in Worcester, Mass., October 17, 1885, William Workman, M.D., M.M.S.S., aged eighty-seven years.

## SOCIETY NOTICES.

NORFOLK DISTRICT MEDICAL SOCIETY.—A stated meeting will be held at Rockland Hall, 2343 Washington Street, Roxbury, on Tuesday, October 27, 1885, at 2 P. M. The Board of Censors will meet at 1 P. M. Order of Business: Reading of records; reports from committees; election of nominating committee; incidental business. Communications: The Antiseptic Method in Surgery, W. P. Bolles, M.D. The discussion will be participated in by W. C. B. Field, M.D., and E. F. Dunbar,

M.D. A Demonstration of the Rectum, illustrated by drawings and casts, Walter J. Otis, M.D.

S. ALLEN POTTER, M.D., Secretary.

## AMERICAN ACADEMY OF MEDICINE.

THE Ninth Annual Meeting of the American Academy of Medicine will be held at the New York Academy of Medicine, No. 12 West 31st Street, New York, Wednesday and Thursday, October 28 and 29, 1885. Wednesday, October 28, 3 P. M., Reading of Papers: "The Study of Medicine as a Means of Education." By Robert Lowry Sibbet, A.M., M.D., of Carlisle, Pa. "Medical Supervision in Student Life." By Charles McIntire, Jr., A.M., M.D., of Easton, Pa. "Western North Carolina as a Health Resort." By Henry O. Marcy, A.M., M.D., of Boston, Mass. "The Importance of Climatology Considered as a Regular Branch of Study in Medical Colleges." By E. H. M. Sell, A.M., M.D., of New York. At 8 o'clock P. M. Address by Albert L. Gibson, A.M., M.D., United States Navy, President, on "What is Medicine?" Thursday, October 29th, 10 A. M., "Medical Evidence." By Thomas J. Turner, A.M., M.D., Ph.D., Medical Director United States Navy. "Report on Laws Regulating the Practice of Medicine in the United States and Canada." By Richard J. Dughison, A.M., M.D., of Philadelphia, Pa., and Henry O. Marcy, A.M., M.D., of Boston, Mass. "Health Officers, Ancient and Modern." By Benjamin Lee, A.M., M.D., Secretary of the State Board of Health of Pennsylvania. "Microorganisms and their relation to Disease." By Samuel N. Nelson, A.B., M.D., of Cambridge, Mass. "Observations on the Relation of Bacteria to Certain Puerperal Inflammations." By Ernest W. Cushing, A.B., M.D., of Boston, Mass. "Medical Licenses and Medical Honors." By Edward Jackson, A.M., M.D., of Philadelphia, Pa. "The Physician and His Patient." By John D. McKelly, A.M., M.D., of Utica, N. Y. "Physicians of Delaware in the Eighteenth Century." By Lewis P. Bush, A.M., M.D., of Wilmington, Del. The annual collation will take place on Wednesday Evening, immediately after the President's address. Fellows desiring to participate will please forward two dollars to Dr. L. Duncan Bulkley, No. 4 East 35th Street, New York.

PATHOLOGICAL SOCIETY OF PHILADELPHIA.—The Semi-Annual Conventional Meeting of the Society will be held at the Hall, N. E. Cor. Thirteenth and Locust Streets, on Thursday evening, October 22, 1885, at 8 P. M. Dr. J. Collins Warren, of Harvard Medical School, will address the Society on "A Comparison of the Changes in Arteries after Ligation and in the Diets Arteriosus and Uninflamed Arteries after Birth."

## NEW YORK STATE MEDICAL ASSOCIATION.

The Second Annual Meeting of the New York State Medical Association will be held November 17, 18 and 19, 1885, at the Murray Hill Hotel, Park Ave., 10th and 11st Sts., and November 20, 1885, at the Carnegie Laboratory, 338 and 340 East 26th St., New York City.

## BOOKS AND PAMPHLETS RECEIVED.

Manual of the Diseases of Women, being a Concise and Systematic Exposition of the Theory and Practice of Gynecology for Use of Students and Practitioners. By Charles H. May, M.D. Philadelphia: Lea Brothers & Co. 1885.

Epitome of Diseases of the Skin, being an Abstract of a Course of Lectures delivered in the University of Pennsylvania during the Session of 1883 and 1884. By Louis A. Duhring, M.D. Reported by Henry Wile, M.D. Philadelphia: J. B. Lippincott Company. 1885.

## Original Articles.

ON THE TREATMENT OF LUPUS BY PARASITICIDES.<sup>1</sup>

BY JAMES C. WHITE, M.D.,

*Professor of Dermatology in Harvard University.*

It may be stated without exaggeration that the announcement of the title of my communication, had it been made at any meeting of the association previous to the last one, would have been received with amazement, if not with incredulity; and yet to-day it is entirely needless to offer you any explanation of my reasons for presenting this subject to your consideration. The revolution in their views of the etiology of the so-called chronic infectious diseases among dermatologists during the past few years, unparalleled in the history of the progress of medicine, and the unanimity with which it has been accepted independently of schools and past prejudices, furnish the strongest proof that it is based upon no mere theory, or the power of a passing novelty of opinion, but upon sound observation of facts.

I may be pardoned if I very briefly, although needlessly before this society, recall the evidence by which this change of opinion concerning the nature of lupus has been accomplished. The French school of dermatology has long maintained that lupus is a scrofulide, basing its belief upon clinical connections and anatomical resemblances, and this opinion was also held to a limited extent by writers of other nations. Within the last decade the close mutual relationship of the two affections has been more generally recognized. During this period it has been demonstrated by Koch that tuberculosis is a bacillus disease; that one and the same bacterium is constantly present in active tubercular tissue; that the inoculation of such tissue in animals produces in them tuberculosis; that the inoculation of the bacillus itself, isolated and purified by repeated culture, also produces tuberculosis; and that the tissue changes in so-called scrofulosis, as well as in tuberculosis, are the direct result of the irritating presence of the tubercle bacillus. These points established, their pathological significance in relation to the etiology of lupus was soon recognized, and investigation opened. Demme was the first to discover the presence of bacilli in lupus in 1883. Since then numerous others, although their observations were at first largely negative in results owing to imperfect methods, Pfeiffer, Cornil and Leloir, Köbner, Dontrelepoint, Koch, and others, have demonstrated the existence of a bacillus, identical with that in tubercle, in lupus tissue of the integument, of bone, of lymph glands, and in pus beneath its crusts, although its growth is more sparse and apparently feeble than in other forms of tuberculosis. Inoculation of lupus matter by many experimenters into the tissues and cavities of various animals has given rise to forms of tuberculosis in the same, with the accompanying growth of tubercle bacilli. The bacillus from lupus tissue has been cultivated by Koch for sixteen months, and in these successive cultures has retained its apparent identity with that of tubercle. Repeated inoculations with such isolated growths by him has always resulted in the production of all the various forms of local and general tuberculosis, and similar results have been obtained by many

other observers. The introduction beneath the skin of the lupus bacillus by Leloir was followed by the development there of true scrofuloderma in one instance.

Let us briefly consider now, how far this most satisfactory experimental proof of the pathological identity of lupus and tuberculosis is supported by our knowledge of their clinical relations. The common occurrence of lupus in so-called scrofulous subjects, or, in other words, with tuberculosis of the glands, joints, or bones, or with milder forms of the latter, has long been recognized, but recent analysis of extensive series of cases has shown this association to be much more frequent than had been supposed, the ratio varying from thirty to sixty per cent. in the returns of different observers. The direct development of lupus upon old lesions of scrofuloderma has been not infrequently noticed. General military tuberculosis has in several instances followed extensive mechanical operations upon lupus, as scarifications, by which process bacilli might readily be introduced into the cutaneous circulation for diffusion throughout the system, as if by intentional multiple inoculation. Finally, now that careful attention has been directed to this point, it has been ascertained that the termination of lupus in tuberculosis of the lungs occurs as often as six to fifteen per cent. in the experience of different observers.

This certainly shows a very intimate association of these forms of disease, hitherto regarded as well defined individual processes. But why is it that this individuality is so sharply observed, and that tuberculosis of the skin, scrofuloderma, and lupus do not resemble each other more closely or undergo mutual transformation as a rule rather than as the exception? For reasons not yet understood; but this ignorance of the laws of bacterial life, dependent upon insufficient observation, should not be used as evidence against the identity in nature of these affections, for by the same reasoning quite as diverse forms of other diseases, the unity of which no one doubts, might be separated as distinct disorders. In leprosy and in syphilis, for instance, we have a far greater diversity of tissue change, and as various and well defined varieties of clinical expression, in the latter in fact far greater differences. It seems, indeed, to be a characteristic feature of these organisms, this capability of so impressing human tissues, that they shall express their resentment of the irritating presence of the former by the greatest possible diversity of lesions. In the protean manifestations of the syphiloderma, and in the multiplicity of tissue changes in the deeper structures of the body in the same disease, we have the culmination of this power of bacilli. In leprosy and tuberculosis we have a longer period of incubation, a slower growth, a much more restricted spread, and a greater uniformity of tissue change, but in all three of these every portion of the economy may in time become involved. It is probable that the tubercle bacillus finds an uncongenial soil in the cutaneous tissues; at any rate it spreads from its primary point of inoculation or manifestation but slowly as a rule, and is found but sparsely in lupus matter. The persistency of its growth, however, is wonderful, as it may continue to occupy a very restricted field throughout the long lifetime of its host. This tendency to confine itself within very limited areas of the corium, and the very slow rate of its progress there, even when it assumes a serpiginous type, furnish the most consist-

<sup>1</sup> Read at the meeting of the American Dermatological Association, Aug. 26, 1905.

ent reason for the usual preservation of its clinical form, and the escape of the system from general inoculation. This is no more remarkable than the usual confinement of the bacillus to the pulmonary tissues in tubercular consumption, or to the glandular structures for indefinite periods in scrofulosis. Students of morbid anatomy have many times solved to their own satisfaction the mystery of lupus disease, and in this or that histological element of tissue change have discovered the individual secret of its being, but wider investigations have shown that these were in no way peculiar to it, and that the products of chronic inflammatory disturbance were all that they had found. All the while lay there unseen and unsuspected the foreign elements of evil, which remained for the investigators of a very different training to disclose. So in discussing the peculiarities of tuberculosis in its various forms, we may not apply the ordinary methods of reasoning employed in departments of pathological anatomy; we have to deal with the attributes of plant life and are entering the realm of vegetable physiology, in which we have nearly all our knowledge to gain.

Starting then upon the basis that lupus is a form of tuberculosis of the skin, and that it consists of chronic inflammatory changes in its tissues produced by the presence of a bacillus, we are to consider what effect this discovery of its parasitic nature may have upon its treatment. It is evident that if we could bring in contact with the bacteria any substance which, without injuring the animal tissues, will destroy the life of the former, we shall accomplish in a simple and rational manner what surgery has always been endeavoring to effect by all conceivable means of therapeutic art, characterized in the main by violence and suffering, and with most unsatisfactory results. The endless succession of new remedies in the history of its treatment is conclusive evidence of the inefficiency of all, of the necessity of something better. The lack of any specific internal remedy is universally acknowledged.

It may be interesting to consider how far the action of means, hitherto the most successful in results, confirm our present view of the pathology of lupus. In the first place all mechanical measures, which form the final resource in so large a proportion of cases, demonstrate that in removing the products of the disease, or lupus matter, we wholly or largely get rid of its essence or cause, or, in other words, that we are dealing with a local and not a constitutional affection. The knife and scraper should be radical in their action, if thoroughly enough handled, but the former cannot be employed over extensive areas, and the latter is necessarily a surface instrument. They may, and do in a crude way, remove the bulk of the bacillus or lupus growth, but they are not searching enough in their action. The knife, as a scarifier, probably owes its more or less favorable results to the washing out to the surface of bacilli through the free hemorrhage which follows, but the remedy has never given satisfaction in my hands, and, as already stated, has proved in some instances to be a most mischievous operation. The destruction of the diseased growths by heat would ensure, of course, that of the vegetable organisms they contain, and the same may be stated with regard to most of the caustics so successfully employed. Of some of the milder forms of remedies thus designated, and of a great number of so-called chemical agents, it may be said that we know but little

of their mode of operation; so far as they are operative it cannot be stated that it may not be due to their parasiticide action. This leads us to the question:

What is a parasiticide? As employed in medical language up to recent date the term embraced (in addition to its application to animal parasites) all remedies which checked or destroyed the growth of vegetable life parasite upon man when brought in contact with it. Practically it included the substances ordinarily employed in the treatment of the mycoses of the skin. Among them were some which were also widely used in the destruction of low forms of vegetable growths in other than human forms of parasitism, and to control various fermentative processes dependent upon the presence of similar organisms. More recently, since investigations have been carried on so successfully into the relationship of still milder forms of vegetable growths to far more important diseases of animal life, the field of applicability of such remedies has been widely extended, and systematic studies have been made with regard to the degree of destructive action of many substances upon them. As the result of careful experimentation, Koch has tabulated the comparative activity of some of the best known of these agents, as follows:

corrosive sublimate,  
chlorine water,  
bromine water,  
iodine water,

and recommends the sublimate as the most destructive of bacterial life.

Buchholz found that the development of bacteria in a modified Pasteur's fluid was prevented by the following agents in varying degrees of concentration:

by sublimate, 1 part in 20,000;  
by benzoate of soda, 1 part in 2,000;  
by salicylic acid, 1 part in 666;  
by carbolic acid, 1 part in 200.

As will be seen, among the most deadly of these are those which have long been in use as the most successful parasiticides in the treatment of the cutaneous mycoses, preparations of mercury, iodine, carbolic acid, etc., and with the action of which upon the skin we were well acquainted.

In January, 1884, Dontrelepon published<sup>2</sup> a report of the treatment of several cases of lupus by the application of solutions of corrosive sublimate, and immediately afterwards I repeated the experiment in cases of the disease then under my observation. Since then several mercurial preparations have been employed against the disease, and the action of other parasiticides upon it has been tested by dermatologists, particularly to be mentioned sulphurous acid and salicylic acid. Very successful results have been reported by competent and reliable observers with these remedies alone, and as they were purposely used in all instances in such weak forms as not to cause any irritation, far less destruction of the animal tissues, it is fair to conclude that their action was in consequence of their parasiticide properties.

I will briefly report the cases under my own observation during the past eighteen months. The first nine were out-patients at the Massachusetts General Hospital.

CASE 1. A man of Irish descent, thirty years old. The disease had existed since childhood upon the left arm, progressing gradually in a serpigineous form, and

<sup>2</sup> Mountsicht für Prakt. Dermat. Bd. III. No. 1.

leaving considerable areas of scar tissue above and below the elbow. When first seen there remained two quite large ulcerative patches upon the arm, covered with thick crusts, and numerous large and small tubercles, more or less softened but not denuded. The right ear was generally thickened and exfoliating, and presented a few small tubercles. A solution of bichloride of mercury, a grain in an ounce of water, was applied every morning and evening for half an hour upon thin compresses kept constantly wet. After three or four weeks of this treatment the tubercles gradually shrivelled up and sank down to the level of the general surface, and lost their dark-red color. The crusts fell off, and, after forming once or twice slightly, ceased to be re-established, and gave place in some six or eight weeks to a thin, exfoliating epidermal covering. At this stage of advanced improvement the patient ceased to attend my service.

CASE II. A girl of fourteen years. The disease was of two years' duration. It occupied considerable portions of the cheeks, lips, nose, and extended within the cavity of the nostrils, and was mostly in a crusting ulcerative condition. After a preparatory treatment of the ulceration by a wash, tartrate of iron and potash  $\mathfrak{ss}$ , water  $\mathfrak{o}$ , and a boracic acid ointment for two weeks, a wash of corrosive sublimate, two grains in an ounce of water, was applied, as in Case I, for a short time, during which some of the ulcers healed, but the patient escaped from my observation too soon to allow the action of the remedies to be properly estimated.

CASE III. A girl, aged eighteen, from New Brunswick. The disease was of six years' duration. She had had hip disease in early childhood. The upper portion of the right cheek was largely occupied by scattered tubercles of various sizes, several of which were soft and covered with scales. There was no ulceration. The solution of corrosive sublimate was applied for an hour in the morning, and in the evening the tubercles were thickly covered with an ointment, Hydrarg. bichlor. gr.ii, adeps  $\mathfrak{ss}$ . After three weeks of this treatment the tubercles had almost wholly disappeared, leaving only dull red macules to mark their former seat.

CASE IV. A boy, six years old, native of Boston. The disease had begun upon the edge of the nostril a year previously and had rapidly spread until the integument of the lower three-fourths of the nose was in a state of active ulceration, covered with thick crusts. It was greatly swollen. There was an older patch of the disease upon the arm, presenting scar tissue and a few indolent tubercles. One of the glands upon the side of the neck was in a state of "scrofulous" induration and enlargement. The bichloride wash was applied to the nose and the same in ointment form to the arm. In the course of a fortnight the nose had regained its normal size, and the granulations of the ulcerating surface were assuming a healthy and firm condition. At this time the patient showed signs of slight mercurial stomatitis. The application of the wash upon the nose was discontinued for a few days, and then used reduced to one grain to the ounce. At the end of six weeks the nose had completely healed over, leaving a nearly smooth surface. The tubercles upon the arm had completely vanished under the action of the ointment, which had been constantly applied morning and evening. The gland in the neck remained unchanged.

CASE V. A boy, aged thirteen, native of Boston. The disease had existed several years, and occupied

the whole chin, spreading down continuously upon the front neck to the level of the larynx. The central portion of this area was occupied by scar tissue, bounded in some places by active, crusting ulcers, in others by large boggy tubercles. The wash of bichloride of mercury was applied to the ulcerating surfaces, and the ointment to the tubercles. Within a fortnight the latter had shrivelled up in a surprising manner, and in a month they had entirely disappeared. The wash, on the other hand, seemed to produce but little impression upon the crusts and ulcers, and fearing to lose sight of the patient, and also partly for the purpose of exhibiting the process to my class, I treated this portion subsequently with the stick of nitrate of silver, under the repeated use of which the parts took on a healthy action.

CASE VI. A girl, aged fourteen, living in Boston. She exhibited on one arm a group of crusting tubercles of two years' duration. Upon the other arm there was a scar, the result of the same disease, which had not been in a state of activity for five years. Under the action of the bichloride wash and ointment, the tubercles were rapidly sinking down after a few week's use. She then ceased to attend my clinic.

CASE VII. A girl, eleven years old, a native of Massachusetts. There was upon the left cheek a firm, elevated patch, one by two inches in area, with sharply defined edges, slowly progressing through a course of six years. It was an example of the variety called by Vidal sclerosus lupus.<sup>3</sup> There were no well-defined tubercles, nor any ulceration or crust formation. The bichloride ointment, two grains to the ounce, was applied twice a day, but with very slow results. After its use for four months the whole patch had become depressed to one half its former elevation. The case is still under observation.

CASE VIII. A girl, thirteen years old, a native of Massachusetts. The patient had been under my treatment two years previous to the beginning of this series of experiments. She had when first seen numerous patches of sclerosus lupus scattered over arms and legs, varying in size from a dime to a silver dollar, and of irregular shape. The forehead was almost wholly occupied by the disease, as well as a large area of the skin below the chin. These patches were characterized by a nearly uniform, thickened, elevated condition, somewhat depressed in the centre, and by sharply defined, perpendicular edges. The central portions of the largest consisted of smooth cicatricial tissue, while the more recent parts were somewhat tubercular in appearance, especially at the edges, but the diseased tissue was very firm throughout, presenting very few inequalities of surface. There was scarcely any boggy tissue at any point, and the sharp stick of nitrate of silver had been made to enter it with very great difficulty. The case had been throughout an exceptionally intractable one under well known remedies. Two or three of the smaller patches had wholly disappeared finally after the repeated use of pyrogallie acid,  $\mathfrak{ss}$  to  $\mathfrak{ss}$ , but the larger part of them had resisted its action. A year ago I began to use upon several of the patches the wash and ointment of bichloride of mercury, and this treatment has been continued with numerous interruptions up to the present time. Under these applications, the elevated margins have very gradually sunk down nearly to the general level, and the dull, reddish-brown color has

<sup>3</sup> *Annales de Derm.*, et *Syph.*, 1883, p. 111.

grown pale, but the change has been exceedingly slow, and none of the patches can be said to have become wholly well again. During the use of the applications about the chin, there was a decided attack of stomatitis, so that they had to be suspended for a time and used with much caution subsequently. Very much remains to be accomplished in this case.

CASE IX. A girl of Irish descent, aged twenty. There was upon the left cheek a crusting patch, the size of an almond. The nostrils were thinned and nicked. On the tip of the nose and upper lip were several large, softening tubercles, partly covered with crusts. The disease had been in existence several years. To all of these lesions the bichloride of mercury ointment was applied. The change in their condition which followed was immediate and remarkable. Within three or four weeks, the excoriated surfaces had healed, and the tubercles, both hard and soft, had shrunk down to the general level of the skin. At the end of two months treatment was discontinued, as all appearances of the disease had vanished. Six months later, but a few weeks ago, a new tubercle developed upon the upper lip, at the edge of the nostril, which had broken down into an open ulcer before the patient presented herself again for treatment. This is the only instance of recurrence of the disease which has occurred after this treatment in a spot once apparently restored to a healthy condition.

The three following cases were seen in private practice.

CASE X. A young lady, twenty-one years old, a native of Massachusetts. Five years ago, she was under treatment for lupus of the larynx by Dr. F. I. Knight, and a report of the case may be found in the "Transactions of the Laryngological Association," 1881, page 13. At that time she had, according to her statement, a sore nose. In April, 1883, the nose became "sore" again; and when first seen by me in October following, there was a large, boggy tubercle upon the tip of the nose and the nostrils were nearly stopped by crusts. She was anæmic and feeble. She had recently consulted Dr. Knight again, who found no disease of the larynx. An ointment of bichloride of mercury, one-half grain to the ounce, was first applied to the diseased parts, which after two weeks was raised to a grain to the ounce. In six weeks the nostrils had returned nearly to their natural condition at the edges, and the tip of the nose was much reduced in size, when it received a severe blow. Great inflammation followed, and the integument sloughed off, leaving an open ulcer as large as a dime. This slowly improved and had nearly healed under a continuation of the ointment, when a month later it again received a hard knock. This was succeeded by exuberant, fungoid granulation of the ulcerated surface, and great swelling of the whole organ. The application of the ointment was suspended, and the part was treated by a wash of tartrate of iron and potash, and a salve of boracic and carbolic acids as a dressing. In February the inflammation had so far subsided that the sulphurous acid treatment was begun, the tip of the nose being kept wet continuously through the day with a cloth dipped in a fifty per cent. aqueous solution of the same. This was used for seven weeks, but as it produced apparently no change in the lupus tissue, it was given up, and the part was thoroughly bored into with a crayon of nitrate of silver. This operation was repeated twice a week for two months, by which time

the part had completely healed. During the use of the bichloride, there was an attack of mercurial stomatitis, which led to the giving up of this method upon a part so near the mucous cavities.<sup>4</sup>

CASE XI. An American boy, aged five years. The patient was seen in January of this year. The disease began two years previously on the face and knee, and had made gradual and uninterrupted progress. He had an irregular, circular, elevated patch upon the right cheek, one by one-half inch in area, covered with a thick crust, which had been frequently removed by accident, to form again immediately. Upon the left knee there was a thickened and elevated lesion, of one-half the above size, soft and boggy in consistence, but still covered with epidermis. The general health had not deteriorated. An ointment of bichloride of mercury, one grain to the ounce, was directed to be applied to both patches twice a day. At the end of six weeks the crusts had ceased to form upon the cheek, and both patches had flattened down considerably and presented smooth surfaces. This treatment was continued until the middle of April, when an ointment — salicylic acid 3iss., vaseline ʒi, was substituted for the morning application of the mercurial salve. Two months later, the diseased portions of skin had returned to their natural level and presented a smooth, but still slightly discolored surface. When last seen, six months after the beginning of treatment, the appearances were as last described, and an application of a solution of salicylic acid in castor oil, four per cent., was directed to be made once a day to the parts, as the only and final treatment.

CASE XII. A girl, sixteen years old, native of Vermont. The disease began eight years ago upon the back of the left hand, and had gradually extended so as to effect nearly the whole arm. It began upon the face two years later. At her first visit in April, 1885, she presented the following appearances: The whole arm to within two inches of the axilla was greatly enlarged, partly by œdema, pitting on pressure, mostly by a firm infiltration, a true elephantiasis hypertrophy. The hand was some three inches thick at the palm. The fingers were enormously bottled, as in advanced dactylitis, and offered a dense resistance to pressure. In the palm, on the back of the hand, and upon the forearm, were very large and highly-elevated, flattened cicatrices, some what corrugated upon the surface. Also firm prominences of large extent near the elbow, penetrating apparently below the general depth of the integument, not at all cicatricial in character. There were in addition scattered over the forearm numerous verrucous outgrowths of considerable extent and of a dark color, such as often occur secondarily in true elephantiasis of the extremities. Large areas of integument covering the fingers, back of the hand, and in the vicinity of the elbow, were in a state of open excoriation, not exhibiting much activity or deep ulceration, and partially covered with crusts. This same condition, it was stated, preceded the formation of the cicatricial growths. The central face was occupied by numerous, isolated tubercles, the size of a large pea, many of which were boggy and scaly upon the surface. The lower portion of the septum and the edges of the nostrils were in a state of superficial, open ulceration, and the latter were thinned and pinched. The glands on both sides of the neck were greatly enlarged, and there were marks of old ulceration, now

<sup>4</sup> At date of this publication the patient is apparently cured.

extinct, over the seat of one of them, upon the left lower neck. The larynx was examined by Dr. Langmaid, and found to be in a healthy state. The patient was anemic, and was reported to have had many attacks of erysipelas of the affected parts. She had had no systematic treatment.

According to the father's report, her sister had, between the ages of two and ten, "similar sores all over," some of which ulcerated through the neck, and allowed the fluids of the throat to escape. The bones of the fingers and jaws were affected. The disease proved fatal at the latter age. He stated also that his own brother and sister died of consumption, and that his mother had "scrofulous sores."

This case presented such striking examples of lupus lesions of all grades, and at the same time, such marked manifestations of "scrofulous" disease, the deep cutaneous infiltrations, the dactylitis, the condition of the glands, that I asked my colleagues in Boston, Drs. Wigglesworth, Greenough, and Tilden, to see the patient. It was the most remarkable case of association of the two conditions that I had ever seen.

An ointment of bichloride of mercury, gr. i to  $\mathfrak{z}$ i, was directed to be applied twice a day to the lesions upon the face, and a dressing of salicylic acid in castor oil, a four per cent. solution, to be worn constantly over the ulcerating surfaces upon the hand and arm. Ten days after the beginning of this treatment, an erysipelatos dermatitis of face and arm, with a decided disturbance of the general system ensued, so that the local remedies were suspended for two weeks. The attack was said by the patient to be identical with those which had occurred several times previously. Two months after the beginning of treatment she returned to Boston from her home. She had gained greatly in weight and strength. The tubercles upon the face had subsided nearly to the level of the skin, and the excoriations about the nostrils had disappeared. All the ulcerated areas upon the hand and arm had healed, and were covered with a nearly normal epidermis. There had been no change in the deeply infiltrated prominences, nor in the dactylitic condition of the fingers. It should be stated that the patient had been taking cod liver oil during this period, and that according to her statement, the disease was generally better in warm weather; but it seemed to me extremely improbable that such marked changes in the lesions could take place independently of the action of the local remedies.<sup>5</sup>

Although the number of cases here reported is small, and the larger part of the patients were imperfectly under observation and control, owing to the nature of an out-patient service, some positive conclusions may be drawn from their study, I think. The lesions of lupus in their early forms are certainly and rapidly acted upon by the direct application of corrosive sublimate. The tubercular manifestations, large and small, firm and soft, almost immediately begin to undergo a change under its influence. They shrivel and become paler in a single week after its application, and, in the majority of cases, shrink down to the general level of the skin in a month, or, in the case of large nodules, within two months. Rarely has it seemed necessary to prolong the treatment beyond this period.

The tissue involved returns to its natural condition apparently in all respects — consistence, color, and epidermal covering. In the more advanced stages of the disease, the ulcerating, crusting forms, I have not been so well satisfied with the action of the sublimate. It has been more uncertain, and always much slower in controlling the progress of the affection. In two cases I was obliged to give up its use, so inert did it appear to be. On the other hand, in some cases its action upon areas of open ulceration has been completely effective. Upon the least advanced or retrograded forms, the dull-red, more or less thickened, glazed or excoriating areas, sometimes extensive, its action is slow but seemingly satisfactory, the skin gradually recovering its natural appearances. In the rare sclerous forms of the disease, like all other remedies, its beneficial effect is extremely protracted, but still unmistakable. With regard to the durability of its action or the completeness of the cure which follows its use, it compares favorably, in my opinion, with other remedies. I do not speak with any certainty upon this point, for my experiments with it, at the farthest, run back but eighteen months, and relapses among out-patients often fail to be reported, but the cures have presented every appearance of being complete, so far as one can judge by the external condition of the skin, and I have seen but a single point of recurrence among all the cases. If its use be continued long and thoroughly enough, a point not yet sufficiently determined, I see no reason to doubt its absolute power over the parasitic nature of lupus. Concerning the best form of application, I am convinced that the sublimate ointment is much more effective in tubercular and all closed forms of lesion than the wash. It needs to be applied but twice a day to act continuously upon them, and the agent penetrates more deeply, I believe, in this form than in that of aqueous solution. Upon open, ulcerated, and crusted surfaces, I have chiefly used the latter, as it seems more appropriate to do so, although I have no satisfactory reason to offer for this opinion. Neither do I feel at all certain that I have employed the remedy in either form as strong or freely as I might have done safely and with more rapid results. The only objection to a more constant or a continuous application, or to a greater strength than one or two grains to the ounce of fat or water, is the possibility of the absorption of the drug to a dangerous degree. In the few accounts of its use in the disease which I have seen, it has been stated that no such results have followed; but in two or three of the cases under my observation, a decided stomatitis, salivation, red line about the edge of the gums, and swollen approximate glands, have ensued after the use of the above preparations for two or three weeks. This result never occurred, however, except when the disease affected the regions immediately bordering upon the mouth, and always rapidly subsided when they were omitted for a short time. In this region, so frequently the seat of the disease, such a danger is a decided objection to the use of mercurials, but with proper caution they may be effectively employed. I have seen no evidence of more general absorption or systematic poisoning, and I shall not hesitate to employ hereafter still more concentrated and continuous applications. I have had no experience with other forms of mercurial preparations, recently advised by Unna and others, nor do I see how they could be more effective than those of corrosive sublimate used in the above cases. I am desirous, however,

<sup>5</sup> Soon in September again, the patient's face presented no trace of the former tubercles, the skin of the arm had become entirely smooth, and the hand had resumed its natural condition so far that she could take lessons in piano playing. These later changes had followed the exclusive use of the application of salicylic acid.

of testing the effect of injecting its solution directly into the lupus lesions.

With the action of sulphurous acid in the disease, so strongly recommended by Mr. Hutchinson of London,<sup>6</sup> I have had but little experience, having employed it for a short time only in but three cases of the affection. Its powerful suffocative effects on inhalation when applied upon or about the lower face, its rapid volatilization when used as an evaporating lotion, and the speedy deterioration of its aqueous solution, are strong objections to its selection as a parasiticide in this affection. Possibly its solution in oil may be a more serviceable preparation. In any form its action would rank below that of bichloride of mercury in effectiveness, and its only superiority lies in its absolute safety when used over extensive areas.

Only recently I have been studying the action of salicylic acid upon the disease, in consequence of a notice of its employment by Marshall.<sup>7</sup> I have used it in solution in castor oil in three cases, in strength varying from two per cent. to four per cent. It dissolves readily when warmed with the oil. I have kept pieces of sheet lint saturated with the above solutions upon lesions of all grades and of considerable extent, and in every instance it has been well borne, forming indeed a bland and soothing dressing to the most active ulcerating surfaces in the affection. In one case only have I used it upon parts not previously treated by parasitides, and in this (case xii) extensive areas of skin in a state of excoriation rapidly healed under the continuous dressings. Large groups of tubercles also were dwindling away under the same treatment, but I consider my experiments with it all too brief and limited to permit any conclusions to be drawn from them as to its value.<sup>8</sup> If its activity and certainty as a remedial agent shall be demonstrated, it will be of great service because of its non-irritative and absolutely harmless action upon the skin and general system, however extensively or continuously employed.

I present this very limited experience in the use of parasitides in lupus and the meagre conclusions I have ventured to offer, to this association, in no sense as a satisfactory demonstration of their value, or as positively confirmatory of the bacillus nature of the disease; but so far as they go they have led me to form a decided opinion in favor of both, and I have little doubt that the continued study of the subject will lead to most valuable improvements in the therapeutics of the affection. The desire that my colleagues here may take an active and immediate interest in settling this important question must be a sufficient excuse for bringing to their notice so imperfect a contribution to the subject. Should farther experiments confirm the favorable impression produced by the recent trials of these remedies, what a revolution may they not be foretelling in our future power over, not merely other forms of tuberculosis, but syphilis and leprosy as well, by direct medication.

It is stated by the daily papers that the anti-vaccination crank who has stirred up most of the resistance to vaccination in Chicago and Montreal, on being arrested, was found to have been vaccinated three times, the last time within a few weeks.

## SIMPLE CATARACT EXTRACTION.

BY HENRY W. WILLIAMS, A.M., M.D.,

Professor of Ophthalmology in Harvard University.

### II.

#### INDICATIONS FOR THE OPERATION.

THE last number of the *Annales d'Oculistique* contains a second able article on cataract extraction, by Dr. De Wecker, in which he considers the question of how much which is new, and how much which is worth preserving, has appeared during the twenty years of abandonment, by most ophthalmologists, of the former methods, and the substitution of the linear incision combined with iridectomy advocated by Von Gräfe. The capital points of difference were: first, the placing the incision in the sclera rather than in the transparent cornea; second, the reducing the height of the flap; third, the combination with iridectomy. The advocates of a linear scleral incision held that a better coaptation was obtained by giving to the wound a linear form, and that immediate cicatrization was promoted by the placing of the section in a more highly vascular tissue than the cornea. While, in Dr. de Wecker's judgment, we should utilize, as far as possible, every endeavor to obtain accurate coaptation and speedy healing of the wound, we can neither think of returning to the methods of the older operators, whose flap incision included half the periphery of the cornea, nor, on the other hand, should we extend the base of the flap into the non-transparent border of the cornea and too near to the iridal angle. At the time of the publication of his first paper on the subject, Dr. de Wecker was not aware that the method of simple extraction he so judiciously advocated, had already been for a long time preferred by eminent English operators, whose opinions he now cites as corroborating his own. Sir Wm. Bowman writes as follows: "I do not remember that I ever made a great point of the section for extraction of cataract being *exactly* one-third of the sclero-corneal margin, neither more nor less; but this certainly was about what it amounted to in a large number of cases. The extent of the incision varied according to one's conception of what the size and bulk, hardness or softness of the lens was likely to prove in the particular case; the principle being, to make the incision *quite large enough* but not *needlessly large*, to admit of the lens emerging without undue pressure and dragging, or the risk of having fragments broken off in its passage. I speak of extraction without iridectomy and without scoop. I generally preferred the incision to run in or near the corneal margin; but I was in the habit for many years of trying various methods, from extreme marginal to more or less far intra-corneal ones."

Mr. Critchett, in cases where he thought there was little risk of suppurative, performed Lebrun's median flap operation; the incision being wholly within the limits of the cornea, and the apex of the flap being nearly at the level of the upper margin of the pupil in a state of moderate dilatation.

Dr. de Wecker admits, with Bowman, that a wise eclecticism may allow of a somewhat larger flap than that which he advocates, comprising exactly the upper third of the cornea, in cases where the size or density of the lens may require more room for its easy emergence.

The facility with which the iris became nipped between the edges of the peripheral sections, had led their advocates to perform large excisions of this men-

<sup>6</sup> Medical Times and Gazette, April 26, 1881.

<sup>7</sup> British Medical Journal, June 25, 1881.

<sup>8</sup> See foot-note to page 413.

brane. But pathological anatomical researches have shown that the supposed advantages of this excision were illusory, and that, in nearly all the eyes dissected after a peripheral extraction combined with iridectomy, adhesions and strangulations were found.

There is no comparing such adhesions of peripheral portions of the iris, in a wound close to its ciliary insertion; with adhesions of the iris, near its sphincter, to a corneal cicatrix.

The first of these conditions involves pain and extreme sensitiveness of the ciliary region, often going on to destructive irido-choroiditis; whilst prolapsus and adhesions of the sphincter or of neighboring parts of the iris in the corneal wound, are the source of no trouble.

The results of good operators with Gräfe's operation show a diminished proportion of suppurations as compared with the ancient flap methods, but they also show a more tedious and painful curative process, and the frequent occurrence of destructive irido-cyclitis after months of suffering, with perhaps the subsequent loss of the other eye by migratory inflammation—accidents which were quite unknown to the older operators.

In discussing the possible merits of combinations of simple extractions with iridectomy, Dr. de Wecker insists strongly on the evils attending the excision of even small portions of the iris, as giving opportunity for capsular adhesions; and calls attention to the importance of preserving the integrity of the iris so that the physiological action of its sphincter shall be unimpaired, in order that by its traction upon the peripheral portion the iridal angle shall be kept free; instead of allowing this angle to be effaced by adhesions of the incised edges of the iris to the inner surface of the wound; which disturb the system of filtration through the lymphatic spaces of the eye and perhaps create a cicatrix favorable to the migration of germs from without.

Healthy conditions at the iridal angle are a potent safeguard against subsequent accidents.

In Dr. de Wecker's opinion it is also proven that excisions of the iris, far from being a help, are a disadvantage as regards the healing of the wounds after cataract extraction, and that the keeping of the sphincter intact gives greater security for perfect cicatrization. In his judgment, the conditions in which iridectomy may be allowed are limited to those cases of cataract in subjects less than sixty years of age, and in diabetic patients, where viscous portions of cortical lenticular substance remain adherent within the capsule and are only to be dislodged by prolonged friction. With these he would include some cases of unripe cataract; although such immature cataracts are usually of firm consistence and are readily expelled, even when still so transparent as to allow of one-tenth of visual acuteness; provided the corneal incision has been made sufficiently large.

Iridectomy may also be done if an increased tension of the eyeball, or a persistent disposition to prolapse of the iris through the wound, causes suspicion of glaucomatous tendencies; or if much indolence of a patient may threaten to give rise to secondary prolapsus; but it should be done in these cases only at the last period of the operation.

The advantages obtained in cataract operations by the use of cocaine are inestimable. Almost instantaneous abolition of sensibility of the eye being thus obtained,

every part of the operation may be deliberately done, without disturbing the patient's tranquility, and without rendering him unconscious; and with much aid, in many cases, on his part, in turning and retaining the eyeball in the desired positions.

Less use of subsidiary instruments is also made possible, and the inconveniences and occasional dangers resulting from the use of anæsthetics as well as the risks involved in operating where these were not employed, are wholly and most agreeably avoided.

## CASE OF EARLY SYPHILITIC CEPHALALGIA FOLLOWED BY APIASIA, PARAPLEGIA AND DEATH, WITH AN ACCOUNT OF THE AUTOPSY.<sup>1</sup>

BY LE GRAND N. DENSLAW, M.D.,

*Professor of Diseases of the Skin and Syphilis in the St. Paul Medical College.*

ON April 29, 1885, I was called to see Mr. B. in consultation with Dr. Ritchie. Dr. Ritchie gave me the following history:

About two months ago the patient was first seen. He was then suffering from a very severe headache, which was much worse at night. Had alopecia and a papular eruption more pronounced about the face and scalp. He acknowledged having had a sore on the penis late last year. The doctor prescribed potassium iodide in increasing doses up to a half ounce daily, also croton chloral. At the end of two weeks the patient was free from pain, and, contrary to the doctor's advice, left for his home in the country. At the end of another two weeks, or one month after he was first seen, he wrote that the pain in the head had returned, and that he had not been taking any medicine for several days. Dr. Ritchie then ordered sixty-grain doses of the iodide three times daily, but by mistake, the patient was given that dose every two hours, with the result of upsetting his stomach, but not relieving the pain. He was then advised to come back to the city, which he did after two weeks delay.

At this time I saw him. He was then unable to speak, and was unable to comprehend questions, his hair was falling still, and he was paraplegic. The eruption had not yet disappeared. He was at once ordered one-tenth grain doses of calomel, hourly, and thirty-grain doses of iodide every two hours in three-fourths of a goblet of milk; he, however, sank very rapidly, and died comatose, May 3d, four days after I saw him, and two months after first coming under observation.

Autopsy at midnight of the same day, twelve hours after death. Rigor mortis well marked. Body fairly well nourished. No oedema. No external signs of injury. Abdominal and thoracic cavities normal. On removing the calvarium, the dura-mater along the superior longitudinal sinus was found to be thickened and adherent to the pia mater. On the external surface of the pia there were seen numerous small gummata or cheesy-like masses about the size of millet seeds; these were situated mostly along the right border of the superior longitudinal sinus extending down to the upper extremity of the fissure of Sylvius. Both the dura and the pia mater showed signs of simple acute inflammatory changes in the regions covered by those masses. The ventricles

<sup>1</sup> Read before the American Dermatological Society, Aug. 28, 1885.

and interior of the brain showed no pathological changes.

This is, I believe, the first autopsy ever reported, in this country at least, subsequent to the cephalalgia of early syphilis.

### Reports of Societies.

#### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M. D., SECRETARY.

OCTOBER 12, 1885, the President, Dr. F. W. DRAPER, in the Chair.

#### TWO CASES OF CALCULUS. RETENTION OF THE CATHETER.

Dr. A. T. CABOT showed the specimens from two cases of stone in the bladder, operated upon by him during the past week.

CASE I. A young man of twenty, from the Provinces, whose symptoms dated from last April. At that time he began to have pain during and after the act of micturition, the urine becoming thick, with a purulent sediment, and occasionally containing some blood. He had been sounded at his home and no stone had been detected. He entered the Mass. General Hospital October 9th, and a sound passed on that day touched a stone. October 10th, Dr. Cabot performed litholapaxy under ether. The stone when grasped showed a diameter of about one inch, and it broke up easily. When the lithotrite was withdrawn, it stuck somewhat in the prostate and came up so tightly through the urethra as to make it evident that some foreign body was caught between the blades. There was a good deal of resistance when the meatus was reached, and this had to be slit up considerably before the jaws of the lithotrite and their contents could pass through. It was then seen that several fragments of a leather shoe-string were in the grasp of the instrument.

The stone, which had been thoroughly crushed, was pumped out, and among the debris were many small pieces of the string. The stone weighed one hundred and thirteen grains and the string was about eight inches long. The patient confessed on the following morning to having lost the string in the bladder on the 28th day of last April. His recovery from the operation has been satisfactory, his temperature not having been above 99° F. since the following day.

CASE II. The patient, a stout man of fifty-seven, entered the Mass. General Hospital October 5th, 1885, with the following history. Seven years ago he was seized with "kidney colic," and this recurred again four years ago. At neither of these times did he pass any calculus of appreciable size; and as each of these attacks came and went gradually, it seems probable that they were caused by the passage of fine sand rather than by a single stone. He has had no urinary symptoms since that time until ten days ago, when he was suddenly seized with pain, referred to the root of the penis and accompanied by obstruction to the passage of water. This continued until three days ago, when the stoppage became almost complete. On the day of entrance, Dr. Van Slyck, of Brookline, who was called, passed a metallic instrument and touched a stone impacted in the urethra. He was etherized, and Dr. Cabot with a sound pushed the calculus, which

was in the prostatic urethra, back into the bladder. On attempting to pass a tube, the urethra was found to be a very narrow one, barely admitting a 25 F., even after the meatus was freely slit. The calculus would not pass through the tube of this size and it was accordingly crushed and pumped out. Its weight was only ten grains. After the operation the patient continued to have considerable difficulty in passing water, and his temperature went up each evening to about 103° F., falling in the morning to normal. On the third day, the difficulty in micturition remaining unabated, an English webbing catheter was introduced and tied in. The temperature at once fell nearly to normal and remained there.

This case seemed to illustrate very well the advantage which is occasionally to be derived from constant and efficient drainage of the bladder through a catheter. It seemed probable that the obstruction was due to inflammatory swelling in the prostatic urethra, consequent upon the irritation of the calculus. The drainage of the bladder gave the parts rest and the chance to recover themselves.

Dr. GEORGE W. GAY said that his experience had taught him that while leaving in the catheter often does more harm than good, yet that there were cases in which it results in a better condition with less irritation than frequently passing it. He cannot indicate the cases exactly, but knows that both classes exist, and thinks that there is a prejudice on the subject which is not well founded.

Dr. F. S. WATSON said that Dr. Cabot's case well illustrates the advantage to be derived in certain cases from the practice of tying in a catheter after operations on the urethra or bladder. There should be no hard and fast routine rule of employing this method of treatment or of omitting it. He had advocated in general the omission of a catheter *à demeure*, after internal urethrotomy for anterior strictures. There, however, is generally no question (if the operation has been well and thoroughly performed), of imperfect drainage from, or of complete power of emptying the bladder afterward from temporary inflammatory swelling of the prostatic mucous membrane, as was pointed out to be the condition in the case of stone just reported by Dr. Cabot. Where such an obstruction does exist, the use of the catheter is, no doubt, of value, for the reason that it secures good drainage from a bladder that cannot drain itself.

This, it seems to him, is a distinction which should be dwelt upon, as it gives a rational ground upon which to base the use or omission of the catheter in such cases. Where no such indication is present, the catheter may be omitted with advantage, as it itself is likely to prove a source of mechanical irritation and be productive only of harm, especially when employed, as it so frequently is, without especial precautions as regards cleanliness.

#### SARCOMA AND OSTEO-SARCOMA.

Dr. M. H. RICHARDSON showed a tumor removed by him from the internal femoral region of a man of thirty. Its origin was from the fibrous sheath of Hunter's canal and from the fibres of the adductor magnus, and it rested upon the femoral artery. The clinical diagnosis had been obscure, owing to the hardness of the tumor and its rate of growth, twelve years. The microscopic diagnosis, made by Dr. Whitney, was sarcoma with a shell of true bone. Removal had

involved some difficult dissection. So far there has been a good recovery.

To a question by Dr. Gay, Dr. Richardson answered that the tumor was separated from the femur by about an inch.

DR. GEORGE W. GAY said that it is rare for a sarcoma of twelve years to be no larger, yet that the difference in growth is surprising, and he illustrated this by the following cases:—

A sarcoma had risen from a sprained foot and this led to amputation of the leg five years ago. Two years later the disease reappeared, where the shoulder-strap of the artificial leg crosses the spine of the scapula, and in two years it had increased to an enormous growth which wore the lady out, she having been sick nine years in all. Another case having origin behind the axilla, after being twice removed, caused death in nine months from the beginning.

As a rule osteo-sarcomas were of rapid growth. Probably gentlemen present remembered Dr. Thorndike's amputation at the hip joint for a tumor of three years' standing, which, with the limb, weighed sixty pounds.

Dr. Gay also spoke of two cases high up on the humerus which being removed in about a year, did not heal, but necessitated amputation at the shoulder joint. These looked like the tumor shown by Dr. Richardson. He referred to a woman of twenty, confined with her second child six months ago, and remaining in bed five weeks. Six weeks ago a tumor was discovered attached to the symphysis pubis, and it is already five inches by six, and can be reached by a finger in the vagina as if attached to the symphysis by a hinge. The question of removal is under consideration.

On the other hand, cases will grow very slowly for years and then suddenly increase. A middle-aged woman has had a tumor of the parotid for eighteen years, and six months ago it was no larger than a walnut, but has since that time grown to the size of a goose egg, and is soft, bright red, and apparently a sarcoma. Dr. Richardson's case was, the speaker understood, of uniformly slow growth.

Dr. Gay believes in taking out sarcoma, even if it is fast in growth, and if it has to be repeated. Even if life is not prolonged yet it is made more comfortable, and the patient is kept out of the hands of quacks with their abuses. In a case recently under his care, he hesitated at a fifth operation; only because he believed that the disease had invaded the lung as well as accessible parts.

DR. CABOT said that Dr. Richardson's case had grown rapidly of late.

DR. WM. P. BOLLES read a paper entitled

#### ANTISEPTIC SURGERY AT THE BOSTON CITY HOSPITAL.

which was, as was stated by the reader, a report not of all the work done at the hospital, but of his own work merely, and during his recent term of service of about four and a half months only; and it did not include cases in which antiseptic surgery was not attempted, such as operations about the nose, mouth, urethra, rectum, and perineum, where the mechanical difficulties are great, and it did not, of course, include cases of injury in which the skin remains unbroken; but it did contain a report of every case in the service in which antiseptic surgery had been attempted; including all cuts and wounds other than those above excepted and most abscesses. These reports, which

were made with a certain amount of detail were not intended to advance any particular theory of disease, but to allow comparison with cases in which antiseptics is not attempted. They included cases in which the reader knew that complete asepsis had not been reached.

The methods involved a routine, in order to avoid the accidents otherwise sure to creep into a large service, such as the use of non-aseptic ligatures in a carefully cleansed wound, the use of instruments that may have been handled by unwashed hands after removal from a carbolic acid tray, and the like; accidents sufficient to make useless the precautions taken. The particular method used was that used in Vienna, and was chosen partly because of its formality, and partly because it is probably over sufficient. In outline it is as follows: "The patient who has had a complete bath and other cleansing within twenty-four hours if the operation is a great one, is first washed about the part with soap and water and scrubbed with a flesh brush; second, shaved; third, wet with two and a half per cent. of carbolic acid. The surgeon and all attendants who touch the affected part, first wash with soap and water, scrub with flesh brush, clean their nails; second, wet with the carbolic solution. If they have been dressing suppurating wounds, making vaginal or rectal examinations, or any such work; which is to be avoided if possible, before an operation; after washing, third, wash again in a purple solution of potassium permanganate, and rinse in a solution of oxalic acid, before wetting with carbolic acid. All wear clean washed coats. The instruments are laid in a five per cent. solution of carbolic. They must be scrupulously clean and bright. The silk for sutures and ligatures and the sponges are kept in five per cent. carbolic.

"The operation is done under a moderately continuous flow of two and a half per cent. of carbolic. Hemorrhage is carefully stopped, ligatures plentifully used and all ends cut, the wound, if possible, brought thoroughly together, drained if deep, and packed if hollow. Deep and muscular sutures are frequently used. The packings are made of strips of cleansed cheese-cloth, thoroughly dusted with fine iodoform, and parts of the same material are laid immediately over the wound. Cleansed gauze is laid over this and then common gauze and cotton and bandages. There are variations, but this is the essential plan."

No fresh cut has failed of immediate union to any important extent except where prevented by mechanical reasons. There has been almost no suppurating in fresh operations. There has been little surgical fever and no erysipelas or pyæmia. There has been little after-suppurating, and there has been no case of iodoform or carbolic poisoning. There has been a small extra diet and stimulant list.

DR. J. COLLINS WARREN said that antiseptic surgery resembles religion in that it is something that all strive for, and that such a paper will lead to renewed efforts.

While antiseptic treatment has made a great difference in the healing of wounds, yet it is not always successful, and fresh enthusiasm is needed to keep us up to the mark. To get the best results in hospital service, the co-operation of every one is needed, from superintendent to scrub-woman, and here lies a difficulty in our organization; in that with terms of short service, the surgeon finds his assistants of various grades untrained to his particular method, but to one

which, although perhaps as good, he does not prefer. Success lies in attention to detail; but though during his term, the surgeon trains his assistants, yet on resuming duty in the following year he finds the personnel changed and the work is to be done over.

Dr. Warren spoke highly of the use of sterilized cotton as a dressing which has been used at the Massachusetts General Hospital since last spring. It is sterilized by heat in tightly closed baskets, and can be prepared on the day of operation, although a longer exposure to a somewhat lower temperature is thought preferable. The physical properties of cotton so treated are desirable, it being moderately absorbent and soft and readily adapted to place. The idea of its use was taken from the cotton plugs of culture tubes.

Dr. E. H. BRADFORD said that having served with Dr. Bolles, then having succeeded him, he has both seen the carefulness of his work, and inherited the benefits of his system; and while he could testify to the difficulty of getting assistants properly trained, he did not think it so great as one would suppose from Dr. Warren's remarks. A needless amount of mystery has been thrown about the matter of antiseptic dressings, which is really but a matter of common sense. The methods of Lister are to-day antiquated, depending as they did upon the idea that the air is full of germs against which it is necessary to seal a wound. The more practical idea is that of the Germans. It is to keep the wound clean, not to guard it against a miasm. Irrigation is more practical than spray, and spray is useless if it is to be accompanied by dirty threads. The use of spray by men who did not understand what it can accomplish has done harm. The essentials are cleanliness, drainage and absorption of discharges. He prefers dressings of clean cheese-cloth wet with corrosive sublimate and partly dry. Then a half-inch of dry cotton treated with boracic acid and then bandages, over all he would place a layer of moss, which is not however collected here. Iodoform is useful. He closed his remarks by hoping that Dr. Warren would adhere to the religion of antiseptic surgery.

Dr. M. H. RICHARDSON said that he could testify to the good results from the use of sterilized cotton for this purpose.

Dr. CABOT criticized Dr. Bradford's remarks as giving the impression that Listerism is antiquated. Listerism, pure and simple, is keeping from the wound something that is outside of it, and which will make the wound do badly. Beyond this all is mere detail. The Lister gauze is still an excellent absorbent, and the spray acts mostly as an irrigator. One important element of an antiseptic dressing is firm, even pressure which prevents the flaps filling with blood, as they do if loosely put together.

Dr. GAY said that antiseptic surgery needs no argument, and it need not be intricate. If one keeps in his office an insufflator charged with iodoform, some absorbent cheese-cloth or cotton, and either carbolic acid or corrosive sublimate, he has all the apparatus necessary. A secret of success lies in bandaging, as Dr. Cabot says, and having got the wound clean, to keep it clean, and to avoid disturbing it by renewed dressings, thereby breaking fresh adhesions, a practice by which formerly much harm was done.

Dr. BRADFORD remarked that he had not said that Listerism in its broadest sense was antiquated; that

Listerism consisted in keeping out a special ferment, that is antiquated. Pasteur says that we prevent contagion, not that we prevent miasm.

#### NEW YORK STATE MEDICAL ASSOCIATION. FIFTH DISTRICT BRANCH.

First annual meeting held in Brooklyn, October 13th, 1885.

##### MORNING SESSION.

The meeting was called to order by the president, Dr. JOSEPH C. HUTCHINSON of Brooklyn, who made a short address. Dr. ROBERT NEWMAN of New York, read the first paper, which was on

##### THE PROGRESS OF ELECTROLYSIS IN SURGERY.

It was a continuation of his former paper, read before the American Medical Association in 1883, on electrolysis in surgery, with tabular statistics of one hundred cases of urethral stricture, successfully treated by this method, and its object was to show what had been accomplished in this field during the past two years. The only absolutely new application of electrolysis which had been made appeared to be the adoption of the method in the treatment of hernia and hemorrhoids, by Dr. Craft, of Cleveland. The radical cure of hernia, by means of electrolysis, was novel and original, and Dr. Craft's results had not been published, the information concerning them having been received by Dr. Newman through private correspondence. In a letter to him, dated Cleveland, May 7, 1885, Dr. Craft stated that he had been using electrolysis in two diseases which were not referred to in this connection in his paper, namely, hernia and hemorrhoids. He had applied a positive needle electrode, properly insulated, except at the point, subcutaneously between the external and internal rings, and allowed a sufficient galvanic current to pass between the poles, being careful not to injure the cord, and to keep the needle external to the peritoneum. This resulted in a cicatricial sealing up of the inguinal canal, and in many cases seemingly permanently.

In a second letter Dr. Craft described the method more fully, as follows: In operating, the hernia should be reduced first, and the sac carried up with it if possible. Invaginate the index finger in the scrotum, keeping the cord and sac, if it remain in the ring, well pressed to one side, and held there beneath the invaginated finger, which should be pushed into or through the external ring, if possible. Then with a sharp-pointed bistoury prick through the skin over the external ring. Through this puncture push a blunt-pointed needle electrode, insulated to within a quarter of an inch of the end, carrying it well up between the rings, by the side of the invaginated finger, which holds the cord and vessels from contact with the electrode. Connect the current of about ten cells of a good galvanic battery continuing the current for about six to ten minutes, according to the sensibilities of the patient, changing the point of the electrode from one side of the finger to the other, always keeping as clear of the cord as possible, and directing the current from the cord. The other electrode can be held by the patient in the hand of the side operated upon, or elsewhere as is desirable. You ask why I use the positive pole instead of the negative. For the reason that the posi-

tive is not as painful as the negative, and, being the acid pole, I conceived that it would excite sufficient irritation and inflammation, and at the same time coagulate the blood in the small vessels, thereby creating a harder cicatricial or adhesive inflammation than the negative or alkaline pole. I think the negative pole softens tissues and will cause absorption of already formed cicatricial tissues; but in hernia, we want a hard adhesive inflammation excited, thereby effectually sealing up the rings and canal. The more inflammation excited, (so that it does not injure the cord, and vessels, and falls short of suppuration), the more radical will be the effect. There is no foreign matter deposited, as is the case in subcutaneous injections, to form a nucleus for suppuration. The patient should lie in bed for at least two weeks, and then use a well-fitting truss for some time, until the parts become strong and firm.

Having described Dr. Craft's method of treating hæmorrhoids by means of electrolysis, Dr. Newman went on to speak of the successful results of its application in port wine marks, epilation, and uterine tumors. In regard to the practicability of the method in the treatment of the latter, he said there was a great diversity of opinion in the profession, and this was no doubt due to the fact that some such growths were amenable to electrolysis while others were not. A variety of circumstances also always had to be taken into consideration, such as the general state of the patient, and the great difference among operators. Whoever knew the power of electrolysis would have confidence that uterine fibroids and other tumors could be cured by it. In this connection he referred to over one hundred successful cases treated by Dr. Freeman, of Brooklyn, Dr. Everett, of Clyde, Ohio, and Drs. Menière and Apostole, of Paris. In conclusion, he spoke of the application of electrolysis to strictures of the eustachian tube, and of the esophagus.

In the discussion which followed the reading of the paper, Dr. Rochester, of Brooklyn, said that he believed electrolysis to be an extremely uncertain method of treating uterine fibroids, and mentioned some cases in which it had been tried under his personal observation.

Dr. NEWMAN said that electrolysis acted in different ways, according to the way in which it was used. Weak currents would cause absorption, while strong ones would destroy. His own experience had been different from that of Dr. Craft as regards the comparative painfulness of the action of the two poles. Contrary to him, he had found that the positive pole caused more pain, acting, as it did, as an acid caustic, while the negative acted as an alkaline caustic.

Dr. GOVAN, of Stony Point, Rockland County, read the report of a

#### CASE OF DEPRESSED FRACTURE OF THE SKULL FROM RAILROAD ACCIDENT.

The peculiarity of the case was that the depressed bone became raised spontaneously, and the patient, who had remained in a state of unconsciousness for several days, then began to recover.

Dr. GOVAN also read the report of a

#### CASE OF POISONING BY ANILINE OIL.

The accident was caused by the breaking of a carboy of aniline oil which the patient was engaged in carrying; so that his clothes became saturated with it, and he freely inhaled the vapors arising from it. He re-

mained in a stupor for a number of hours, and there was complete anesthesia of the entire cutaneous surface. On the third day also, there was some hæmorrhage from the bladder, and this continued for two days, when it was controlled by the use of tannic acid and *ava ursi*.

The president thought that the cutaneous anesthesia noted in this case was of the same character as that produced by carbolic acid. It was probably not known as generally in the profession as it deserved to be that carbolic acid was one of the best possible applications that could be made in cases of burns, as suggested by Dr. Squibb several years ago. He related some cases showing its efficacy in this regard.

Dr. GOVAN said that since he had met with the case that he had reported he had used aniline oil for the purpose of producing local anesthesia when laying open felons and performing other minor operations. There was absolutely no pain, even in cutting down to the bone, when the finger had first been dipped for a short time in the oil.

Dr. E. H. SQUIBB, of Brooklyn, remarked that the hæmorrhage from the bladder in Dr. Govan's case seemed to indicate that the aniline oil was largely contaminated with carbolic acid or other by-products of the coal tar series, different members of which were given off at different temperatures. It would be interesting to note whether the peculiar effects produced in this case would result from poisoning by a specimen of perfectly pure aniline oil.

Dr. WM. H. PAXCOFF, of Philadelphia, who was present by special invitation, said that generally when local anesthesia was resorted to, the patient suffered more or less pain from the operation, and he was gratified to learn from Dr. Govan that when aniline oil had been used for this purpose there was absolutely no pain during the cutting of a felon, for instance.

In his own practice he was in the habit of combining Bonwill's method of inducing anesthesia by means of rapid inspiration with the inhalation of a few whiffs of chloroform. Bonwill's method was not sufficient of itself, and he could not but feel that the efficacy of this procedure was largely due to its moral effect upon the patient. One great advantage of the use of general anesthetics over local was, that they not only prevented all pain, but also removed the dread of suffering.

#### AFTERNOON SESSION.

Dr. A. FLINT, of New York, read a paper on the subject

#### SUGGESTIONS IN REGARD TO THE CAUSATION AND TREATMENT OF ACUTE CORYZA.

In this affection the nostrils are first affected, and the trouble might go no further; but, as a rule, it progressed to other neighboring parts, with the result of producing pharyngitis, laryngitis, or bronchitis. The use of the term catarrh, which was often employed both by the profession and the laity in speaking of coryza and the other affections named, was an antiquated error, which should long ago have been given up. The word cold, so generally in use, implied a change of conditions in which the temperature of the atmosphere was necessarily concerned; but it was his aim to show that it was highly probable that coryza did not result from any agency connected with the atmosphere, but from a specific micro-organism.

In the first place, it was demonstrable that cold had

very little to do with the causation of coryza. Among those who were especially exposed to sudden successions of high and low temperature it was rare; and the same was true as regards those who are exposed continuously for a long time to cold.

In a large proportion of cases the affection could not be referred to any special exposure whatever, and experience thus furnished very little support for the ordinarily accepted view. As was well known, coryza often operated in a more or less general manner, more than one person being affected at a time; and this would seem to indicate a specific cause. This was everywhere recognized as regards influenza, and as the latter was only a more intense manifestation of the same disorder, it was logical to infer that the same held good in regard to ordinary colds. One fact which afforded support to the parasitic hypothesis was, that in a cold the various parts of the respiratory tract was affected, not simultaneously, but successively; which would be satisfactorily explained by the time which was required of the micro-organisms to multiply into colonies after obtaining a lodgment on the mucous membrane.

These, then, were some of the rational grounds for the probable parasitic origin of acute coryza. To establish the point with certainty it would be requisite to demonstrate that a specific micro-organism was always present in the affection, that it was never found in any other condition, and that it could be successfully cultivated outside of the body. It was highly desirable, therefore, that some of our competent microscopists should undertake the investigation of this subject in a thoroughly scientific manner.

#### TREATMENT.

If the existence of the parasite which he had assumed was a reality, Dr. Flint said, the destruction of the latter by some suitable agents would naturally cut short an attack of coryza at once. He had consulted four of the latest works in which the subject of coryza was treated, by authors of established reputation, namely: Cohen, Ingals, Robinson and Bosworth, and only one of the writers referred to the probable existence of a micro-organism capable of producing the irritation of the nasal mucous membrane met with in a "cold in the head." This was Cohen, and he spoke of the parasite exclusively in connection with the subject of influenza; not referring to it at all as the possible cause of ordinary coryza. All these writers, however, favorably mentioned the use of topical remedies.

Dr. Flint then referred to the Brandt treatment by means of carbolic acid and ammonia inhaled from a sponge; but stated that its efficacy had not been attributed to the antiparasitic action of the remedies employed. He did not claim any originality, he said, in calling attention to the probable parasitic origin of acute coryza. Many years ago, Dr. J. K. Mitchell, of Philadelphia, had intimated that such was the fact in regard to this and other similar affections, and more recently Sir Henry Holland, of London, and Mutter, of Vienna, had also entertained similar views. The topical treatment so generally recommended, while not ostensibly employed for its parasiticide action, would, he believed, be found in reality to derive its efficacy from its energy in this direction. Thus, among the agents so used were permanganate of potassium, salicylate of sodium, the vapor of turpentine, and quinine and camphor in combination.

Finally, having spoken of Hehnholz's quinine treat-

ment of hay fever, Dr. Flint said that if a parasiticide were to be discovered which was constantly successful in cases of acute coryza, it would afford strong rational grounds for the correctness of the doctrine suggested.

The paper was discussed by the President, Dr. Wyckoff, of Brooklyn, Dr. Brush, of Mount Vernon, Worcester County; Dr. Pancoast, of Philadelphia, and Dr. P. Brynberg Porter, of New York.

DR. WILLIAM MCCOLLOM, of Brooklyn, read the report of a rare case,

#### UNIFORM CIRRHOSIS OF BOTH LUNGS.

The patient had the history of specific disease in early life. A few months since, he began to suffer from emotional excitability and from occasional paroxysms of dyspnoea. These asthmatic seizures were liable to be brought on by unusual emotion or exercise, and as time went on, they increased in frequency. A careful physical examination of the chest, however, did not detect any appreciable cardiac or pulmonary trouble. Afterwards, Dr. Sherwell, of Brooklyn, examined the larynx, but found no evidence whatever of any disease. He expressed the opinion that there was probably an aneurism of the arch of the aorta. Still later, the patient was examined by Prof. Austin Flint, who found only some subcrepitant râles. He believed that there was pulmonary oedema present, but could not say from what cause it proceeded. In the meanwhile, the dyspnoea was steadily progressive, and on the 24th of September last the patient took to bed. On the 25th, he was examined by Dr. James R. Leaming, of New York, who thought that there were extensive pleuritic adhesions present, both old and new; an opinion in which he was confirmed by subsequent examinations.

The patient died October 5th, and the autopsy showed that the kidneys were entirely free from disease, and that the liver, with the exception of being possibly a little fatty, was also normal. The pericardium contained two ounces of fluid, and the right ventricle was found to be moderately dilated. Otherwise, the heart was perfectly healthy. The thoracic aorta was also free from disease. The lungs were of a dark gray or brown color, and floated in water. The parenchymatous structure of both lungs was very hard and dense, and creaked under the knife. There was no evidence of acute pneumonia, and no cavities were found. The only adhesions discovered were two slight ones at the top of the right lung, and they were evidently very old. (Specimens of the lungs were exhibited.)

DR. FLINT said that he remembered the case perfectly well, having made some notes on it himself, and he was very glad to know the results of the autopsy. When he made the examination of the patient's chest, he could discover nothing but the presence of a moist râle on both sides. He then felt quite sure that there must be disease of the kidneys, and requested specimens of the urine. When, however, the examination of the latter gave a negative result, he felt at a loss in regard to the case, and asked to be allowed to see the patient again. The condition of the lungs found after death completely explained the progressive dyspnoea, and at the same time, it served to illustrate the inadequacy of physical signs under certain circumstances.

The remarkable point about this case was the equal development of the pulmonary cirrhosis on the two sides. Almost invariably the condition was much more

marked in one lung than in the other, so that the difference between the two sides of the chest was very apparent. The existence of moist râles in connection with a normal condition of the heart seemed to him to indicate kidney disease, and he was therefore surprised to find that the urine gave no evidence of this. On the whole, therefore, he considered it a very interesting case, and the specimens that had been presented he believed were unique. He thought it worth while, in this connection, to call attention to the mechanism of subcrepitant râles. One observer, as the history showed, had referred these râles in the present case to the presence of pleuritic adhesions. From the result of the autopsy, however, it was partly evident that here the subcrepitant râles were produced in the smaller bronchial tubes, and not in the pleurae.

Dr. PANCOAST having been called upon by the Chair, made an address on

#### SOME POINTS IN SURGICAL PRACTICE AND SURGICAL ANATOMY.

The first topic upon which he spoke was a system of surgical treatment which had proved of great value in his hands, to which he had given the name of "the antiphlogistic touch of the therapeutic knife." If he saw a patient early enough, this enabled him to say with almost absolute certainty that there would be no abscess. Having exhibited the little knives which he had devised, he stated they were so shaped as to puncture without cutting, and that they left no scar. By means of one of these, the part was punctured in numerous places, and the dead blood left out. The method was applicable to tumors of almost any sort, as it afforded the best possible deep-seated blood-letting of the part. The moment a bulb, or other gathering, became hard and refused to yield to the action of local applications, he freely punctured it with his little knife, and occasionally he found that there would be a drop of pus on the point. By this method he had even cured some cases of goitre, both cystic and fibroid, or at least, rendered the growth so small that it gave no further trouble. He also gave internal remedies, however, such as Donovan's solution and iodide of potassium, with the addition of cinchona or whiskey, if the patient's condition seemed to demand it.

The next point was one in connection with the surgical anatomy of the face, namely, the special value of the malar bone, which was often overlooked by surgeons. It was one of the hardest bones in the whole skull, and it therefore served as a great protection; while if it could be saved, much deformity of the face might be prevented. In excision of the superior maxilla, consequently, he always made it a point to have this bone in position; and he then proceeded to describe the operation which he had devised for this purpose. This consisted in a double curved incision, and, after turning back the soft parts, in inserting a chain saw through the speno-maxillary fissure, and so cutting through the articulation of the superior maxillary with the malar bone. The value of the malar bone in protecting the brain was well illustrated in the case of a boy, from whose face he extracted the breech-pin of a gun which had been imbedded in it, without any one's knowledge, for eleven months. The gun had exploded in his hands, knocking him senseless; and the breech-pin had buried itself so completely in the tissues that it was not discovered by the physician who attended him. Strange as this case seemed, it was not unique;

similar ones having been reported by the late Dr. J. R. Barton, and by a surgeon to one of the ophthalmic hospitals.

Dr. Pancoast next made a report of his treatment of varicocele, which he said he had now successfully practiced in over four hundred cases. It was very simple, and therefore in marked contrast to that so much in vogue in New York, which involved the cutting away of a portion of the scrotum. He did not think the latter a philosophical procedure, because it simply shortened the bag in which the enlarged veins were contained, and this could be more efficiently done by suspending them in a muslin bag, because the latter was indistensible, while the shortened scrotum, consisting of elastic tissues, would gradually stretch more and more; so that the trouble would eventually return. It did not, therefore, go to the root of the evil. Still more serious and complicated was the operation described by Mr. Lee in the *Lancet* of April 18, 1885, in which he cut open the scrotum and lifted out the veins of the spermatic cord; and in both these operations there was no little danger of erysipelas setting in. In his own operation, the patient was cured in three or four days, instead of as many weeks. It consisted of transfixing the scrotum with a sail-maker's needle (which had a good point, but no sharp edges), and passing between the vas deferens and the veins a strong silk ligature, which, having been carried around the veins, was then brought out at the point of insertion. The ends of the ligature were then tightly secured over a button of German silver or zinc, and the veins being thus strangled, the ulcerative process went on rapidly.

Dr. Pancoast afterwards spoke of the treatment of stricture of the urethra by his urethrotome, modelled after Mr. Syme's instrument, and the systematic use of dilatation after the cutting; of the advantages of using sutures of pure black silk, dyed with iron; of the treatment of comminuted fractures of the bones of the leg and forearm, and of the neck of the femur in the aged; of an operation for incurvature of the penis, devised by his father; of the treatment of fistula in ano by the antiseptic ligature; and of the removal of chancres with the knife.

The address was discussed by the President, and by Drs. Gouley, Garrish and Newman; and on motion of Dr. Garrish, a vote of thanks was tendered Professor Pancoast.

It was decided that the next special meeting of the Branch Association should be held in Yonkers, Westchester Co., on the second Tuesday in March, 1886.

#### NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED MEETING, October 19, 1885.

Dr. FREDERIC S. DENNIS read a paper on

#### FRACTURE OF THE PAFFELLA, WITH ILLUSTRATIVE CASES.

It was devoted to the treatment of this fracture by wiring the fragments together. Although this operation had been recently revived by Mr. Lister, he said it was originally performed by Dr. J. R. Barton, of Philadelphia, in 1834, and was afterwards practised by McClellan, Logan, and other American surgeons.

At the present day there were two classes who represented surgical opinion. The first considered the procedure perfectly justifiable, believing that when it was

performed with proper antiseptic precautions, it was unattended with danger. Previous to the year 1883, however, out of forty-nine cases in which it was resorted to, two had proved fatal, while in six it was followed by suppurative and ankylosis. But since then the results had been materially better. Dr. Dennis said that he had been unable to collect all the cases of the operation since 1883, but thought that a fair estimate would make them over fifty in number. Among these no deaths had been recorded, and in only three instances, one of which was a case of compound fracture, was there suppuration. Now and then, it was natural that there should be a failure.

The second class of surgeons referred to held that the operation was unjustifiable on account of the great risk involved in opening the joint, and claimed that equally good results could be obtained by the older methods of treatment.

Dr. Dennis stated that he had treated about sixty cases of fracture of the patella altogether himself, and that among those in which he had employed the older methods, there were very few in which there was osseous union and the function of the joint was perfectly restored. He then exhibited a specimen, which he said was unique, showing bony union; the case being one which was treated before the use of wire sutures came into vogue. He also referred to a patient eighty-eight years of age, now under treatment in St. Vincent's Hospital, in whose case bony union had been obtained. He was fully convinced, he said, that the modern antiseptic operation could, as a rule, offer the results of osseous union and a perfect joint; which every surgeon knew the difficulty of obtaining by any of the older methods, and under proper restrictions, he believed it to be an ideal operation. No surgeon should undertake it, however, without a thorough appreciation of the responsibilities which it involved.

In the memorable debate of 1883, Lister claimed for this procedure that it relieved muscular spasm and also gave exit to the blood confined within the joint; and when it was contended that the same results could be more safely obtained by tenotomy and the use of aspiration, he replied that he would put the justifiableness of the operation on the ground that he had faith in his antiseptics. But the reasons of Mr. Lister, he thought, did not wholly justify us in performing it. There were still stronger ones; for while it not only relieved muscular spasm and gave exit to the blood in the joint, it also resulted in every properly treated case in osseous union and unimpaired movements of the joint. By the older methods, as had been intimated, bony union was very rare; and one great reason for this, he thought, was that the layer of tissues in front of the patella gets in between the fragments.

He then mentioned the following three arguments in favor of the newer and bolder treatment: (1) The absence of danger to life and limb. (2) The superior results as regards the functions of the limb and of the joint. (3) The greater rapidity of repair. All these points could be substantiated by clinical evidence. In regard to the first, the absence of danger, he said that since 1883, out of the fifty or more cases, there had not been a single case of blood-poisoning. The less favorable results which had been noted previous to 1883, were, no doubt, due to the fact that the operation was then in its infancy, and all the details required for success were not sufficiently appreciated. It was safe to predict that in the future operation would be en-

tirely free from all danger to life. One great gain since the earlier operations by the new method had been in the shortened time of operating; for while formerly about two hours were required, now thirty minutes was quite sufficient for its importance. A source of delay had, no doubt, been the unsatisfactory way of boring the holes for the sutures in the bone; but with the Archimedian drill which he now employed this could be done very expeditiously.

Perhaps, he continued, the most brilliant test of the operation was to be found in compound fracture, in which no one now pretended to doubt its superiority. To illustrate this he related a case which occurred ten years ago, and which, although the patient recovered with ankylosis of the joint, was then regarded as a triumph of surgery. Quite recently he had himself had a case of compound fracture under treatment. The patient fell from a scaffold, fracturing the patella transversely, and the joint was found to be wide open, and filled with blood. Yet in a few weeks the man was walking about again with perfect ease, and at present the limb was just as good as ever, since he was able to dance, to climb a ladder and to walk ten or fifteen miles. Dr. Dennis said he had had one death following wiring of the patella; but the operation had nothing whatever to do with the fatal result. The patient died in six days, and at the autopsy it was found that the joint was perfectly aseptic; death being due to delirium tremens and Bright's disease. The specimen from the case, which he now presented, was entirely unique, as it exhibited firm bony union in only six days after the operation. No callus was found and the union, he said, was analogous to primary union in the soft tissues.

Second, the superior results as regards the functions of the limb and the joint. Under the use of the older methods separation of the fragments of half an inch was regarded as a very good result, and Malgaigne stated that he had never seen a perfect result after fracture of the patella. Dr. Dennis having enumerated a long list of evils which were likely to follow this accident when treated by the former methods, claimed, in contrast, that with wiring the fragments together a perfect joint, with perfect restoration to usefulness, could be obtained.

Third, the greater rapidity of repair. In a case of his own the patient was walking about in eight weeks, and in one of Dr. Phelps's, in three weeks and three days; while a patient of Dr. Hinton walked nearly a mile at the expiration of six weeks. He believed that in two weeks, as a rule, it would be found that the union would be sufficiently firm to enable the patient to walk. This gain of time was certainly a very important object, not only to the day laborer but to the professional and business man also. Formerly, however, the patient was always laid up for at least three months, and the limb was not strong for two years.

It was true that the Academy of Medicine in Ireland and the Société de Chirurgie had pronounced against the new operation; but he had no doubt whatever that the tide of professional opinion would soon turn in its favor. The case was entirely analogous to that of abdominal section in surgery, in regard to which so complete a revolution of sentiment had occurred. It had been claimed that the knee-joint would be liable to the formation of osteophytes after this operation, but this was merely a fanciful objection. Another objection put forth, was, that rarefying oste-

itis was likely to occur; but he had never seen any such result.

The latter part of the paper was devoted to a description of the technique of the operation. In the first place, he said that wiring the fragments ought not to be undertaken immediately after the accident in simple cases, as it was liable to set up inflammatory action under these circumstances. It was better, therefore, to wait a few days. In compound fractures, however, it was best to perform the operation at once. The strictest antiseptic precautions were invariably to be observed, and among these are the free use of iodoform and ether, the application of bichloride solution. (1 to 2,000) to the parts above and below, and the continuous irrigation of the wound with the same solution from the beginning to the end of the operation. Personally he preferred the transverse to the longitudinal incision, which was the one more commonly adopted. The joint having been laid open, all blood-clots were to be removed, and the anterior fibrous capsule elevated from between the two fragments. The holes in the bone for the sutures, as had been mentioned, were bored with an Archimedian drill, the passage of the wires being assisted by a groove; and no harm came from leaving the latter in the wound. After the wound was closed, a plaster of Paris splint was to be applied, and the patient kept in bed.

Dr. Dennis's conclusions were somewhat as follows:

*First.* In compound fractures of the patella there is not the slightest doubt of the propriety of the operation.

*Second.* In recent and old fractures, under ordinary circumstances and with the patient's consent, it is wholly justifiable.

*Third.* In debilitated patients and those suffering from organic diseases the operation should not be performed.

*Fourth.* It is not an operation which can be indiscriminately performed. It should never be undertaken by the inexperienced or by any one who has not the most entire faith in the efficacy of antiseptic surgery.

*Fifth.* Success depends on the most strict observance of the minutest details of antiseptic procedure.

Dr. Dennis then proceeded to exhibit a number of very interesting cases. The first was his own case of compound fracture where the patient fell from a scaffold. At the end of two months he said he had walked well, and at present it was evident that he had the most complete use of the joints and limbs.

The second case was that of Dr. Fowler, of Brooklyn, which was the first case of compound fracture of the patella treated by the new method in this country, and which, he said, undoubtedly marked an era in the surgery of America. Dr. Dennis's case, just referred to, was the second.

Dr. Fowler's patient was a female, and it was seen that she had a most useful limb; being able to bend it to more than a right angle at the knee. In this case Dr. Fowler had allowed the drainage-tube to remain in position for two weeks, while in his own it had been removed at the end of three days.

The third case was that of a man who had fractured his patella less than three weeks ago, and yet the wound was entirely healed, and he was able to walk about on crutches. Three other recent cases were also exhibited, and all were doing well. Dr. Dennis expressed his regret at not being able to present, in connection with this group of cases, one of Dr. Phelps's, in which

both patellæ were fractured. This patient, he said, was now walking about the streets as well as ever.

DR. FOWLER, of Brooklyn, said that he was always ready to say something in favor of conservative surgery, and he believed the operation to which Professor Dennis had invited attention this evening to be conservative surgery, pure and simple. His own case of compound fracture, which had been referred to and exhibited, was a peculiar one from the fact that the upper fragment became necrosed, and had finally to be removed. After the operation of wiring the fragments together he had found it advisable to leave two drainage-tubes in position, and his object in allowing them to remain for two weeks was, that he believed it to be less dangerous to do so than to be obliged to resort to frequent dressings. He thought that in antiseptic surgery as little change as possible was highly desirable, and in this instance the first dressing was not changed until the expiration of fourteen days, when the drainage-tubes were removed. He had also employed the same method in cases of exsection of the knee and other large joints, which are cured in twenty days, with but a single change of dressing, at the end of the tenth day. As to the Archimedian drill employed by Dr. Dennis, he was greatly impressed with its simplicity and usefulness; but even if no such contrivance were made use of for boring the holes, he could not see how such a long time could be required for this as Dr. Dennis had intimated. In his own case he had used an ordinary carpenter's brad-awl, and the operation had not been a prolonged one. For introducing the wire through the holes he had employed a cannula. In this operation it was of great importance to remove the fibres of the aponeurotic surfaces from between the fragments, as, if left there they would be extremely likely to prevent bony union.

In cases of secondary suture the method of McEwen, to which he believed that Dr. Dennis had not referred, and which consisted of making saw-toothed incisions of the quadriceps femoris, was of great service in bringing the fragments together. It was the ordinary practice to hammer the twisted ends of the sutures down into the periosteum; but instead of doing this he had suggested turning them in between the fragments, as he believed this would give rise to less irritation. In some cases he had also made use of a rubber bridge, beneath which the wire sutures could be withdrawn entirely after they had served their purpose, if this was desired. In conclusion, he said he could only express his sincere appreciation of the efforts being made in connection with this operation to prove beyond question the superiority of the antiseptic system of surgery, which he considered the most inestimable boon in this department of medicine since the introduction of anesthetics by means of ether and chloroform.

When the discussion of Dr. Dennis's paper was closed, Dr. H. M. Briggs gave a demonstration of cultures of the micro-organisms of osteo-myelitis, after which Dr. F. Forie, a surgeon in the French navy, who was present by invitation, exhibited a new instrument, a true *serre-naud*, for tightening the knot continuously.

The description of the instrument was read by the Secretary, and Dr. J. W. S. Greely made some remarks upon it, in which he said that it was undoubtedly the best device for the purpose named that had ever been invented. The President, Dr. Charles A.

Leale, then gave a demonstration, under the microscope, of a specimen of nummulites from the foundation stone of Cleopatra's Needle, at Central Park, removed from Egypt to New York in 1880.

### Recent Literature.

*Plumbing and House-Draining Problems; or Questions, Answers, and Descriptions relating to House-Drainage and Plumbing, from the Sanitary Engineer.* With one hundred and forty-six illustrations. New York: The Sanitary Engineer Office. pp. 244. 1885.

The endless and perplexing details which are constantly arising in the process of house-construction and repair are discussed from week to week in the columns of the *Sanitary Engineer*, often in the form of questions or letters of inquiry, with replies by expert authority. These have been carefully selected and published under the title given above. The subjects treated are blunders in plumbing, house-drainage, hot-water circulation, and a variety of kindred topics. Faulty methods are freely criticized, and the proper remedies advised. The book will be found very useful to Health officers, sanitary inspectors, physicians, householders, and all who have to deal with this important branch of work.

*Six Lectures upon School Hygiene, delivered under the Auspices of the Massachusetts Emergency and Hygiene Association to Teachers in the Public Schools.* pp. 201. Boston: Ginn, Heath & Co. 1885.

The appointment of an Instructor in Hygiene for the public schools of Boston, the employment of an expert by the State Board of Health for the inspection of schools in Massachusetts, and the delivery of the lectures named above during the past season, are sufficient proof of a deeper general interest in the physical welfare of the scholar.

The subjects of the six lectures as published are as follows: School Hygiene, by Frank Wells, M.D.; Drainage, by Frank Wells, M.D.; Heating and Ventilation, by Frank W. Draper, M.D.; The Use and Care of the Eyes, especially during School Years, by C. H. Williams, M.D.; Epidemics and Disinfection, by George B. Shattuck, M.D.; The Relation of our Public Schools to the Disorders of the Nervous System, by Dr. C. F. Folsom. The topics named are treated with special reference to their bearing on the health of the teacher and the pupil. They comprise the most important subjects relating to the sanitary welfare of the multitudes of scholars who attend our public schools. They afford a valuable fund of counsel briefly and intelligibly expressed. The book is specially commended to teachers, superintendents of schools, and school committees who desire to be well informed with reference to the health of the pupils entrusted to their charge.

— Keith, of Edinburgh, recently came to Boston to give an opinion on the case of a lady who had an obscure abdominal affection. He remained in consultation with the regular attendant about half an hour, confirmed the previous diagnosis in the case and went home with a fee of \$10,000. — *Northwestern Lancet*.

## Medical and Surgical Journal.

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### DISSATISFACTION WITH THE CENSUS.

It is discouraging to communities as well as to individuals when they find that their anticipated progress in any desired direction has not been realized. It is therefore no cause for surprise that certain municipalities are disposed to quarrel with the figures of the census enumerators where these figures do not come up to the point which has been set up as the goal of endeavor. The city of Boston finds itself in such a mortifying predicament, caused by having forecasted too liberally the growth of her population since the national census of 1880. At that time the enrollment was 362,839. The fallacy of great expectations was in this case unwittingly contributed to by an estimate of Colonel Wright, the chief of the Bureau of Statistics of Labor, in a compilation of statistics of the city of Boston, prepared for the city government of 1882, in which, taking as a basis the assessors' estimate of polls, he stated that the population of Boston in August, 1882, must have been 400,000. It is somewhat distressing that this pleasant illusion should be shattered by the same hand which in a measure contributed to it. But the unsympathizing logic of arithmetic shows that in May 1885, there were but 390,406 residents of Boston. Is it any cause for wonder that such figures meet with prompt discredit? All theories of what the enumeration should be, deduced from the standard ratios of polls to population, from the recorded births, marriages and deaths, and (shall we confess it?) from some patriotic pride, are violated, and in the face of such overwhelming arguments, the mere evidence of figures is manifestly of little value.

The estimates of the chief of the bureau himself just prior to the enumeration were 410,000 inhabitants for Boston. But the work having been completed and carefully revised without the detection of any material error, he is so little tenacious of a *a priori* theory when it conflicts with mathematical fact as to concede that it looks very much as if Boston has (or at least had in May last) but about 390,000 inhabitants. The true patriots, however, continue to prefer what the chief calls taking the "slate and pencil census" in one's office without the aid of enumerators."

His Honor the Mayor, in deference to the claims of opposing schools of statisticians has just ordered an enumeration to be made by the police in conjunction with their regular duties, the returns to be tabulated by the board of assessors. There is doubtless some reason lying below the surface to explain the peculiar fitness the average patrolman has for this sort of work over and above the corps of enumerators employed by the state bureau, many of whom have been engaged on several successive censuses. Recent developments in connection with one of our eastern cities have shown the police to have rather a dangerous aptitude for work at the polling places. If they will transfer their energies from the political to the politico-economical field, they will not only avert a great peril to free government, but will introduce into those zealous contests for supremacy which engross so much of the attention of the western cities, an element of power which will cause Chicago and St. Louis alike to hide in shame their diminished heads.

If these new enumerators do secure a higher census than their predecessors, it will not disprove the accuracy of the returns made in May. It is well known that various influences, some of which emanate from the flowery meads of the country and others from the assessors' office in the city, conspire to reduce the urban population in the month of May, and it is generally admitted that probably some thousands more find a home in the city during the winter months than in the summer. The police enumeration, therefore, even if made with the most exemplary and rigid care will perhaps give results which shall abundantly repay the authors of the project.

In the case of Boston, it is, however, undoubtedly true that the environs have been growing in an increasing ratio at the expense of the city proper, a tendency which has been enhanced by exaggerated taxation. Moreover, the class of citizens who burden the death-rate remains, and the well-to-do, physically and financially, become suburbanites.

Our particular purpose in speaking of this subject is to call attention to the fallacies which result in all vital statistics, to be sure, but more especially in the matter of the death-rate from any modification of the true census made by local pride. Previous to 1875, the death-rates for every census year were presumably correct; but in the intermediate years, the latest census was used as a basis for computing the death-rate; and in these years, of course, the population was generally greater than the last census showed it. Hence the death-rate showed an annual increase up to the time it was corrected by a new enumeration. Since 1875, the custom has been adopted of *estimating* the population for each year, and as the estimates are invariably too high, the death-rate is always figured as lower than it really is; so that when, as this year, it is 21.7 per thousand, it is looked upon as unusually high, even though the mortality has really been no greater than in previous years.

The Health Officer of the Commonwealth has, since the completion of the census, been revising the death-

rates of the various cities in the State for the year 1884, taking for the basis of population the number given by the census of 1880, plus four-fifths of the increase since that time.

A few years ago, the JOURNAL called attention to this source of error in the statistics of the city of Baltimore, where an inflated estimate of population made the death rate unduly low, and where the authorities refused to correct their estimate even by the official figures of the United States Census. St. Louis at the same time was laying the flattering unction to her municipal soul of containing a half million of persons within her limits, when a census showed the actual number to be about 375,000. With such a correction, a death rate which had before been computed as twenty per thousand, would rise to twenty-seven, and the inhabitants, especially if they had been lulled into a false sense of security by previous "doctored" returns, would conclude that the locality was too dangerous to live in.

Why not gracefully admit, if necessary, that your neighboring city has more inhabitants than your own? There are other criteria of excellence than a long census roll; and if you bow to the figures of the regularly authorized enumerators, you can still retain the proud consciousness of superiority in those higher fields in which each community knows itself to excel all its rivals, and which are exempt from the low standards of measurement found in the multiplication table.

#### TROUBLE AMONG ITALIAN SURGEONS.

AMONG Italian surgeons, none probably stand higher than Gritti, Fumagalli, Ricordi, and Boccomini, "honorable primaries" of the Milan Hospital Major. Of equal reputation is Bottini, professor of the University of Pavia, who is widely known as a daring and successful operator.

Bottini lately undertook to remove a large sarcomatous tumor from the neck of Madame Corsi, a lady belonging to one of the first families of Milan. The patient sank under the operation, dying about nine hours afterwards. Chloroform was used during the operation, but does not seem to have had the principal share in the fatal result.

In the *Corriere della sera* (one of the daily newspapers of Milan), of the date September 25th, appeared a brief notice of the death of Madame Corsi, in which currency was given to the impression that the deceased was killed by chloroform. The notice ends with the query: "Was this fatality due to the neglect or imprudence of the surgeon?"

The "*Italia*" of September 26-27, publishes Professor Bottini's reply. It cannot be denied that this reply is somewhat aggressive. It is as follows: "The patient had been treated by Dr. Fenini. The physicians of the hospital of Milan had declared the operation impossible, for the reason that a surgeon capable of performing it *was not to be found at every corner of the street*; it was on this account that Professor Bot-

tini was called. He declared that the operation would be a grave one, but that he had successfully performed many of equal gravity. He demanded a prepayment of 1,500 francs; the terms were acceded to. The patient was not killed by the chloroform, as had been falsely stated. She was aroused from the anæsthetic sleep by artificial respiration. The causes of the death were shock and the feeble state of the patient, the gravity of the operation, in which it was necessary to tie the primitive carotid; the anæsthetic may have contributed a little to the untoward issue. It would be great injustice to attribute to negligence or want of skill what was simply a misfortune."

The very uncourteous and foolish allusion to the surgeons-in-chief of the Milan Hospital called forth from that body an indignant rejoinder, of which the closing portion is as follows:—

"As for Madame Corsi (and the same remark will apply to other similar cases where their advice has been asked), the undersigned had advised against an operation, not because they regarded it as especially difficult or impossible, but from considerations of duty, for they are not in the habit of sacrificing the rights of humanity and of science to the cupidity which hides itself under the mask of superior art."

The next scene in the drama is the following communication from Dr. Bottini in the *Milan Journal* for Sept. 29th: "I pray you to announce in your columns that I have to-day entered a complaint (action for libel) against Drs. Rocco Gritti, Cesare Funagalli, Amilcare Ricordi, and Edoardo Boccomini, for the defence of my honor insulted by the letter which they published in the *Corriere* of Sept. 26th, relative to the case of Madame Corsi."

To this announcement the surgeons of Milan replied over their names in the following number of the same paper: "The undersigned, surgeons-in-chief of the Hospital Major, of Milan, with tranquil conscience await fearlessly the threatened prosecution of Professor Bottini."

This, in brief, is the recital of an event which is causing considerable excitement in medical circles in the country where the facts occurred. Whether Prof. Bottini will go on with his libel-suit remains to be seen; meanwhile, he has published in the *Italia* for Sept. 30, a full report of his unfortunate case.

The patient, Madame Corsi, had been suffering for six months from a voluminous tumor of the neck which impeded breathing and deglutition. Bottini regarded it as a sarcoma of the cervical glands, ready to ulcerate, and counselled its ablation. The operation was decided upon, and in due time attempted, Dr. Bottini being assisted by two able surgeons. The chloroform was carefully administered, Junker's anæsthetic apparatus being used. In excising the tumor it was found necessary to ligate the carotid, which was tied, as well as several other large arteries, with little loss of blood. Collapse however set in, and for an hour and a half artificial respiration was resorted to. The patient scarcely rallied from the shock; Dr. Bottini and his assistants were with her nearly all day, doing their ut-

most to avert the fatal result. Dr. Bottini cites two operations performed by him this very year, in which immense tumors of the same kind and similarly situated were extirpated by him successfully; these tumors had been declared incurable by distinguished surgeons. "These successes," he says, "are now forgotten in the opprobrium which is heaped upon me."

Professor Bottini has laid his damages at 1,000 francs against each one of the professors who signed the communication of September 26th ult. It is doubtful if the case ever comes to trial. The quarrel is discreditable to all parties concerned.

#### MEDICAL NOTES.

—That the *os uteri* is the *bone* of the womb seems to be the legitimate conclusion from the title of an abstract in the *Centralblatt für gynäkologie*, to wit, "*Anteflexio uteri mit Stenosis ossis interni*."

—The exuberant fancy of the scientific editor of the *New York Times* is profoundly stimulated by the microbic foes of man. "Governments," he says, "will doubtless offer rewards for the capture or killing of microbes; and bands of scientific policemen, equipped with powerful breech-loading microscopes, will ceaselessly hunt down the foe. It is undoubtedly a gigantic task to exterminate all microbes; but, after all, it is not much more difficult than the task of exterminating noxious animals must have seemed to the sparse and feeble population of the stone age. Though millions of bacteria may occupy a single drop of water, it must be remembered that a single volley of carbolic acid can kill billions of them. If man is fearless and persistent, he will conquer the microscopic animals, and virtually exterminate them. The time may even come when scientific persons will establish parks in civilized regions for the preservation of microscopic game, and petition for the passage of game laws, making it a misdemeanor to kill a bacillus during the breeding season. Sportsmen will travel thousands of miles in search of game and of rare sport among the bacteria of Central Africa and the Indian jungles. Some scientific Gordon Cumming will describe, in thrilling words, a wild gallop over an African plain in chase of a predatory bacillus; and some scientific Baker will tell us of the midnight hours spent in waiting by the side of a malarious Indian pool for a stray microbe, and of the awful moment when the microbe bounds out of the jungle, and the hunter discovers that his carbolic-acid cartridges are wet, and he can defend himself only with his travelling-flask."

#### BOSTON.

—The Board of Health of Boston, has been investigating the cases of typhoid fever now existing in the city and has sent circulars to a number of prominent physicians, asking them to ascertain the causes of the disease as far as possible, and report the result to the board, giving particular attention to the whereabouts of the patient just before the disease appeared. More recently the city board of health made out a list of all

persons who are now ill in Boston with typhoid fever, and a personal canvass was caused to be made among them. Especial attention has been given to the kind of water the sick people had been drinking. In a great many instances they found that the patients had not been out of town, but it was learned that they had visited West Roxbury Park and had drunk water from the numerous wells in the park. Samples of water from about thirty wells in the park have, we understand, been sent to Professor Wood of Harvard University for analysis. In some instances the water was found to be of excellent quality, but the water from many of the wells was very impure, and unfit for domestic purposes, and the physicians feel assured that the water has caused considerable typhoid fever.

### Miscellany.

#### DEATHS FROM CHOLERA IN SPAIN.

According to the reports transmitted to the National Board of Health the total number of reported cases of cholera in Spain from March 4 to September 17, was 257,684, and the number of deaths 76,094; making a mortality of a little over thirty-seven per cent. The number of cases in Italy from August 4 to September 13, was 165, and the deaths 89.

#### NEW BUILDINGS OF THE MEDICAL FACULTY OF MCGILL UNIVERSITY, MONTREAL.

THURSDAY, October 22, the new buildings of the Medical Faculty of McGill University were thrown open to the public. At the inaugural ceremonies appropriate speeches were made by Professors Pepper and Osler of the University of Pennsylvania, the principal, Sir William Dawson; the chancellor, Senator Ferrier; the dean, Dr. R. P. Howard, and others. In the evening a large company of medical gentlemen, professors of the college, and friends and benefactors of the institution sat down to dinner at the Windsor Hotel.

The buildings as now arranged have the following features:—

The main hall on the first floor is 126 feet long, with a room 28 feet long at the end of it, giving a total length from front to rear of 164 feet; also by the fact that the building covers 13,930 square feet. On the ground floor the library, which contains over 10,000 volumes, will now consist of two rooms, the additional room being 30 x 22. On the opposite side of the hall is the museum, which will now be connected with an extensive additional room by a small chamber, in this way almost doubling its present capacity. Next to the students' reading room is the private room of the professor of physiology. This is chiefly for the purposes of experimental work of the professor himself. Here, also, will be kept the valuable apparatus of this department, which has been extensively added to, and is now thoroughly efficient. Opening off the laboratory is the "balance room" and private room for the professor of chemistry. On the opposite side of the main hall is the large lecture theatre for the classes in these two branches. The room is hexagonal in shape, and its widest part measures 76 feet. It is lighted by a skylight and three windows to the rear of the students, which also serve admirably for ventilating purposes. It will seat comfortably 275 persons. Beneath the higher seats are four rooms, which will occupy the first two rooms, one of which will be for the convenient performance of his duties as registrar. On the second story, opposite the main staircase is the dissecting room. This will be now 72 feet long, and will be provided with 20 tables. The room will be well lighted—by daylight from two skylights, as well as windows from three points of the compass; and at night there will be both electric lights and gas. The adjoining laboratory will be furnished with 30 microscopes, also micro-

scopes and other apparatus for practical work. In the annex on this floor will be a large lecture room, capable of seating comfortably 300 students. Its measurements are 56 x 40. This theatre will be utilized as the anatomy lecture room, besides other purposes. Separate entrances are provided for the students. The professor of anatomy will have his room opening off this theatre. Beneath the higher seats will be rooms 8 feet high and 12 feet wide at the narrowest part. Of these the pathologist will utilize what he may require.

#### RESIGNATIONS FROM THE ORGANIZATION OF THE PROPOSED CONGRESS.

THE following additional resignations from the organization of the International Medical Congress are reported: Dr. H. F. Campbell of Georgia, late president of the American Medical Association, has resigned the vice-presidency, and Drs. E. O. Shespeare, of Philadelphia; H. G. Beyer, J. M. Flint, J. S. Kidder, U. S. N.; John J. Mason, of Newport; and George W. Major, Montreal, have resigned their positions in the various sections. Dr. R. A. Kinloch, of South Carolina, withdraws from the executive committee, in a letter expressive of shame and indignation at the course pursued by that body. The New York *Record* thinks "the Congress, at present, looks to be very much such a thing as Bright's disease, viewed from the standpoint of Dr. Goodheart, that is, a magnificent scheme of decay."

### Correspondence.

#### LETTER FROM STRASSBURG.

#### THE FIFTY-EIGHTH CONGRESS OF GERMAN NATURALISTS AND PHYSICIANS.

STRASSBURG, Sept. 27, 1885.

MR. EDITOR.—A fortunate opportunity allowed me to become a temporary member of the recent Congress, in Strassburg, of German naturalists and physicians. The Congress occupied nearly an entire week, namely, from the 18th to the 24th of September. That I could become a temporary member was due to the sensible arrangement which admits a physician or scientific man of any country to the Congress as a "*Theilnehmer*." To ordinary associates or "*Mitglieder*," is issued a red, to "*Theilnehmer*" a green card of membership. Both cards exact the same fee of twelve marks, \$3; both give equal right of admission to every section of the Congress, to all the festivities, and the privilege of bringing one lady to general and social meetings, and also equally entitle their respective holders to all printed matter published by the Congress. The latter, be it said, is far from insignificant in quantity, for the recent Congress not only supplied a *Tageblatt*, or printed *resumé*, of the proceedings of the entire assembly in all its sections, but also two very handsome books of folio size, averaging 160 pages each, abundantly illustrated and beautifully printed. One gives the "History of Medicine and its Schools in Strassburg from 1197 to 1872," with most interesting anatomical illustrations from various works issued during these four centuries; the other is a "*Festschrift*," dedicated to the Congress and presenting a history, pictures, plans, and the costs of the medical and scientific, together with the general University buildings of the present day.

Of themselves these two fine volumes are well worth the cost of a card of membership. The first number of the *Tageblatt* appeared on the morning of the first day and comprised a programme of the doings of the entire week, giving under each of the twenty-five sections the titles of papers to be read and names of the readers; a list of such *Mitglieder* and *Theilnehmer* as had already announced themselves and their residences; a list of hotels, pensions

and private houses in which members might lodge, with all needful information in regard to cost of meals; details of the evening festivities and other useful matter. The second *Tageblatt* contained the doings of the previous day, papers being given in full, or in synopsis, according as authors desired, and a satisfactory outline of the discussions in each section. And thus each day appeared a new *Tageblatt* which also included names of members who arrived the previous day and their residences; likewise such new information, invitations, suggestions, and remarks as the Committee had to offer. A much more concise and sensible method than that of handbills or the *civis voce* in the sections. In short the *Tageblatt* was a newspaper confined to the work and movements of the Congress. As yet I am puzzled as to how the Congress could afford this amount of printed matter, and yet pay the other expenses of the week from the proceeds of the cards. It is probable, however, if a dinner similar to that of some of the American State Societies, had been given by the Congress, the *Tageblatt* and the books could not have been published. The only occasion on which refreshments were provided was the reception at the *Stadthaus* in response to the invitation of the *Burgemeister* on behalf of the city. Beer, bread, and cold meats were furnished at a minimum cost in one of the ante-rooms of the places of meeting. This was a great convenience to many of the members. Involuntarily but quite consistently I have given beer the first place. Another room was devoted to those who wished to write letters. Here also telegrams and letters were received and forwarded and correspondence mailed.

The statutes of the Congress announce that the chief object of the Society is to give physicians and scientists of Germany opportunity to make the acquaintance of each other. The president and secretary must be residents of the city in which the Assembly meets, and must conduct all business until the next Congress. Those who hold cards, whether as "*Mitglieder*" or "*Theilnehmer*," have the privilege of taking part in all discussions and also of voting on all propositions.

Those who read inaugural dissertations are not allowed to read papers in the sections. Several inaugurals are read at each of the two general meetings of the members.

In many respects Strassburg proved a felicitous place for the Congress. Very many of the members had never before had opportunity to inspect the noble buildings of the University of which Germany justly is so proud. To many the recent acquisition of Alsace by Germany gave the city an additional interest. Others, however, felt that the general tone of the meeting was much less cheerful than that of the previous yearly meeting at Magdeburg. They accounted for this by the depressing effect of the universal mood of the old inhabitants.

Section-work was interesting, the various sections naturally differing somewhat in this respect. The salient and the prevalent fault of section-work was the great irregularity in the length of time occupied by readers and disputants. The almost military and absolute system of the French Congress of Surgeons in April, made this error only the more striking. Some of the readers occupied a full hour. The result was, much uneasiness, much inclination to sleep and very decided criticism. But to my surprise no member offered any objection in open meeting. In private, however, dissatisfaction was universally expressed. Indeed, the prolixity of many of the readers gave a very slow and tiresome tone to the sections in which this fault prevailed. Twenty minutes is certainly a period long enough for the presentation of any subject, especially when made to men who know how to read. The amount of work accomplished by the French Congress was large even in proportion to that achieved by the German Congress of last week, and yet every paper gave a perfectly clear statement of its subject and disputants were able to complete their arguments within five minutes. One feature of section-work in the Strassburg Congress was extremely agreeable — not one reader used his manuscript. The amount of discussion varied greatly in different sections. In the pathological section disputa-

tion was very animated. It was rather striking to see our old lion, Virchow, bearded in his own den by a much younger pathologist, and he evidently thought so himself, for he quickly showed that the fire of youth still glowed within him. Those who have studied in Berlin well know what that fire is. The mere report that Virchow had fought a pathological battle was sufficient to crowd his section at its next meeting. His beard is now full and wholly gray, almost white, but he is still the brilliant Virchow of old, and a conversation with him leaves the deep impression which he has ever created. In his inaugural I thought him perhaps less concentrated than he was fifteen years ago, but his voice, his manner and his clear diction are quite the same. A wonderful man! It is a common saying here that Nature broke her mould at Virchow's birth, for his sons are very ordinary men.

Meanwhile in the clinical section discussion was surprisingly infrequent. In the section for surgery it was much more animated, as also in that for nervous diseases and diseases of the mind. Here Erb, of Heidelberg, presented most exquisite microscopical preparations in illustration of his paper. In the section for skin diseases and syphilis there was warm interest. Doutrelepoint read a paper entitled "*Demonstration von Bacillen bei Syphilis*," which freely showed his conservatism. I will here take the occasion to modify the statement in a former letter that Doutrelepoint has never discovered syphilitic bacilli within cells. More correctly, he has found them in cells but far more frequently outside the cells. The former statement has been true but is so no longer. Naturally I cannot give details of the doings of twenty-five sections, but it will be of interest if I state what these sections were. This will give a general idea of the highly scientific character of the Congress. In their order upon the programme the sections were thus entitled: (1) "Mathematics and Astronomy;" (2) "Physics;" (3) "Chemistry;" (4) "Pharmacy;" (5) "Mineralogy and Geology;" (6) "Geography;" (7) "Botany;" (8) "Zoology;" (9) "Anatomy and Anthropology;" (10) "Physiology;" (11) "Pathological Anatomy and General Pathology;" (12) "Pharmacology;" (13) "Clinical Medicine;" (14) "Dermatology and Syphilis;" (15) "Surgery;" (16) "Gynaecology;" (17) "Children's Diseases;" (18) "Ophthalmology" (Knapp, of New York read a paper); (19) "Neurology and Mental Diseases;" (20) "Affections of the Ear;" (21) "Laryngology;" (22) "Hygiene;" (23) "Military Hygiene;" (24) "Veterinary Medicine;" (25) "Agriculture." The business of the sections was conducted with a singular lack of formality. In the choice of a new chairman, which was done at every sitting (morning and afternoon), in a vote upon change of hours, upon adjournment, etc., the presiding officers simply called upon the members for their opinions, and dozens spoke at once, until the matter in hand resolved itself into a quiet chat between chairman and members, and thus decisions were made without any count whatever, the general tone of the audience giving the chairman his cue. Not in a single instance was his decision questioned.

The first meeting of the members was social and held in the evening. At the first general session the next day the large hall of the fine University building was crowded. Professor Kussmann, the President, delivered an eloquent address of welcome in which he gave a general history of the University of Strassburg from its formation to the present day. After a welcome from the *Burgemeister* and the rector of the University, the meeting proceeded to elect Berlin as the place for the next Congress, in spite of the warning of Virchow that the difficulty of uniting in a city so large as Berlin was one the reality of which the members would learn to their sorrow.

A most spirited biographical sketch of the lives of Frerichs and Henle by Rühlé, of Bonn, received the commendation of the president. Professor Rühlé being ill and absent, the audience was referred to the forthcoming *Tageblatt* for this charming sketch of "Jacob Henle, a King among Anatomists, and of Friedr. Theod. Frerichs, a King among Clinicians, two princes in the kingdom of medical science and erudition."

Professor Weismann, of Freiburg, then delivered a profound and powerful address on "The Impotence of Generice Reproduction in the Theory of Selection."

The following two days were devoted wholly to section-work. A Sunday fell between them, on which day the entire Congress repaired to Zarban, by rail, and spent the day in and about the ruins of an old castle, situated upon a hill from which the outlook satisfied to overflowing the nature-loving senses of the visitors. The previous evening and late into Sunday morning, the Congress revelled in the brilliant reception given in the Stadthaus by the Burgomeister. The finest of military bands, an orchestra which supplied dancing music, abundance of wine, champagne and ices for ladies and the gentlemen who accompanied them, rivers of beer and the solids so dear to the German palate for the men not thus favored, electric lights, fountains and flowers, made this the most predominant of the social gatherings. Other evenings were spent at the "*Rheinlust*," a very attractive restaurant with garden, just out of the city and overlooking the river Rhine; or in the rooms of the "*Civil-Casino*," a resort within the town. The members chose their evening rendezvous according to programme suggestion and all went merry as a marriage bell. The amount of beer consumed on these occasions, something undoubtedly fabulous, may be hinted by the fact that the Congress numbered nearly one thousand individuals. The "*Lurhof*" was the midnight resort of scores after the close of the stipulated festivities, and gray-haired professors and *priced Dozenten* shouted "*Prosit!*" to each other from table to table. But let it be said that joyousness and Gambrinus interfered not the slightest with the earnest devotion to the work of the day. At evening every countenance was jovial and happy. In the morning and throughout the day the seriousness of science was upon every face. Thoroughly characteristic, this, of the hearty earnestness of the German whether at work or at play.

Many valuable papers were read before the sections, but their number was too great to admit mention even of their subjects. Cocaine naturally received attention, and by a coincidence its usefulness in whooping-cough was discussed in several sections. Prior, of Bonn, read an excellent paper on this use of the drug, and showed by many tabulated cases that application of cocaine to the interior of the larynx three times daily, in the majority of cases, shortened the duration of the attack several weeks. A similar application is recommended in bronchial asthma. The price of cocaine in Germany, by the way, has very notably diminished. Prior suggests Finkler, who in his section announced the discovery of the Finkler-Prior bacillus in a new endemic of cholera nostras, which occurred in Bonn only a few weeks ago. This announcement was made as a refutation of the assertion that Finkler and Prior discovered their bacillus in old and foul discharges. This is not the case. The dejections which they have examined have always been fresh. Their recent publication upon this subject has won for them among noted men many believers in the close relationship between Koch's bacillus and theirs; and German physicians who procured and examined the discharges of individuals who suffered from the so-called cholera Asiatica in Paris last winter, now assert that the bacilli found in these discharges indicated, by the rapidity of their growth in culture fluids, that the disease was cholera nostras and not Asiatic cholera.

A most interesting display of new electrical apparatus was made before several of the sections. Among them the most interesting and novel being a small and convenient lamp to be worn on the forehead precisely in the manner of a laryngoscopic head-mirror and which, without disturbing the eyes of the patient, brilliantly illuminates the larynx. The battery is small. The lamp burns 700 hours, and the incandescent material can easily be renewed. A tiny electric lamp for illuminating the cavity of mouth and pharynx, and another for the purpose of enabling one to use the microscope by white light in the evening, were also shown. A prospectus with illustrations can be obtained from R. Blänsdorf, Institut für Elektrotechnik, Frankfurt, Main.

The exhibition of surgical and orthopaedic instruments and applications was very fine, occupying three rooms. Upon invitation of Professor Recklinghausen those members who chose to do so visited the Pathological Institute under his guidance, and Recklinghausen, with a plan of the building in his hand, carefully described the convenient and extensive arrangements of the institution. A similar visit was made to the Physiological Institute where very costly, very beautiful and exquisitely delicate physiological apparatus was explained. The most striking and delicate of these was an instrument (constructed by Professor Knoll, of Prag, and who is about to describe it in print) for studying the movements of the eye in cerebral anaemia. By means of this instrument the ocular movements are traced upon paper or smoked isinglass.

The second general meeting of the members occurred on the morning of the fourth day and was rendered especially attractive by the address of Virchow upon "Acclimatization." As I have already remarked, Virchow in the delivery of this inaugural gave sufficient evidence that his mental and physical power is as vigorous as of yore. It may, however, be repeated that on this occasion his statements seemed less concentrated, somewhat more diffuse than used to be his manner. The address naturally won the closest attention. German lay journals have since sharply criticized Virchow upon the position he took in regard to German colonization, and it is a painful fact that his political views led him to announce opinions not only quite at variance with the best interests of the German folk who are already in the colonies, or who incline to settle in one or the other of them, but which lack the sound sense which has given Virchow much of his fame. He was followed by Professor Pechuel-Löschke, of Jena, who addressed the Assembly upon "The Agricultural Management of Tropical Regions."

The closing day was devoted by the various sections to excursions in which each section chose its own trip. I fancy that the majority of the members took a homeward train.

In many respects this Congress may be compared to the annual meeting of the American Medical Association which however, in conversation with physicians on this side of the Atlantic, I almost blush to name. Nevertheless, the general character of the German Congress occupies a much higher level. It is wholly free from wire-pulling and medical politics. Its most active members are the most famous and the most cultured men of Germany. The character of papers read in general meeting is far more intellectual than anything which is produced by our national body of physicians. Its section-work is likewise more cultured and therefore more valuable. The active medical disputants are men like Virchow, Bardeleben, Klebs, Recklinghausen, Quinke, Nothnagel, Schnitzler, Czerny, Freund, Winkel, Hoppe-Seyler, Ranke, Fittig, Lucka, Kussmaul, Rulke, Dautrepoint, Erb, Trautmann, etc. The meeting is one not only of the highest scientific character, but one whose atmosphere is warm with brotherly feeling and absolutely free from either jealousy or envy. The noble University building provided abundance of ante-rooms, for the many sections, and the business management of the Congress was perfect in its kind. Card of membership was a triple folder and gave the programme; a fine map of the city, the names of the streets being distinctly printed, and the locations of public buildings, hotels, restaurants and beer gardens being numbered to correspond with a list of these; a schedule of dressy charges and a time-table of the street railroads. It was extremely convenient and well arranged.

In closing, I am glad to be able to say that the feeling, so widely disseminated here three months ago—that the possibility of an International Congress in America in 1887 had vanished, becoming displaced by a belief that the unworthy *coup d'état* which was sprung upon physicians at large by a few sordid heads will be effaced, and that the coming Congress will be a success. This change of sentiment is largely due to the editorials of our best medical journals, and to the manly course adopted by the leading

physicians of our larger cities. The action of the minority at the late meeting of the American Medical Association at New Orleans is, I fully believe, now clearly understood, and European physicians rely upon the efforts of our physicians of the better class for a timely settlement of the whole matter. What is said here in regard to that unenviable minority may safely be left to the imagination. The world-wide contrast between the animus of these very cheap specimens and the fraternal and unselfish unity so strikingly evident at the German Congress, leads one heartily to wish that the doings of the Shoemaker malcontents might have been kept closely hidden as "a skeleton in the closet" of our medical family.

H. O.

### A CARD LEDGER.

MR. EDITOR:—In any system of bookkeeping which a physician may adopt, it is desirable to have an arrangement by which he can easily tell what is due him.

I suggest a method by which the *unpaid* accounts are placed by themselves.

This can be readily done by cards, such as are used for library catalogues—each debtor having a separate card. The name is placed at the top of the card like the names in an author's catalogue. When the accounts are charged off from the visit book, each one is placed in its proper alphabetical position, and so remains until paid.

When full payment has been made, the card is filed with others of its kind, to be returned to the unpaid list again when a new obligation is incurred. The same card may be used in this way till it is filled, and both sides may be used if preferred.

As regards ruling, I prefer that of the ordinary business ledger, but any style may be adopted, the cards being cut of suitable size and shape.

C. W. Clark, No. 75 Hawley St., Boston, has goods of this character. A covered tin box, containing 500 cards (3 x 5 inches), with the usual fittings, is sold for \$2.75; but almost any printing-office will furnish cards of such size and ruling as may be desired.

Some physicians keep a file of duplicate bills, to furnish ready reference to those that are unpaid, and some have memorandum slips for the same purpose, but I think it is best of all to have the ledger itself placed on movable cards.

WM. H. LATHROP, M.D.

LOWELL, MASS.

### THE ANIMAL VACCINATION BUSINESS.

MR. EDITOR:—Before I had seen the *Medical and Surgical Journal*, of October 8th, which contained Dr. S. C. Martin's article, my attention was very forcibly directed to it by an exceedingly intemperate and pyretic letter from a physician belonging to a neighboring State Society, calling upon me "at once to deny the claim of priority of the introduction of vaccine virus," and invoking upon my head "the scorn and contempt of the medical profession of this country" if I did not do so. After reading a page of abuse of this kind (which was subscribed "Yours respectfully") I naturally read the article as soon as I could recover my breath, and now feel called upon to make a reply.

The following is the portion of the article in the *Boston Post* of September 15, which relates to the Drs. Martin and myself.

In 1867 Drs. Waterman and Garceau of Boston attempted to renew the vaccine seed by importing lymph from Berlin. As soon as it was received they purchased some fine healthy calves and vaccinated them with the imported seed. The experiment was a perfect success, and during the small-pox epidemic in 1867 they supplied the citizens of Boston with from 10,000 to 20,000 points. Very naturally after the scare was over the demand fell off and the business became unprofitable, and after following it for a little over two years they abandoned it.

In 1870 Dr. Martin, of Roxbury, following in the wake of Drs. Waterman and Garceau, opened a stable and vaccinated

several calves with imported seed received from Beaugency, France. In this connection a curious incident is noticed. The existence of kinepox, although well known to milkmen of this and the old country, grew less frequent after Jenner's time. But shortly before Dr. Martin opened in Roxbury, a well-defined case showed itself on a fine calf in Beaugency, France, and it was from seed taken from the udder of this animal that Dr. Martin commenced operations. With his inoculated calves he commenced the product of animal virus in this country on an extended scale. The elder Dr. Martin died several years later, and the business has been continued by his son, Dr. Stephen C. Martin, up to the present time.

There was a manifest error here. It should have read that Drs. Waterman and Garceau imported lymph from Beaugency (not Berlin) in 1872 (not 1867), and followed in Dr. Martin's wake. I knew nothing about the authorship of the article, furnished no information for it and consequently did not feel called upon to make any counter-statement. The errors and misstatements of the daily newspaper press, when dealing with medical matters, are too frequent and too flagrant for any man or body of men to attempt to hold themselves responsible for them.

Dr. S. C. Martin replied to the above extract by an article in the *Boston Post* of September 21st, headed:—

### A CORRECTION.

To the Editor of the *Boston Post*:—

Will you kindly permit me to correct an important error in the article on "Vaccine Virus," in your issue of Sept. 15? It is there stated that Drs. Waterman and Garceau introduced animal vaccination into Boston in 1867, and that Dr. Martin "followed in their wake." True animal vaccination was first introduced into this country in 1870, by my father, the late Dr. Henry A. Martin, the well-known writer and authority on the subject of vaccination. This is universally acknowledged by the profession and has never before been questioned. It is proper, however, that the public should not be misled, and that Dr. Martin's well-earned honor of introducing the new method and causing it to be generally adopted, should not be impaired. Neither of the gentlemen named will, I think, dispute the fact.

Very respectfully,

STEPHEN C. MARTIN, M.D.

No. 27 Dudley Street, Sept. 20, 1885.

This "correction" stated the case properly for the benefit of the general public. The medical profession, of course, needed no such corrective information on a subject with which they had already become very familiar by reason of the many repetitions of it, by the late Dr. Henry A. Martin, in medical articles and circulars for the past fourteen years.

Neither Dr. Garceau nor I disputed this "correction," and the subject should have ended here. But no, further "correction" was needed, and Dr. S. C. Martin began to write letters, and, because he could not induce me to deny a claim which I had never made, he prints his letters and my replies with an *appendix*, and asks for the *candid* (sic) consideration of his brethren.

A few facts about the vaccine business:—

Dr. Ephraim Cutter vaccinated cows and furnished the lymph to the Federal Army during the late Rebellion.

Dr. Henry A. Martin in 1870 introduced into America the Beaugency stock, true animal vaccination so-called.

Dr. T. Garceau and Dr. T. Waterman in 1872, imported some lymph from Beaugency in capillary tubes and began the practice of animal vaccination.

In the early autumn of 1881 I was requested by some reputable physicians of this city, who knew that I had formerly been a propagator of animal vaccine virus, to keep a supply of some reliable virus for their convenience. On inquiry I ascertained that the Boston Board of Health had selected the lymph of the N. E. Vaccine Company and were using it exclusively. They had used no other for the past four years. I also chose their virus and became their agent.

During the past four years I have seen the gentleman, whom Dr. Martin styles "one Dr. William C. Cutter," three or four times. I do not know whether he is a physician or not, but I do know that he is a liberal, honorable, business man. There has been an open quarrel, in a business way, between him and the Drs. Martin for a long time, with which I have nothing to do.

Animal vaccination and the supply of vaccine virus is a business or trade. There is no mystery about it. "The proof of the pudding is in the eating," and he who supplies the most reliable goods will command the most sales. It would indeed be an insult to the medical profession to suppose that they are not intelligent enough to draw their own conclusions as to who sells the best virus, or that they will rely implicitly on the dictum of any individual propagator.

Unless I am very much mistaken the late Dr. H. A. Martin did not dispose of his virus gratuitously, but *sold* it in the open market. Dr. Stephen C. Martin does likewise.

This is at least the second time (*vide New York Medical Record*, April 11, 1885) that Dr. S. C. Martin has appeared in the medical press apparently for the sole purpose of slandering a competitor and advertising himself.

I think I may seasonably raise the question whether he possesses any vested hereditary or acquired right to be considered the epitome of all that is "best and uniformly fresh and reliable" in the business of animal vaccination. "An honest tale speeds best, being plainly told."

Very truly yours,

THOMAS WATERMAN, M.D.

146 Boylston St., Boston, Oct. 20, 1885.

## LAPAROTOMY FOR INTESTINAL OBSTRUCTION IN AN ADULT.

COLUMBUS, OHIO, October 24, 1885.

MR. EDITOR.—In the *Boston Medical and Surgical Journal* of September 3d, 1885 (No. 10), is an article by Dr. Joseph B. Heald, on a "Successful Case of Laparotomy for Intestinal Obstruction."

In ending his interesting report of the case he states, that to the best of his knowledge, it is the "first successful case of laparotomy for intestinal obstruction in an adult, that has been reported in this country."

Having made and reported a successful case of laparotomy for the same condition, prior to his report, I have the honor to forward to you the article, thinking that a connection of the statement as to its being the *first successful case*, may be of interest for statistical purposes, if such it proves to be.

I remain very respectfully,

FRANK S. TRIPP, M.D.

Dr. Tripp's case was published in the *Louisville Medical News*, January 17, 1885, the operation having been performed November 5, 1884. — [Ed.]

## REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 17, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	531	193	21.06	16.20	6.30	7.74	2.70
Philadelphia . . . . .	927,995	339	123	18.56	13.34	.58	4.06	10.15
Brooklyn . . . . .	644,536	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	390,406	176	68	14.82	14.82	5.70	2.28	5.13
Baltimore . . . . .	408,520	144	—	19.50	15.87	2.28	4.83	5.52
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	264,000	—	—	—	—	—	—	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	—	—	—	—	—	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	36	13	30.58	8.34	5.56	2.78	8.34
New Haven . . . . .	62,882	—	—	—	—	—	—	—
Nashville . . . . .	54,400	20	7	15.00	15.00	15.00	—	—
Charleston . . . . .	52,286	36	9	8.34	—	8.34	—	—
Lowell . . . . .	54,000	22	6	18.22	11.11	11.11	4.55	4.55
Worcester . . . . .	68,383	14	9	35.70	14.28	7.14	—	14.28
Fall River . . . . .	56,863	17	5	23.52	23.52	11.66	11.66	—
Cambridge . . . . .	59,660	31	9	19.38	16.15	—	—	9.09
Lawrence . . . . .	38,825	—	—	—	—	—	—	—
Lynn . . . . .	45,861	11	5	18.18	—	9.09	—	9.09
Springfield . . . . .	37,577	—	—	—	—	—	—	—
Somerville . . . . .	29,992	12	4	25.00	—	—	—	8.33
Holyoke . . . . .	27,894	9	2	11.11	33.33	11.11	—	—
New Bedford . . . . .	33,303	9	5	22.22	—	—	—	22.22
Salem . . . . .	28,084	9	1	22.22	11.11	—	11.11	—
Chelsea . . . . .	25,709	14	5	21.42	14.28	7.14	—	—
Taunton . . . . .	23,674	8	1	—	12.50	—	—	—
Gloucester . . . . .	21,713	9	3	—	11.11	—	—	—
Haverhill . . . . .	21,795	4	1	25.00	50.00	—	—	25.00
Newton . . . . .	19,759	4	1	—	—	—	—	—
Brookton . . . . .	20,733	5	2	—	40.00	—	—	—
Malden . . . . .	16,407	2	—	—	50.00	—	—	—
Newburyport . . . . .	13,716	2	1	50.00	—	—	—	50.00
Waltham . . . . .	14,609	—	—	—	—	—	—	—
Fitchburg . . . . .	15,375	—	—	—	—	—	—	—
Northampton . . . . .	12,806	—	—	—	—	—	—	—
88 Massachusetts Towns . . . . .	—	50	17	—	—	—	—	—

Deaths reported 1,544; under five years of age 490; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 263, consumption 219, lung diseases 91, diphtheria and croup 110, diarrhoeal diseases 65, typhoid fever 42, malarial fevers 17, scarlet fever 15, cerebro-spinal meningitis 14, whooping-cough 12, puerperal fever three, measles two, erysipelas two, small-pox one. From malarial fever, New York eight, Baltimore seven, Philadelphia two. From scarlet fever, Philadelphia seven, Providence and New York two each, Boston, Charleston, Cambridge and Chelsea one each. From cerebro-

spinal meningitis, New York five, Philadelphia, Baltimore, Worcester and Somerville two each, Salem one. From whooping-cough, New York five, Philadelphia and Providence two each, Cambridge and Chelsea one each. From puerperal fever, New York two, Cambridge one. From small-pox, New York one. From measles, Boston two.

In 110 cities and towns of Massachusetts, with an estimated population of 1,389,119, (population of the State 1,941,465), the total death-rate for the week was 15.57 against 14.06 and 15.05 for the previous two weeks.

Population by State Census, of May 1st, 1885.

The meteorological record for week ending October 17th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending Saturday, Oct. 17, 1885.	Barom- eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.	
Sunday, ... 11	30.190	51.8	64.3	44.2	86.0	50.0	62.0	66.0	N.W.	N.	N.E.	8	13	12	C.	C.	C.	—	—	
Monday, ... 12	30.289	44.8	50.1	38.2	69.0	56.0	60.0	58.7	N.	E.	S.E.	7	10	16	C.	C.	C.	—	—	
Tuesday, ... 13	30.423	60.2	53.1	46.0	76.0	100.0	100.0	92.0	S.E.	E.	S.W.	27	33	15	O.	R.	R.	—	—	
Wednesday, ... 14	29.630	48.1	66.6	33.0	100.0	81.0	68.0	83.0	E.	S.W.	W.	4	10	11	G.	C.	C.	—	—	
Thursday, ... 15	29.702	54.4	64.1	49.2	79.0	57.0	64.0	66.7	W.	N.W.	W.	9	13	8	C.	O.	C.	—	—	
Friday, ... 16	29.882	49.6	62.0	42.1	76.0	69.0	80.0	75.0	W.	S.E.	S.	8	7	1	C.	C.	C.	—	—	
Saturday, ... 17	30.058	46.7	55.3	40.6	94.0	75.0	85.0	84.0	..	S.E.	W.	..	8	8	G.	C.	C.	26.05	2.08	
Mean, the Week.	29.963	51.2	59.1	44.8																

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 17, 1885, TO OCTOBER 23, 1885.

MCPARLIN, T. A., surgeon and colonel. Directed to await further orders in New York City. Letter from A. G. O., October 19, 1885.

VOLUM, E. P., surgeon and lieutenant colonel. Assigned to duty as attendant surgeon, headquarters, Department of Platte, Omaha, Neb., relieving Assistant Surgeon Wm. C. Shannon. S. O. 103, Department of Platte, October 15, 1885.

IEGER, ANTHONY, surgeon and major. Directed, in addition to his present duties as member of Army Medical Examining Board, now in session in New York City, to perform the duties of attending surgeon in that city. S. O. 240, A. G. O., October 19, 1885.

BAILEY, JOSEPH C., surgeon and major. Granted leave of absence for twenty days. S. O. 225, Department East, October 19, 1885.

#### SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY.—There will be a stated meeting on Saturday, October 31, 1885, at 7.45 P.M., at 19 Boylston Place. Papers: Dr. Robert Amory, "Electrolysis and its Therapeutical Applications." Dr. Vincent V. Bowditch, "A Case of Pathosis with numerous Bacilli: Complete Arrest of Disease." Dr. Henry O. Marey, "Western North Carolina as a Health Resort." Incidental business: Choice of a committee of five to prepare a list of Candidates for Officers of the Society. Supper after the meeting.

CHARLES M. GREEN, *Secretary*.

The Secretary is about to prepare a new directory of the Society; members are therefore requested to notify him immediately of any recent change of address.

WASHINGTON, D.C., OBSTETRICAL AND GYNECOLOGICAL SOCIETY.—At the Annual Meeting of the Washington, D.C., Obstetrical and Gynecological Society, held on October 16, 1885, the following officers were elected for the ensuing year: President, Dr. A. F. A. King; Vice-Presidents, Drs. W. W. Johnston, and J. Faber Johnson; Recording Secretary, Dr. C. H. A. Klein-schmidt; Corresponding Secretary, Dr. S. S. Adams; Treasurer, Dr. G. B. Harrison; Committee on Business, Drs. C. E. Hagner, Lachlan Tyler, and S. S. Adams; Committee on Admissions, Drs. G. N. Acker, H. H. Barker, and H. D. Fry; Committee on Publications, Drs. T. C. Smith, J. K. Brownell and Klein-schmidt; Committee on Pathological Specimens, Drs. Acker, W. W. Johnston, and Harrison.

#### OBITUARY.

Dr. William Workman, of Worcester, died October 17th, after several weeks' illness, in the eighty-eighth year of his age. He was of Scotch-English descent, and was born at Colerain, Mass., in 1798. He studied and finished preparation for college at Hopkins Academy at Old Hadley, under the direction of Rev. Daniel Huntington. Owing to ill health he was obliged to give up the college course, and finally began the study of medicine in 1822 in the office of Dr. Seth Washburn, of Greenfield. In the fall of that year he attended lectures at the medical department of Harvard University, and continued his studies there and with Drs. Flint and Mather, of Northampton, till August, 1825, when he received the degree of M.D. from Harvard. He immediately began practice in Shrewsbury, where he remained

for ten years. In 1835 he came to Worcester, and continued in the practice of medicine till 1869, when he retired. He became a member of the Massachusetts Medical Society in 1831, was elected councillor of the society in 1840, which position he held till 1864. He delivered the annual address at the annual meeting at Fitchburg in 1852. He was also a member of the American Medical Association, and was frequently a delegate at its earlier meetings. For many years he took a prominent part in the proceedings of the Worcester District Medical Society, serving on important committees, and occupying at one time or another all of its offices except that of librarian. He always retained his interest in the society and two years ago gave it his medical library. He was also a member of the Worcester Medical Improvement Society.

His horizon was by no means, however, bounded by his profession. From 1810 to 1850 he served on the "Board of overseers of schools for the centre district," the latter part of the time as secretary of the board, and also for several years on the public school committee, after Worcester was made a city. He was president of the Lyceum Society, before which he read a number of papers on scientific subjects, was trustee of the Worcester County Institution for Savings from 1848 till 1873, and was director in the People's Insurance Company of Worcester, from 1860 till its dissolution, after the Boston fire in 1872. In 1862 he was appointed by Governor Andrew trustee of the Worcester Lunatic Hospital, and was re-appointed by Governor Bullock in 1867. In 1872 he declined further service, though again re-appointed. At the time of the seven days' battles, in 1862, Dr. S. G. Howe, in behalf of the sanitary commission, telegraphed for volunteers to act with that organization in caring for the wounded. Although then sixty-four years of age, he at once offered his services, and went to Fortress Monroe as surgeon in charge on a government transport. He was a prominent member of the Union Church and Society, uniting with it in 1840, and always maintained an upright and consistent Christian character. After his retirement from active life he continued his habits of study, devoting much time to the companionship of books, of which he was ever fond and to which he had desired leisure to give his attention.

#### CORRECTION.

##### TUBERCULOSIS OF THE PHARYNX.

MR. EDITOR, DEAR SIR.—In the report of the discussion on the paper of Dr. DeBlois on the above subject in your issue of 22 inst., I am made to say that "cases of tuberculosis of the pharynx had been rarely reported, and that I had never seen but one case," etc. This should read *primary* tuberculosis of the pharynx. Secondary tuberculosis of the pharynx, as Dr. DeBlois' cases apparently were, is occasionally seen by every laryngologist.

Yours truly,

FREDERICK I. KNIGHT.

Boston, Oct. 23, 1885.

#### REMOVAL NOTICE.

NEW ENGLAND MEDICAL MONTHLY.—The Editor's address hereafter will be Newtown, Conn., instead of Sandy Hook. Send exchanges and all matters pertaining to the literary and editorial department to this address.

#### BOOKS AND PAMPHLETS RECEIVED.

A Text-Book of Pharmacology, Therapeutics, and Materia Medica. By T. Lander Brunton, M.D., D.S.C., F.R.S. Adapted to the United States Pharmacopoeia by Francis H. Williams, M.D., Boston, Mass. Philadelphia: Lea Brothers & Co. 1885.

## Original Articles.

SYPHILIS AND INSANITY.<sup>1</sup>

BY WM. B. GOLDSMITH, M.D.,

*Physician and Superintendent Danvers Lunatic Hospital.*

I DESIRE in this paper to call your attention cursorily to the manner in which syphilis acts as a cause of different forms of insanity, and more particularly to what appears to me a prevalent professional error as to the value of anti-syphilitic treatment in mental diseases.

For convenience, I will first enumerate the various forms of insanity which syphilis may cause in its so-called three stages.

*First.* Syphilis may, soon after infection, cause melancholia, and less frequently mania, by psychical influence alone without any influence of the specific virus.

It is needless to say much upon this point. All of you have probably seen cases in which, after recently contracted syphilis, remorse for the past and hopelessness and dread of the future have been the exciting causes of melancholia. It is also well known that the same causes which are frequently efficient in producing melancholia will sometimes produce mania, that is to say, a reasonable profound mental depression, when it causes insanity at all, will usually cause insane depression or melancholia, but exceptionally, will entirely change its form on passing the physiological limit and become mania.

*Second.* Melancholia, or great intellectual inactivity and incapacity—a temporary dementia—may occur at any time during secondary syphilis as a result of the cachexia of the disease, or of that and anti-syphilitic treatment together, for those accustomed to treat venereal disease recognize that one of the effects of mercurialization, in not a small number of cases, is profound mental depression associated with a great failure in intellectual activity and capacity, often resembling that occurring during convalescence from severe fevers, but sometimes, when the mercury has been pushed so far as to produce general or local tremor, simulating progressive paresis.

The melancholia occurring during either of these stages of the disease, and indeed the melancholia occurring in any stage of syphilis may take the form of the so-called syphilophobia, which is really nothing more than an unusually well-defined and distressing form of hypochondria. Cases are also reported in which acute mania was thought to be due to an unusually marked febrile disturbance attending the outbreak of early secondary symptoms. As high temperature from various causes is known to cause maniacal symptoms in certain susceptible people, this does not seem improbable, though I have had no personal experience with such cases.

*Third.* Tertiary syphilis is, however, decidedly more important in its influence upon the nervous system, and may undoubtedly cause mental disease by producing changes in various portions of the encephalon which can be recognized as syphilitic after death—gummy tumors, pachymeningitis interna and externa, and syphilitic endarteritis. It is not necessary for me to describe the clinical history of these cases. They

present, in the main, the symptoms which non-syphilitic lesions of similar form and situation produce. That is, a syphilitic brain-tumor produces like paralysis and like psychical enfeeblement or irritation as a non-syphilitic one, and syphilitic disease of the meninges or arteries produces like symptoms as similar non-syphilitic disease of the same structures.

Positive mental symptoms, using the term to denote morbid excitement, delusions and hallucinations, are not often prominent in these cases and the negative symptoms, that is, various evidences of mental failure are almost invariably present and decided. With this dementia there are often physical symptoms very like those shown in paretic dementia, and it is probably these cases which Fournier, Voisin, Mickle, and others speak of as pseudo-general paresis, a class of cases which it is often impossible to differentiate from general paresis proper by personal examination alone, though prolonged observation or an accurate history usually discloses a lack of variety and completeness in the course of the disease, paralysis of small groups of muscles, etc., which are not likely to be found in progressive paresis. With these cases we are on pretty sure ground, there is the history of syphilis, and specific pathological changes to be found post-mortem.

Many observers, as Fournier, Voisin, and Mickle, believe also, that they can be diagnosed by a trial of anti-syphilitic treatment. My own experience has been less favorable so far as the mental symptoms are concerned, but there is still active syphilis and its vigorous treatment is indicated.

There are, too, a large number of patients with histories of preceding syphilis who have unmistakably both the bodily and mental symptoms of progressive paresis, but who show no evidence of active syphilis during life, and in whom no changes recognized by pathologists as syphilitic can be found post-mortem. The share to be assigned syphilis in their production can therefore only be determined by a totally different process of investigations; that is, the numerical, and from the study of the method of occurrence of certain individual cases.

This method presents several sources of fallacy, and its results can certainly only be considered conclusive after the findings of different men observing patients in different localities and conditions are grouped, and in accomplishing this grouping we must remember that—

*First.* Syphilis is a possession which no one cares to vaunt, and which is often concealed from all except the physician who treats it. The patient's insanity often makes his own statements unreliable, and, when this is not the case, he often lies about it.

*Second.* The disease varies greatly in prevalence in different localities and among different classes of people.

*Third.* The personal equation of the observer is an important factor, as some physicians are ready to take the history of any kind of a venereal sore, or almost any scar upon the body as evidence of previous constitutional infection. Thus, Stretch Dowse, for example, says<sup>2</sup> that he has had in his practice at the Central London Sick Asylum in seven years over 10,000 patients, and adds: "I have no hesitation in saying that three-fourths were more or less the subjects of acquired or congenital syphilis." By the numerical method it would be easy for Dr. Dowse to make syphilis the chief cause of any disease known to medicine.

<sup>1</sup> Read before the Association of Superintendents of American Institutions for the Insane, at the annual meeting at Saratoga, June 17, 1885.

<sup>2</sup> Syphilis of the brain and spinal cord, 1882, p. 1.

*Fourth.* The difficulty of tabulating results is increased by the tendency of many observers to diagnose as cerebral syphilis all cases supposed to be of syphilitic origin, though their symptoms are identical with those of progressive paresis.

Without attempting to give the findings of all who have recorded their observations, I will mention those which seem to me the most carefully taken and reliable, before contributing my own experience. Schuele found that about fifty per cent. of his paretics gave histories of syphilis, and thought it a prominent cause. Mendel found it in sixty per cent. of two hundred cases. Spitzka and Kiernan found it in about one-third of the cases at the New York City Asylum, though they thought it probably larger. Spitzka found the percentage of syphilis smaller among private patients.

Probably the most extended and carefully compared observations yet reported are those of Rohmell, given at the International Medical Congress at Copenhagen, last year. He says<sup>3</sup> that in the Asylum St. Hans, near Roeskilde, Denmark, there have been 317 cases of paresis during the past twenty years (269 men and 48 women), the total number of patients treated during this time being 1,729 men and 1,733 women. The proportion of paretics being thus: 1 to 6.5 among the men and 1 to 3.6 among the women, the women being as 1 to 3.6 more seldom than the men.

Of the 317 paretics, 289 or 77.2 per cent. had a history of syphilis, while of 1,000 other patients examined, only 72 or 7.2 per cent. had such a history. In typical cases of paresis, by which I suppose those with exalted delusions are meant, 82 per cent. gave a history of syphilis, in those with mental depression 78 per cent., and with dementia 76 per cent. Among the women the proportion was 78 per cent. The average period from infection was  $11\frac{1}{2}$  years, extremes 4 and 20 years, most frequent period 6 to 10 years. The syphilis had almost always been mild in character. Antisyphilitic treatment had never effected a cure. McDonald<sup>4</sup> believes that syphilis was the cause of paretics in the eighty per cent. of his cases, and cites two interesting facts.

1st. That during the eighty-three years existence of the York Retreat, which treats a large number of Quakers, whose purity of life is proverbial, only three cases of progressive paresis were encountered in persons of this sect.

2d. He noticed, when Superintendent of the Perth District Asylum, Scotland, that he had no paretics who had been continuously residents in the country, but that all were soldiers, or those who had been employed in large towns. And yet he says that illicit sexual intercourse and drunkenness were shockingly common in that region, so that the immunity could not be ascribed to the avoidance of excesses.

It is well known from others that progressive paresis is rare among the highland Scotch, but frequent in the cities. It is also well known that there are strikingly few paretics in Ireland, and I have been told by a medical man, who had large experience in Ireland, that the amount of syphilis is also recognized to be very small there. This infrequency in syphilis in Ireland was also, I remember, referred to as a fact in a discussion of the British Medical Association a few

years ago, but I have no statistics at my command to prove it, neither have I any reliable statistics to offer as to the frequency of paresis where syphilis is known to be especially prevalent, as at Naples. In general, both can be said to be urban diseases.

The results of my own experience are as follows:

Among 126 male and 28 female paretics treated at the Danvers Lunatic Hospital since I have been Physician and Superintendent there, 36 men and 11 women are known to have had syphilis, or nearly one-third of the whole number. I may say, incidentally, that 32 of these 151 cases were Irish, which shows that their comparative immunity from the disease does not persist in this country, though their proportion to the whole number of paretics is somewhat smaller than it is in the entire hospital population.

These statistics unquestionably show very much less syphilis than actually existed, as we often fail to obtain any accurate history in this particular from patients of the class which constitute the greater part of the population at Danvers, and I have been careful to include only those in whom the evidence of this disease was fairly convincing. In five hundred other patients taken consecutively from the same record books, paretics being excluded, syphilis was found to be more than six times less frequent.

I may also say, that in my experience as an Assistant Physician at the Bloomingdale Asylum, New York City, where it was possible, because of the class of patients, to obtain much more accurate histories than at Danvers, I was impressed by the frequency of syphilis among the progressive paretics in spite of the fact that they belonged to a higher class socially, where the general percentage of syphilis is probably not so large, but this is merely my remembrance, as I have no record of these cases.

Progressive paresis has also occurred in two families under my observation in such manner as to be more easily explained by a syphilitic origin than as a coincidence. In the first, a man and his wife of respectable social standing, were both syphilitic and both had progressive paresis eight or ten years later.

In the second, a man had syphilis and communicated it to his wife. A sister of the wife, sixteen years old, who was resident in the family, also contracted syphilis—the primary sore not being on the genitals, as their family physician informed me. The man had progressive paresis six years after the syphilitic infection, the wife eight years after, and the sister seven years after, or when she was but twenty-three years old.

It is also possible to judge of the probability of the syphilitic cachexia producing this form of brain disease from analogy. Locomotor ataxia, as is well known, has several points of resemblance to progressive paresis in its method of occurrence. Both diseases seldom attack the very old or young, but take those in the prime of life. The proportionate preponderance of men over women in those affected is about the same in both, and in both an hereditary neurotic tendency is less frequent than in most other forms of psychical or nervous diseases. It has also been noted in both diseases that the syphilis has usually been mild and has preceded the nervous affection by several years.

In locomotor ataxia, a more satisfactory conclusion as to the frequency of antecedent syphilis can be arrived at because of the mental integrity of the patients, and various observers have found it to exist in a large proportion of cases.

<sup>3</sup> Rohmell—über die Rolle der Syphilis bei der allgemeinen fortschreitenden Paralyse, Centralblatt für Nervenkunde, Psychiatrie, etc.

<sup>4</sup> Journal Mental Science, Vol. 25, page 167.

Erb<sup>5</sup> finds 80 per cent. of his 200 tabetic patients to have had syphilis, while this was the case with only 23 per cent. of 1,500 other patients who attended his clinic. Fournier thinks it is present in 93 per cent., Voigt in 81 per cent., and Seguin<sup>6</sup> finds it in over 50 per cent.

I think it can be fairly claimed that the unusual frequency of a syphilitic history among progressive paresis, the great comparative infrequencies of progressive paresis in certain regions where syphilis is not prevalent, though the statistics are not sufficiently accurate to give this argument great weight, the exceptional instances in which progressive paresis apparently follows the syphilis communicated from one person to another, and the inferences drawn from its analogy with locomotor ataxia, make it in the highest degree probable that syphilis is the most prominent factor in the etiology of progressive paresis.

And though I cannot say, as Erb does, of *tabes dorsalis*, that the man who has never had syphilis need not fear progressive paresis, it is my belief that he enjoys three times better chance of immunity than the one who has suffered from it.

Not in that the nervous disease is a part of the syphilitic process, as a gummy tumor is, but in that syphilis, having passed through all its stages and possibly having become entirely extinct, leaves the nervous centres prone to take on the new pathological process, the nervous disease finding a congenial habitat in the region devastated by previous syphilis. I think this in spite of the observations of Fournier and others that it is the untreated or inadequately treated syphilis which is followed by nervous disease, as it seems no less reasonable to suppose that the unchecked primary disease works greater devastation and is therefore more likely to be followed by nervous degeneration than to consider the secondary disease proof of the continued activity of the specific poison.

If it is a fact that progressive paresis follows syphilis as a result and in no sense as a symptom of the disease, it would have an important bearing upon therapeutic treatment, and it is concerning this that I especially desire to hear the opinions of the members of this association.

General medical text books and college lecturers with great unanimity claim that there is a vast amount of insanity due to tertiary syphilis, which only needs the iodide of potassium for its alleviation. This is fairly shown in a lecture by Prof. H. R. Wood, reported in the *Boston Medical and Surgical Journal*, January 10, 1881.

He speaks of cases that cannot be distinguished from paresis and says, "formerly when I took charge of a case of specific disease of the brain (and he evidently considers antecedent syphilis presumptive proof that brain disease is specific), I always gave a favorable prognosis, but experience has shown me that sometimes such prognoses are not realized," and again, "the fact that insanity, palsy or headache have a syphilitic origin makes them much more amenable to treatment than if they were due to other causes."

Kiernan<sup>7</sup> says the value of anti-syphilitic treatment in progressive paresis will depend upon the stage at which the syphilis is found, and in no case is it contra-indicated.

Having started hospital practice with this belief and

having given a very large amount of anti-syphilitic remedies, my experience makes me decidedly less hopeful. I am forced to say that I have never seen a case in which I believe that *positive* symptoms of insanity, occurring after syphilis had reached the tertiary stage, were removed or alleviated by anti-syphilitic treatment.

Therefore, when a patient with symptoms indicating progressive paresis has a history of previous syphilis. I think he is more likely to have paresis without being more likely to recover from it; and in my experience, active treatment by mercury or iodide of potassium usually has a debilitating and injurious effect. The same is true of all forms of mental disease which are not preceded by severe headaches, paralysis of limited groups of muscles, or localized disorder of sensation, that is, by symptoms indicating a circumscribed new growth. When such symptoms exist, the frequent efficacy of adequate anti-syphilitic treatment is unquestionable, and I have no doubt that mental disease can be averted by its employment.

I may add also, that in a recent trip abroad, I took occasion to inquire the experience of some of the best authorities<sup>8</sup> in England, France and Germany, and was somewhat surprised to see the unanimity with which they said that they had ceased to expect cure of mental symptoms through anti-syphilitic treatment. Among those whom I have consulted in this country, however, I have found much difference of opinion.

#### A CASE OF PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS.<sup>1</sup>

BY PHILIP GORDON KNAPP, A.M., M.D., (HARVARD).

*Assistant Physician to Out-Patients with Diseases of the Nervous System, Boston City Hospital.*

THE patient, a boy of six, was born in Boston, of German parentage. He was sent to the Boston City Hospital, September 21st, by Dr. Broughton, of Jamaica Plain, from whom, and from the boy's parents, the following history was obtained.

**FAMILY HISTORY:** A full history of his father's family was not obtained; on his mother's side two cases of phthisis were reported, but no evidence of any neurotic history could be obtained. His parents are healthy. He himself is the youngest of eight living children, the rest of whom are well. Four other children died in infancy of "water on the brain," one also having cholera infantum.

**PREVIOUS HISTORY:** The patient was a very feeble child, too weak to nurse, and had to be brought up on the bottle. During his first year he had diarrhoea much of the time, and seemed very delicate. When he was a year old, he had whooping-cough, attended with severe and frequent convulsions; he had convulsions at intervals for two months, once having seven in one night. After that he recovered, grew stronger, and has seemed healthy ever since, except for his present trouble, and for an illness of two days when he was two years old, "which seemed like water on the brain." When he began to walk, it was noticed that his left leg gave out at times, and he would sometimes fall. His legs were very fat, much tatter proportion-

<sup>1</sup> Read before the section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, October 11, 1885.

<sup>8</sup> In reading this paper I gave the names of some of the foreign physicians consulted, but it has seemed more wise, without prejudice, to make them responsible for an opinion in print which they may choose to express in some other form, and I leave the editor to find the names in preparing the paper for printing. W. B. G.

<sup>5</sup> *American Journal Medical Sciences*, January, 1881.

<sup>6</sup> *Archives Medicales*, August, 1884.

<sup>7</sup> *Aliment and Neurologist*, July, 1883.

ally than his thighs, but at present his mother thinks the contrast is not so marked.

About a year ago, without any signs of illness, his parents noticed that he had more difficulty in walking. The trouble came on very slowly and gradually. He could not walk as well, and when out with other children it was noticed that he could not run, and that a very slight push would knock him down. If he walked much he had a tired feeling in his legs, but he never had any pains in them, nor any peculiar sensations. The family for some time have laughed at him for "sticking his belly out" as he walks and stands. He has not been able to go up stairs well; when he does so, he pulls himself up by the banisters or takes hold of his knees, having much difficulty in getting up. He puts the left foot first, they say, in going up stairs, and the right in coming down, the right leg seeming weaker. He never has headache, and sleeps well nights. He is quick-witted, good-natured and always happy; he answers questions readily, without any impairment of articulation, and seems more than ordinarily intelligent. He has not been to school yet, partly from his difficulty in locomotion, and partly for fear that the larger boys will knock him down and hurt him. He has never had any serious cough, nor any dyspnea or palpitation. He has a good appetite, eats everything, and has no trouble from indigestion; his bowels are regular. He has no difficulty with micturition.

**PRESENT CONDITION.**—The child is of medium size, fairly developed, not very well nourished. The skin is pale and translucent, the subcutaneous veins are quite apparent. There is no eruption or marbling of the skin. The head is rather large and square. The pupils are of medium size and react well to light; the eyes were examined by Dr. Wadsworth and the discs were pronounced normal. The eyes, face, lips and tongue move naturally. The tongue was clean. Examination of the chest was negative. There was no impairment of tactile sensation. There were no signs of vaso-motor disturbance in the skin, which showed no special differences of temperature to the hand in various parts. There was no ataxia in the movements of the hands. The patellar reflex was absent, and there was no ankle clonus; plantar, abdominal, and epigastric reflexes present. No tenderness over the spine or nerve-trunks.

There was no very great hypertrophy of any group of muscles. The facial muscles showed no marked atrophy or enlargement, and he could move them without difficulty; the expression of the face, however, was very peculiar, the eyebrows were elevated, the eyes staring and prominent, the mouth often a little open, the lines of the face were not marked, and there was but little play of expression. His father, however, had noticed no change in this respect. The muscular development of the upper part of the body was rather poor. The arms were small, but there was no atrophy or hypertrophy that would strike the eye. The latissimus dorsi and pectorals were poorly developed, yet corresponded fairly to the other muscles. The infraspinatus muscle filled the infraspinous fossa completely, but did not feel hard. The deltoid felt rather firmer than some of the other muscles, the triceps was of good size and decidedly harder than the biceps, the muscles of the forearm were also firm. There was no atrophy of the thenar muscles. The glutei were unduly prominent. The thighs were

small, the quadriceps felt flabby. The calves were large and very hard and firm. Although the calves were not unduly enlarged for a healthy boy of his years, they were much enlarged in proportion to the other muscles. Circumference of the thigh in the largest part, 10 inches, of the calves, 8½ inches.

The child stands with his feet well apart, his shoulders back, his abdomen very prominent, his arms semi-flexed, abducted, and carried a little backward. His scapulae stand out in a wing-like fashion from the chest wall. A plumb-line dropped from the spinous processes between the scapulae, clears the sacrum, but not the buttocks, as he stands erect. His gait is decidedly waddling, especially when he runs. His grasp is not very strong, but it is fair for his years. His arms show no special loss of strength. When he stoops over to pick up anything, he has much difficulty in straightening up again, and usually helps himself by putting his hands on his knees and throwing his body back, although he does not climb up his thighs much. When he is put on his back and told to get up, he first rolls over on his belly, then he lifts himself up on his hands, straightens his legs, walks up to his hands, then he gets hold of his knees, pushes himself up, and throws his body back in precisely the manner depicted by Gowers. He cannot bend his knees and rise up again, and, if he stands on one leg and a forcible attempt is made to bend the knee, he goes down in a heap. He also goes down suddenly when he attempts to sit. His favorite way of going up stairs is to creep up on his hands and knees; if told to walk up, he prefers to get hold of the banisters and pull himself along. If made to go up without taking hold of anything, he has very great difficulty, even with stairs of a very slight rise, and sometimes he requires help. He always puts his left foot up first and pushes himself up by his knees. If told to put the right foot first, he has much more difficulty, and often fails entirely to get up. He can rise up on his toes very well, even on one foot, and he can bring his heels squarely to the ground. Dorsal flexion of the foot is not quite so complete as normal, but it is impossible to say whether it is due to a weakness of the flexor groups or to a slight contraction of the gastrocnemii.

An electrical examination was made by the induced current, but it caused so much pain that a complete and careful examination was not made. The deltoid, biceps and extensors of the arm react feebly to a tolerably strong current. The gastrocnemii and glutei react to a painful current, the full strength of a Fleming and Talbot battery, freshly filled. The tibialis anticus reacts very little, if at all, but the pain of the application made the child so restless that it was impossible to observe the reaction carefully. The quadriceps showed absolutely no reaction to the strongest current.

The boy has been given cod liver oil and syrup of the iodide of iron, and directed to come to the outpatient department three times a week to have faradism applied.

—A new journal, called *The Medical Press* of western New York has appeared in its first issue. It is published at Buffalo, and has a large number of stockholders among the resident medical profession. It is edited by Dr. Roswell Park.

A CASE OF TUBERCULOSIS OF THE IRIS.<sup>1</sup>

BY MYLES STANDISH, M.D., OF BOSTON.

D. A., a girl fourteen years of age, was first seen by me on the 22d of May, 1885, when I obtained the following family history. Her father was a man of good health, and had never acquired syphilis, but had used alcohol to excess. Her mother was a healthy, well-nourished woman, and had borne four children, of whom our patient was the eldest. All the children are living, but are somewhat pale and delicate looking and rather small for their ages. The mother had never had any miscarriages. Neither the mother nor our patient, nor either of her brothers or her sister, ever had any eruption upon the body, any continued sore throat, swollen glands, or any purulent discharge from the ears.

Our patient is small in stature, pale and anæmic, and although her menses have been established for a year, has a peculiarly slight and girlish form. There is nothing in the configuration of the shape of the head or teeth to indicate inherited specific disease. She has always been considered well until the summer of 1884, when she had an attack described as nervous prostration. She attended school, however, in the autumn for two months, when in the last week of November she was taken ill with the following symptoms: pain about the waist, with much distress for breath and an inability to lie down. Ascites soon developed, with severe epigastric pain, nausea and vomiting; there was no jaundice, no evidence of disease of the kidneys, no evidence of any lesion of the lungs, no general tenderness of the abdomen, and no diarrhœa. The diagnosis of her family physician was acute hepatitis. All of the above history was confirmed by this gentleman, who is a skilful physician and accurate observer.

The patient recovered slowly, but in three months' time had recovered her color and accustomed weight, her menses had returned and she was considered quite well.

Four weeks before I first saw her, our patient began to complain of feeling tired and a general feeling of malaise, and about the same time her right eye began to trouble her, with no history of an injury; it became red and the sight gradually became dim, but as she did not complain of much pain the mother supposed it, as she said, to be a cold in the eye, and neglected to apply for advice. Upon discovering, however, that the eye was quite blind she immediately brought her for treatment.

Upon examination, the condition of the eye was found as follows: The conjunctiva somewhat hyperæmic in certain areas near the sclero-corneal margin; the cornea was somewhat hazy, with several deposits on the membrane of Descemet; the iris firmly attached throughout its entire pupillary margin to the capsule of the lens. The pupil blocked by lymph. The iris was not congested, but in general had a somewhat atrophic appearance.

Above the pupil and springing from the iris near its ciliary border was a rounded protuberant growth two millimetres in diameter and projecting from the plane of the iris to an estimated height of one millimetre. This growth was broader at the top than at its base, and of a yellowish color slightly tinged with pink. Over the surface of the tumor coursed several small

vessels. No view could be had of the fundus. An attempt was made to dilate the pupil by the repeated use of a one per cent. solution of atropine during several days; this failing, cocaine and duboisia were used separately and together, all with no effect. V. O. D =  $\frac{2}{60}$ .

The case was watched for four weeks, in which time the growth slowly increased to double its size when first seen. A one per cent. solution of atropine was used during this period. This growth of the tumor was unaccompanied by pain, and the conjunctiva became white, presenting only a few enlarged vessels. Vision became reduced to the perception of shadows.

Dr. Wadsworth then saw the case with me in consultation. At this time the eye had not been examined by me for a week, and three new growths, a millimetre in diameter or less, were found springing from the iris at other points near the ciliary margin of the iris. These new growths were not accompanied by any access of pain or congestion of the iris, and by only very slight injection of conjunctiva. Dr. Wadsworth agreeing with me in my diagnosis of tubercle, enucleation was advised. I enucleated the eye on the 20th of June at the Massachusetts General Hospital.

The patient made a rapid recovery, and now appears in much better condition as to general health.

Upon examination of the eye microscopically after removal, the vitreous body was found to be normal, the retina and choroid in apposition to the sclera and normal in appearance, the ciliary body of normal size and not involved in the pathological change, the lens substance somewhat opaque. The iris was attached to the capsule of the lens very firmly throughout the entire circuit of its pupillary margin, and also beneath the entire area of the base of the principal growth. This growth sprang from the iris near its ciliary margin. The base of the growth was two and five-tenths millimetres in diameter, and rose from the plane of the iris two millimetres, when, coming in contact with the cornea, it was spread out, conforming to the curve of the inner surface of the cornea, to a width of four millimetres. It was non-pigmented.

The growth was given to Dr. Harold C. Ernst for examination, and he makes the following report:—

The Warren Anatomical Museum. New growth submitted for analysis July 9, 1885.

A tumor two or three millimetres in diameter lying anterior to the iris and connected with it. The specimen had been previously hardened in Müller's fluid, thus rendering it impossible to speak of its fresh appearance. Having been washed for thirty-six hours in distilled water, the specimen was re-hardened in absolute alcohol, sections made and placed under the microscope. Thus the growth was seen to come from the iris, this side of it being well supplied with vessels. Farther out from the point of attachment the tissue was made up of granulation, with a number of giant cells. No cheesy degeneration was present. Sections stained after Koch's modification of Ehrlich's method showed the presence of a few bacilli of tuberculosis. The first treatment of these specimens rendered the detection of these organisms more than usually difficult.

*Diagnosis.* Tuberculosis of the iris.

— A case of small pox has appeared at Newport, R. I., in the person of the matron of the Newport Hospital.

<sup>1</sup> Read at the meeting of the American Ophthalmological Society at New London, July, 1885.

## REPORT ON DERMATOLOGY.

BY GEORGE H. TILDEN, M.D.

ORIGIN OF THE PIGMENTATION OF THE SKIN IN ADDISON'S DISEASE.<sup>1</sup>

THE following conclusions with regard to the hypertrophy of the cutaneous pigment in cases of Addison's disease are given by Nothnagel as the result of a careful study of the subject.

In Addison's disease there is not only pigmentation of the rete malpighi, but there are also a greater or less number of pigment cells to be found in the corium, which pigment cells are seen to be in intimate connection with the blood vessels. Precisely similar conditions are found to exist in the normal and localized increase of cutaneous pigment in the white races, such as that of the scrotum, etc., in the skin of the negro, in the increased pigmentation of the linea alba in cases of pregnancy, and in the discoloration of the skin sometimes seen in connection with phthisis; and it is proper, therefore, to assume that the conditions of its hypertrophy are the same in cases of Addison's disease as in these other instances of increased pigmentation of the skin. The pigment present in these cases is not formed in the cells of the rete malpighi by metabolic activity of their protoplasm, but is transferred to them from the corium by pigment-carrying cells, which do not manufacture the pigment they contain, but abstract it in some manner from the blood. The conditions which favor the formation of pigment in the instances of normal increase of the same, are inherent and physiological peculiarities of tissue, but in the cases of pathological hypertrophy of pigment, these conditions are probably in some way under the influence of the nervous system.

Richl,<sup>2</sup> at a meeting of the Royal Association of Physicians, in Vienna, announced as the result of the study of four cases of Addison's disease, in the laboratory of Prof. Kundrat, that he was able to confirm the conclusions reached by Nothnagel in his investigations. He had made microscopic examination of the skin in these cases and had found the adventitia of the cutaneous blood vessels to be infiltrated with cellular elements, which infiltration existed not only in the pigmented regions of skin, but also in regions which were normal as regards color. In the smaller arteries of the skin, the media was found to be swollen and obscurely pigmented. In three of the cases of Addison's disease which had been under investigation, there existed in the smaller arteries also, thrombi which filled them either partially or entirely. Since the above changes in the walls of the blood vessels were to be detected throughout the whole skin, in non-pigmented as well as in pigmented regions, also in the subcutaneous tissues and in various membranes and organs of the body, such as the pleura, peritoneum and liver; while the thrombi above-mentioned, existed only in the blood vessels of the skin and of the capsule of the suprarenal bodies, the speaker was of the opinion that general pathological changes in the blood vessels was the primary condition, and that to this was due the exit of pigment from the blood, giving rise to the pigmentation peculiar to Addison's disease.

RECOVERY FROM LEPRO TUBEROSA.<sup>3</sup>

At the fourth meeting of the German Medical Con-

gress, held at Wiesbaden, in April, 1885, Unna reported a case of recovery from leprosy. The patient was of German birth, a woman thirty-eight years of age, who had acquired the disease two years previously in Brazil, of which country she had been an inhabitant for fifteen years. The manifestations of the disease were of more than average severity and represented the tuberculous form of the affection, the cutaneous lesions being most numerous upon the face, arms and legs, and unattended by anesthesia or mutilation. After four months of treatment, which consisted in the external application for various periods of time, of salves and plasters containing various proportions of crysarobin, pyrogallie acid, resorcin, and suephoichthyolate of ammonium, and the continuous internal administration of one gramme a day, of the last-mentioned drug, the patient was reported as cured.

Bacz, of Tokio, who was present, congratulated Unna upon the happy results of his therapeutic endeavors, and regretted to state that he himself had never been so fortunate. He had generally failed to give any relief whatever, only occasionally had he seen any improvement follow treatment of leprosy, and in no case had he witnessed a cure of the disease. He considered the best method of treatment to be the internal administration of large doses of oleum gynocardiae, which sometimes seemed to cause a diminution in the size of the tubercles and in their red color. In the city of Tokio, there was a family who made a specialty of the treatment of leprosy, and who had often attained remarkably good results by giving the above-mentioned oil, in what was supposed to be a peculiar preparation, and by using a restricted diet and hot baths. The speaker advised great caution in making the diagnosis of complete cure of leprosy, as the slighter manifestations of the disease are often very difficult of recognition, trivial hyperemia and doubtful dullness of sensation being often for a long time the only symptoms.

He also made some remarks concerning the contagiousness of leprosy. Since the discovery of a bacillus peculiar to the disease, there has been a marked tendency among physicians to regard the affection as contagious. The speaker would not positively deny the possibility of contagion, and admitted that under conditions of long continued and intimate connection, such as were furnished by the married state, the disease might be transmitted, but nevertheless, he considered the tendency of leprosy to be transmitted by contagion as very slight. He had for eight years had cases of leprosy under his charge and never isolated them, but placed them indiscriminately amongst other patients. Many cases of leprosy had been for years in the hospital, and no instance of the disease had occurred in physicians, nurses, or other patients. In one of the hospitals in Tokio which is crowded with cases of leprosy, there has never been seen an instance of transmission of the disease by contagion, and the specialist mentioned above, whose family for three generations had been continually in relations with the malady, was of the same opinion. Careful inquiry also among the physicians in Japan, outside of Tokio, failed to elicit any testimony in favor of the eminent contagiousness of leprosy. The speaker, therefore, was of the opinion that the disease is at the most, no more contagious than syphilis, and probably much less so, and that at all events, there was no danger of contagion in the ordinary conditions of daily life, and that so long as individuals suffering from syphilis and tuberculosis were

<sup>1</sup> *Zeitschrift für Klin. Med.* Band IX, Heft. 3 u. 4, 185.

<sup>2</sup> *Wiener Med. Presse*, No. 2, 1885.

<sup>3</sup> *Allgemeine Med., Central. Zeitung*, No. 16, 1885.

not banished from society, there was no just ground for subjecting lepers to seclusion.

#### TUBERCULOUS MENINGITIS FOLLOWING LUPUS.<sup>4</sup>

Doutrelepoint publishes the case of a badly-nourished anæmic girl, eighteen years of age, who suffered from lupus of the face. The bacilli of tuberculosis were detected in scrapings from the granulation tissue present and in a bit of diseased skin which had been excised for purposes of examination. Marked improvement in the general condition of the patient and cicatrization of the cutaneous lesions followed the internal administration of arsenic and iron, and local treatment, which consisted in scraping the diseased regions of skin with a sharp spoon and the subsequent application of a solution of corrosive sublimate. Shortly afterward the disease recurred in the left cheek, its reappearance being accompanied by pain in the lower part of the chest, headache, vomiting and fever. Microscopic examination of the blood showed the presence therein of the bacilli of tuberculosis, and death ensued with the development of comatose symptoms. The autopsy showed tuberculous meningitis, collections of fresh tubercles in the lower lobes of both lungs and several tuberculous ulcerations in the intestine. All these lesions were of recent formation, and it is probable that the preëxisting tuberculous disease of the skin (lupus) gave rise to further infection of the system.

#### ETIOLOGY OF PURPURA HÆMORRHAGICA FERRILIS.<sup>5</sup>

During the past few years there has been a disposition on the part of certain observers, amongst them Klebs and v. Rittersheim, to regard purpura hæmorrhagica as an infectious disease. Petrone<sup>6</sup> made microscopic examination of the blood taken from two well-marked cases of purpura hæmorrhagica, in which there were also hæmorrhages from the mucous membranes of the mouth, rectum, nose and urinary tract, but without any scorbutic manifestations in the mouth. He detected the presence in the blood from each case, of small micrococci and partly isolated, partly grouped bacilli. Inoculation of rabbits with the blood from each of these cases was followed by a positive result, in the shape of the production of hæmorrhages in the dura mater, serous membranes, subcutaneous connective tissues and muscles and in the blood of the inoculated animals were to be found the same micrococci together with some bacteria (sic). Inoculation also of a healthy rabbit, with blood taken from the inoculated rabbits was followed by similar results.

The following fatal case of purpura hæmorrhagica came under observation in the medical clinic of Professor Quinke at Kiel, and is reported by his first assistant, Reher. The patient, a boy of eight years, was suddenly attacked by headache, loss of appetite, and vomiting, and two days afterward ensued sore throat and difficulty in swallowing. Five days after the beginning of the affection the boy was brought to the hospital, the chief symptoms complained of, being shortness of breath, painful deglutition, and debility. The body was found to be covered with bluish black or blood red spots, varying in size from that of a pin's head to that of a split pea (hæmorrhagic maculae), which were most numerous upon the neck and extremities, less so upon the head and trunk. Both tonsils, more especially the right, were very much enlarged, so

much so as to touch one another, the surfaces which were in contact being covered with a thin blackish green film of necrotic tissue. The uvula also, which was caught between the tonsils was much swollen and covered with a grayish film. By reason of this increase in size of the tonsils, the fauces were completely blocked and the posterior wall of the pharynx was inaccessible both to ocular and tactile inspection. The submaxillary and anterior cervical lymphatic glands, especially those on the right side were enlarged and painful. Examination of the thoracic and abdominal cavities showed slight bronchitis, rapidity of the heart's action without murmur, and considerable increase in the size of the spleen. The amount of urine was small but it contained no albumen. There was constipation, loss of appetite, coated tongue, and a temperature of from 39° to 10° C. The tonsils showed a tendency to bleed upon slight irritation and shreds and lumps of necrotic tissue and of a peculiar jelly-like substance, apparently derived from the tonsils, were repeatedly removed from the throat by gargling and the help of the fingers. With continuation of the high temperature, fresh hæmorrhagic deposits manifested themselves in the skin, there also ensued exudation of fluid in the serous cavities of the body, the debility and the cyanosis (from asphyxia) rapidly increased, and death took place ten days after the beginning of the disease.

The autopsy was made twelve to sixteen hours after death, and there was found extensive gangrenous destruction of the tonsils and the mucous membrane of the pharynx and the beginning of a similar process in the gums. There were numerous hæmorrhages in the skin, pleura, lungs, endocardium, pericardium, heart, mucous membrane and walls of the œsophagus, diaphragm, liver, kidneys and renal capsules, mucous membrane of the bladder, testicles, mucous membrane of the stomach, and in the large intestine. There were also found a few hæmorrhagic spots in the meninges of the brain, hydrocephalus internus, and fresh pachymeningitis. There existed some thickening of the mitral valve, cloudy swelling of the liver and kidneys, enormous increase in the size of the spleen, moderate swelling of the intestinal follicles, enlargement of the bronchial, mesenteric and retro-peritoneal lymphatic glands and exudation of fluid into the serous cavities of the body.

The clinical course of the affection and the post-mortem appearances in this case, both clearly indicate its infectious nature, and in the blood of the cadaver were detected by microscopic examination small, round cocci arranged in longer or shorter chains (streptococci). They were smaller in size than the cocci peculiar to osteomyelitis, and their disposition in chains was similar to that assumed by the cocci of diphtheretic membranes, when cultivated in gelatine.

Similar micrococci were found in microscopic sections of the various organs of the body, as a rule collected in masses which obliterated the calibre of the capillaries and smaller bloodvessels, this being the case more especially in the kidneys, the cervical lymphatic glands and the spleen and most of all in the liver. Other kinds of microorganisms were not to be detected in the blood or in the tissues of the body. It was impossible to demonstrate with entire satisfaction the existence of these micrococci in microscopic sections of the skin, since the large number of "Mastzellen" present, furnished abundant sources of error, and because the amount of skin reserved for examination

<sup>4</sup> Deutsche Med. Wochenschrift, No. 7, 1886.

<sup>5</sup> Archiv für Exp. Path. u. Pharmac., Band xix. Heft 6, p. 415

<sup>6</sup> Gazz. degli ospitali. Nov. 7, 14 and 17, 1884.

was small. The extensive gangrenous destruction of the tonsils prevented any microscopic examination of those organs.

Inoculations of these micrococci were made upon gelatine and in from one to two days numerous spherical, non-coalescent colonies of micrococci, of a grayish color, were to be seen at each point of inoculation. Both microscopic examination of these colonies and their gross appearances and behavior under cultivation showed that they were all composed of the same kind of microorganism, without the admixture of any other kind of bacteria or of foreign material, while the microscope also demonstrated their identity with the micrococci which had been found in the blood and various organs of the body. Subcutaneous inoculation of two mice with these cultivated microorganisms, however, was followed by a negative result in each instance.

In the opinion of the writer, the extensive distribution of these micrococci throughout the body renders it probable that they were connected with the disease and it is not improbable that the numerous hemorrhages were caused by embolism of the smaller blood-vessels due to masses of microorganisms. Whether the consequent hemorrhages were caused by mechanical plugging of the bloodvessels alone, or whether the growth of the micrococci "in loco" or possibly chemical changes set up in the neighboring tissues, by their presence, had anything to do with the production of these hemorrhages is of course entirely a matter of speculation. The supposition that the presence of these micrococci in question was accidental or that they were the product of post-mortem changes, is considered by the writer to be untenable, for the reason that he has never been able to detect the same coccus in a very large number of inoculations made upon gelatine with the fluids of the body both before and after decomposition had taken place.

#### ACUTE ANGIO-NECROTIC OEDEMA.\*

After recapitulating Quinke's article on "Acute Circumscribed Oedema of the Skin,"<sup>†</sup> the author, P. Struening, remarks that slight cases of this affection are not very uncommon. In such cases, there occurs generally, circumscribed oedema of the skin of the face, notably of the eyelids, cheeks, and lips, without, however, affecting the mucous membranes of the throat and larynx, or there takes place oedema of the extremities without effusion into the cavities of the joints. The swelling in these cases is slight in amount, and they offer a marked contrast to the much rarer and severe forms of the affection, where the manifestations are often so violent and acute as to give rise to much discomfort and alarm. He gives the records of three cases of this severe variety of the malady, which came under his observation.

The first case was that of a man seventy years of age, who was perfectly well up to his twenty-fifth year. At that time, after "catching cold," he was suddenly affected with pain in swallowing, which symptom rapidly increased in severity, and in the course of one or two hours, reached a high grade of intensity. To this there was soon added hoarseness and difficulty in breathing, and this latter symptom increased to such an extent that suffocation seemed to be imminent. After these distressing symptoms had lasted for about

half an hour, their severity gradually abated, and during the course of the night they entirely disappeared, the patient being in his usual condition the following morning. Then there developed swelling of the under lip, and after this had lasted for several hours, there followed in succession swelling of the upper lip; cheeks and eyelids, giving rise to great disfigurement of the countenance. These phenomena remained in the stage of their greatest intensity for several hours, and then gradually disappeared, and in about three days the skin had returned to its normal condition. The patient remained for a long time free from any repetition of this attack, but at the same time he noticed that any ordinary injury was followed by notable swelling of the injured part, to a much greater extent than usual. During after years, the oedema of the skin and of the mucous membranes of the pharynx and larynx occasionally recurred, but with long interval of time between the attacks.

As a rule, the oedema appeared first in the face, one-half of the forehead or one cheek being first affected, and afterward the other side of the face, the eyelids and the lips. The oedema then advancing to the skin of the neck, there would be simultaneously developed difficulty of swallowing and of breathing. The latter symptom was occasionally so severe as to apparently threaten immediate suffocation. Sometimes the sequence of phenomena was reversed, the attack beginning with symptoms indicating obstruction of respiration, followed by oedema of the face. On several occasions there also ensued oedema of the penis and scrotum. The slight attacks lasted from one to two days, and the more severe ones from three to four days, and occasionally these attacks were apparently induced by injury.

The patient also, not uncommonly, suffered from oedema of the upper and lower extremities, particularly after slight injury to the parts, and lasting for several hours. Even at his advanced age, the patient was subject to these attacks of oedema, and one especially which came on after he had been free from any symptoms of laryngeal stenosis for five years, was of such intensity that preparations were made to perform tracheotomy in order to relieve impending suffocation, but fortunately, at the last moment the symptoms began to abate and the operation was not needed. This attack lasted for four days and ended with the appearance of oedematous swelling of the lips, eyelids, cheeks and forehead, and finally, also, of the penis and scrotum. During the time that there was oedema of the pharynx and larynx, profuse secretion of mucous and saliva took place. The oedematous regions of skin were not sensitive to pressure and gave rise merely to an unpleasant subjective feeling of tension. In color, they differed from normal skin only in being somewhat paler and more translucent in appearance. They were not sharply defined, but were gradually lost in the surrounding skin.

Much more common, however, than the oedematous manifestations mentioned above, were periodical attacks of violent vomiting, which had affected the patient every four or six weeks, ever since his twenty-sixth year. Often these attacks occurred without any apparent exciting cause, but sometimes they seemed to be due to indigestion, physical exertion, or "catching cold." The patient was generally warned of the approach of these attacks of vomiting by the appearance several hours beforehand of slight pain in the abdomen.

\* *Zeitschrift für Klin. Med.*, 1885, Band IX, Heft 5, s. 281.  
† *Ibid.* Derm. report in this Journal for Oct. 5th, 1882.

which gradually increased in severity and was finally followed by vomiting, more or less severe and long continued. During an attack of this kind, there was a general collapsed condition of the abdominal walls, with the exception of the epigastrium, which was usually slightly protuberant, especially at the beginning of an attack. Slight attacks lasted from three to four hours, but the severe ones were of much longer duration, lasting twenty-four hours or more, during which time vomiting would occur from twenty to thirty times, the patient being able to retain nothing on his stomach, while the pain in the abdomen sometimes became very severe. There was generally manifest a certain dullness of the senses, great thirst, and a feeling of fatigue during these attacks. Afterward, the patient generally fell into a deep sleep from which he awoke in good condition, with the exception of a slight and temporary feeling of weakness, which lasted but a short time. The general health and condition of the patient was good, in spite of his having for more than forty years suffered from these repeated and severe attacks of vomiting.

The only surviving child of the patient, a boy sixteen years of age, strongly built and offering every appearance of health, also suffered from the same disease, which manifested itself in almost exactly the same way as in his father's case, and since his third year he had suffered from similar periodic attacks of vomiting, followed by sleep and recovery. One other child of the patient, a girl, had also been affected with the same malady.

The third case was that of a young woman, anæmic and of delicate build, who in her fifteenth year, after she had been subjected to a strong emotional shock, was suddenly attacked with nausea and vomiting, which lasted for several hours. Nothing of the kind occurred again until her twenty-second year, when again, after psychical disturbance there ensued another attack of vomiting. Since the occurrence of this second attack, she had suffered from similar attacks every fourteen days, which began with nausea, followed by vomiting and pain in the abdomen. She also suffered from chronic perimetritis, the exacerbations of which disease before and during the catamenia, seemed to predispose the patient to attacks of vomiting. Five years before, and again within a year, there had developed marked oedema of the eyelids which lasted for several days. Examination showed the internal organs with the exception of the uterus, to be in good condition, and the urine was found to be normal.

The oedema of the skin and mucous membranes in these cases is evidently an angioneurosis, and is considered by the writer to be due to irritation of the vaso-dilator nerves rather than to paralysis of the vaso-constrictors. That acute oedema of the tissues may be caused by irritation of the former set of nerves is shown by electrical irritation in animals of the distal end of the bisected lingual nerve, when there ensues first hyperæmia and subsequently a well-marked oedema of the tongue, which becomes manifest about ten minutes after the beginning of the irritation and keeps on increasing for ten minutes. The second group of symptoms which was prominent in connection with the above cases, namely, the periodic attacks of vomiting, are regarded by the writer as analogous to what has been described by Charcot as "crises gastriques" in connection with tabes, and by Leyden as "Periodisches Erbrechen," rather than as due to a sudden

oedema of the mucous membrane of the stomach, similar to that which took place in the skin and mucous membranes of the throat and larynx, as was suggested by Quinke. The results of treatment in these cases were unsatisfactory. Not one of the very many drugs which were tried, among which were atropine, hyoscyanus, and arsenic, had any appreciable power to check the number or severity of the attacks. The only method of treatment which was of benefit was general hygiene and regulation of the diet and method of living. When the oedematous condition of the skin was once developed, the application of ice to the parts seemed to act better than anything else, and oedema of the uvula repeatedly called for scarification of the same. Morphia, when given at the beginning of an attack of vomiting, seemed to shorten the duration and diminish the severity of the same, and ice internally gave the most relief to the burning thirst which accompanied the gastric disturbances.

## Reports of Societies.

### MASSACHUSETTS MEDICAL SOCIETY. SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALBERT N. BLODGETT, M.D., SECRETARY.

OCTOBER 14, 1885.

The section was called to order at 8.00 o'clock by Dr. R. P. EDES, the chairman. The records of the last meeting were read in summary, and after correction were approved.

Dr. MORTON PRINCE stated that the title of his paper at the last meeting of the section should be amended so as to read "Friedreich's Disease."

#### ELECTION OF CHAIRMAN.

The chairman announced that the first business to come before the section was the election of chairman for the ensuing year. A ballot was accordingly taken which resulted in the election of Dr. F. I. Knight as chairman of the section.

Dr. P. C. KNAPP exhibited a patient with

#### PSEUDO-HYPERTROPHIC MUSCULAR PARALYSIS,

and gave a brief *résumé* of the principal points of interest in the case. (See p. 135.)

Dr. J. J. PUTNAM remarked that often in the earlier stages of this disease the muscles of the upper extremity appear to be enlarged, and firmer than usual, sometimes seeming to be actually hypertrophied. The deltoid frequently presents the appearance of hypertrophy at this stage, and the muscles of facial expression are much more prominent than usual. The facial expression sometimes undergoes a marked change from the change in volume of the affected muscles. The gastrocnemii are often not weakened at first, but are actually stronger than normal. The disease seems to consist at first in a variation of the developmental force and direction, rather than in an actual degenerative process located in the spinal cord.

Dr. GOWERS has made many examinations of the nervous centres in this disease, but has not always succeeded in detecting pathological changes in these structures. In one case he discovered a portion of muscular tissue within the spinal canal.

Dr. C. F. Folsom read an elaborate and very interesting paper upon

"GENERAL PARALYSIS IN THE PRODROMAL PERIOD."

The patient was a clergyman who had always been well until recently, when he is said to have been affected with intermittent fever for which he is still taking quinine. It has been noticed that within the past year his disposition and character have undergone an unexplainable change, and that his sermons are quite rapidly deteriorating in excellence of thought, as well as in elegance of diction and purity of composition. The patient is himself aware of a change in this direction, but considers it due to a lack of energy upon his part, claiming that he might now produce equally good discourses if he would but make the necessary effort. He is, however, very well satisfied with his present sermons, but often preaches his old ones, as he considers them "too good to be lost." He is desirous of extending his usefulness, and has at times "exchanged" with other clergymen. On a recent occasion he preached in a strange church and made a very favorable impression. The congregation was accustomed to but one service on Sunday, but this clergyman thought that his sermons were so good, that he announced a second service, which, he laughingly states was attended by one person. He is not at all disturbed by any embarrassment of circumstances, but seems quite satisfied with whatever occurs. He wrote to Dr. Folsom making an appointment, which he found he could not keep, and sent a timely note asking for a change of appointment to some more convenient time. Upon being asked to write a page of ordinary paper he was quite at a loss what to say; when he was asked to write the text of his sermon of the day before, he was utterly unable to recall it. He was equally unable to remember a clause or idea from the sermon, or anything connected with the services of that day. Upon removing his garments for the purpose of a physical examination it was observed that he wore two starched shirts, one outside the other. When asked why he dressed thus, he said that the outer one was the clean one of the day before, and he put it on in order to prevent it from becoming crushed by being placed in his valise. When asked why he did not lay the soiled shirt into the valise when he took the clean one out of it, he seemed to think that this would be a good idea, but he himself had not been able to think of any way, except to wear the one shirt outside the other. He several times made the remark that his urine was scanty owing to some disease of the liver. When it was suggested that the kidneys were the organs by which the urine was secreted, he seemed to be aware of his mistake and was amused that he should have made such an error. He complains of ringing in the ears, and some degree of pain in the head, which he attributes to the quinine prescribed for his "malaria."

His handwriting has changed to a marked degree within two or three years, and now presents the tabetic character quite distinctly. His present photograph by itself is not remarkable in any way, but compared with those of three and five years ago shows extensive changes in the expression, the facial outlines having become much less striking, owing to atrophy of the muscular structures of the face, by which the countenance is changing in the direction of imbecility. Speech is still fairly good, though when fatigued or confused, the utterance becomes very slow, and the patient

is often unable to pronounce words of several syllables without repeated efforts. Although a clock was within plain view, the patient would have missed his railway train had he not been reminded that it was time to go; upon which he made his arrangements in the most exemplary manner and left for his home. After a period of complete rest, he was again seen, when the symptoms of nervous derangement had so far disappeared that the most searching examination was necessary to detect the signs of any degeneration of the nervous structures. Only when the patient became somewhat fatigued did the signs of paralysis become evident.

These early and faintly marked symptoms are more carefully recorded in this case, and special attention is directed to them from the fact that they represent to some degree the "prodromal stage" of general paralysis, a period in the history of the disease, which the physician is seldom able to observe, as the symptoms at this time do not usually attract the attention of the patient or his friends; and medical aid is first summoned at a much more advanced stage of the malady, when cerebral changes have already occurred, and the case is hopelessly incurable. If anything in the way of treatment can be of any avail it must be employed in the earliest stages of the disease. The diagnosis of general paralysis once established, our prognosis in all such cases is at present invariably and unalterably hopeless. If any benefit is ever to be gained in this disease from therapeutic measures, it must come from treatment of its earliest stages before cerebral degeneration has occurred.

DR. JELLY stated that he could add very little to the complete description of this forlorn disease which had been given by Dr. Folsom. The early recognition of the disease, and the study of the family history and individual traits are of the utmost importance. This was forcibly illustrated in a case coming under the speaker's personal observation, in which a wealthy and influential merchant had for two years been noticed to become gradually more and more erratic in business, and to make foolish and extravagant errors, and unaccountable mistakes. He was adjudged to be in the commencing stage of general paralysis, the stage of insane grandeur, and the friends were advised to remove him from business and to secure for him repose and perfect relaxation.

Before the nature and extent of the disease was appreciated by the patient's relatives, however, his entire fortune had been wasted, and when he was finally placed under medical care, his family were already in the depths of poverty. The patient was not benefited by treatment, but the disease rapidly advanced from the exaltation of the first stage to a condition of permanent and hopeless dementia.

DR. J. J. PUTNAM said that while his own experience brings him in contact with comparatively few patients with general paralysis, yet he has been struck by the surprisingly large number of cases of this disease which have become known to him. There is no doubt that many cases exist which are entirely unsuspected until some painful or unsuspected event directs special attention to the individual, when the disease is at once distinctly recognizable. The statement of Dr. Folsom, that in many true cases of the disease there is astonishingly little which can be discovered in the way of positive symptoms, is unfortunately true. In many cases absolutely nothing can be detected, upon which

to base a sound diagnosis; and doubtless, oftentimes normal traits of individual character are ranked as features of the disease.

Dr. PUTNAM asked with how great a degree of certainty can many cases be diagnosed?

Dr. FOLSON replied that in many patients the symptoms of this grave disease are very obscure. They may consist of three elements: diminution of muscular power; diminution of mental vigor, and derangement of the vaso-motor functions in the slightest degree. When notable changes in character or disposition occur, between the ages of forty and fifty, after the adult character of the individual may be supposed to have been firmly established, the indications are strongly in favor of general paralysis. Symptoms often entirely disappear from observation for a period of many months, but again recur after some trivial cause like loss of sleep or overwork. A sudden change in character and disposition in a vigorous man, without other explanation is almost invariably indicative of general paralysis.

Dr. JELLY asked if the prognosis is always necessarily so bad as has been supposed?

Dr. FOLSON replied that he had never seen a cure in any case. There is no known record of cure in this disease. The prognosis is entirely hopeless. The therapeutics of this disease offers no encouragement at the present time. The whole question of treatment is in a most unsettled and unsatisfactory condition. The subject is in about the same condition as was that of pulmonary tuberculosis some fifty years ago. Cases generally come under the observation of the physician at too late a period, when organic changes have already occurred in the brain, and degeneration of the nervous and muscular structures have already taken place. At this stage no known method of treatment has ever been of the slightest avail.

Dr. F. I. KNIGHT spoke upon

#### RECENT METHODS OF TREATING HAY FEVER.

We all know how frequently the sanguine hopes aroused by some new form of treatment of disease prove delusive. We read of various suggestions and experiments, but there is a feeling against trying severe and protracted methods of treatment unless there is a reasonable prospect of benefit from such a course.

The history of "hay fever" is generally well known, up to the time when it was first associated with the *pollen* period of certain plants. There is no longer any question with the majority of observers that the pollen of ragweed and various other pollen-producing plants acts in a large proportion of cases as the exciting cause.

Dr. Beard was the first to make an advance in our knowledge of hay fever, which he did by collecting the history of many cases and examining all the circumstances attending the disease in many subjects and various localities. His researches led him to the conclusion that hay fever is to be ranked among the neuroses, and is the effect of a general or central disturbance rather than of a localized irritation.

Dr. Daly, of Pittsburg, in 1881 proposed a local irritation as the cause of all the symptoms, and advised the removal of the local condition of hypertrophy of the mucous membrane or other tissue by which the nasal passages are obstructed. This he tried in a series of cases and observed that the disease did not recur in the succeeding seasons.

Dr. Roe, of Rochester, uses the galvano-cautery extensively and with great success.

Dr. Sajous, of Philadelphia, considers that any mode of treatment by which an organic change is produced in the substance of the membrane may be followed by more or less complete relief from the disease, due to a modified condition of the anatomical structures at the seat of the local affection. He also recognizes the neurotic element of the disease and unites both theories in his conception of the disease. The local character of hay fever was strongly maintained by Hack, of Freiburg.

Harrison Allen, of Philadelphia, advocated the removal of obstructions, and thought that obstruction would be found in all cases.

Mackenzie, of Baltimore, thinks the name "Hay fever" objectionable for many reasons, and proposes the new appellation "coryza vasomotoria periodica" for the whole class of cases heretofore known as hay fever, rose cold, June cold, etc.

Mackenzie also mentions a case in which reflected irritation from ovarian disease seemed to be a factor in the production of this affection.

These observations are the testimony of reliable observers. There is no mistake as to their accuracy; and they go to show the variety of circumstances and diversity of conditions under which this curious disease is met.

The more recent ideas in relation to hay fever find expression in the systematic and persistent treatment of the local manifestations or complications of the disease, which has for its object the removal of the obstruction to the patency of the nares, whatever may be the seat, or nature of the obstruction, and the cauterization of the sensory areas by means of the galvano-cautery, carefully avoiding the olfactory region. The cautery, especially if preceded by the application of cocaine, is productive of but moderate local pain and its use has, in many cases, been followed by most gratifying results.

An example is the following case: A patient presented himself to Dr. Knight last spring, in whom the disease had recurred each year for seven or eight years in very severe form, obliging him either to remain in bed, or go to Bethlehem. Treatment was commenced by the removal of obstruction on one side, and the free use of the galvano-cautery in the anterior part of both nasal fossae, while the very posterior parts were cauterized by chromic acid. This was deemed advisable on account of the possible danger of exciting inflammation in the middle ear by the use of the galvano-cautery. The result was a most notable relief, though not complete exemption from the symptoms. Instead of going to bed, or even staying in the house, or going to Bethlehem, the patient was enabled to go about his usual business. He says in a letter, "the nasal symptoms were so much lighter that instead of constant flow of secretions and much sneezing, as in former years, this year I have only been troubled by working in the sun, or by very warm, dry days, when the discharge would be copious for perhaps half the day, with no filling up of the nasal passages to prevent me from breathing through nasal passages at any time. Asthma has troubled me hardly any, a very marked improvement, as it has formerly compelled me to sit up all nights. . . . On the whole I have been able to attend to my business every day; with comparative comfort most days, instead of the complete prostration by Sep-

tember 1st, of former years, and catarrhal cough lasting till winter. This year no cough to speak of, and no asthma to care for." He also speaks of the complete relief from nasal catarrh during the early summer, which had been previously quite troublesome. Another thorough cauterization, especially in the posterior region, will doubtless be even more successful.

Correspondence with gentlemen who have heretofore spoken most enthusiastically in regard to the use of the cautery in these cases, shows that the past season's work confirms them in their belief that at least a large proportion of cases can be cured, or radically relieved in this way. Dr. Mackenzie still insists on the importance of specific treatment of the neurosis as well as local treatment of the nose; and Dr. Roe still maintains the essentially local nature of the disease and its required treatment. Dr. Sajous thinks that superficial cautery, as formerly supposed by him, may not be sufficient in all cases, but that some, especially those with markedly nervous character, may require deep destruction of tissue.

We undoubtedly owe our patients who suffer severely from this disease, a trial of galvano-cautery, all serious obstruction having been previously removed.

DR. LANGMAD stated that his experience had coincided almost completely with that so clearly described by Dr. Knight, and he felt quite in the same way in regard to the disease. It is always important to discover the *cause* before instituting any form of treatment. It is a source of surprise that some practitioners discover such a large number of cases of hay fever. In a large hospital practice in diseases of the throat, there occurred last year but one (probable) case of hay fever. This year thus far, not a single case has appeared in the hospital clinic. In private practice the number of cases is quite considerable, and does not materially differ from the reports of other specialists. The disease is evidently to be regarded as a neurosis, and corresponds in all essential particulars to the observations of Mackenzie and Beard. A simple coryza may reappear periodically, and be produced by some cause which we cannot discover, but this is not necessarily hay fever. In hay fever there is always, either at the time of the attack or previously, obstruction of one or both nostrils; and no method of treatment can result in a permanent cure until this obstruction is removed. This must be done completely and thoroughly in order to be of more than transitory benefit. We are not prepared to say that a person with no obstruction in either nostril cannot have hay fever, but such cases must be extremely rare. The favorite theory of some specialists is that hay fever is due to some irritation of the "*sensitive areas*" within the nostril. These "*areas*" may be demonstrated by reducing the vascularity of the mucous membrane by means of cocaine, when many vascular points will still be visible. These are the "*sensitive areas*." They are very numerous and cannot be treated except by very extensive methods.

If the obstructive nostril is to be made patent, the first thing to decide, is the means to be employed for this object. Of all agents at our command, the galvano-cautery is undoubtedly the best. The *craseur*, or cold loop, is unquestionably the safer. The chemical caustics, chromic or acetic acids, are not satisfactory. We are not yet prepared to apply so severe an agent as the galvano-cautery to the surface of the entire nasal cavity. The present methods of treatment doubtless are better

calculated to relieve this distressing malady than those of former years, and will probably be of great service in very many cases, while some will still prove refractory to any known mode of procedure. The galvano-cautery is a means too severe to be employed in light or temporary cases. We are not at present inclined to sear the entire nasal mucous membrane in the free interval of a case of slight, or even moderate severity. The whole question of the applicability of galvano-caustic treatment to the majority of cases of hay fever is still *sub judice*. In the meantime, we must not lose sight of the neurotic element in the disease; we must look at the general condition of the patient, his constitutional tendencies, etc. Our information will be more advanced by observation of large numbers of cases than by any prescribed plan of treatment. One of the most remarkable of the phenomena attending the disease is the development of the neurosis at the seashore, and its lack of development in Bethlehem.

DR. DE BLOIS said that he had seen few cases, but those were very interesting. Last summer, he treated one patient by cauterizing the "*sensitive areas*" by means of chemical caustics, and the more the cautery was applied the greater number of "*sensitive areas*" were found, until both the operator and the patient were well high discouraged. A solution of cocaine was then applied, with the happiest result, the relief being absolute. In this case, there was no obstruction previous to the paroxysm, and nothing to remove. After the attack had subsided, the nostril was entirely free from any obstruction or malformation. It is possible that the formation of cicatricial tissue throughout the nasal cavity might prevent hay fever by destroying the normal textures of the nostril.

DR. F. C. SHATTUCK remarked that Dr. Langmaid had observed that obstruction of the nostril is almost always present. Is not ordinary coryza usually accompanied by obstruction of the nasal passages, and how does hay fever differ from a similar attack of ordinary nasal catarrh?

DR. LANGMAD responded that sensitiveness of the conjunctiva is a recognized feature of hay fever. There is a notable relief when the obstruction is relieved. Given a case of acute catarrh, it is impossible to say whether the case is one of simple coryza or the specific autumnal catarrh.

DR. KNIGHT remarked that for this reason some writers have suggested another name for cases of undoubted hay fever, that is, for that form of catarrh which depends on the specific irritation produced by a particular cause.

Especially irritant in so-called hay fever is the pollen of the rag weed. Bethlehem affords immunity to many because this plant does not grow there.

There appears to be an unusual number of cases at present, owing to the fact that certain practitioners have relieved some forms of the disease by the more recent procedures, and as a consequence, many old and incurable cases present themselves and swell the number of actual cases to surprising figures. Cases of spasmodic catarrh are sometimes observed which are excited by unusual causes. A young gentleman who was married last January has had five severe attacks of bronchial asthma which invariably came on suddenly during sexual intercourse, and have been the cause of much suffering. The patient never had asthma before marriage, and never at all excepting that excited when cohabiting with his wife.

DR. LANGMAID stated that he had known patients in the Rangeley region and in Bethlehem to have a paroxysm during, or after a south wind.

DR. PRINCE stated that one practitioner has reported several cases of inflammation of the middle ear from the extension of the irritation caused by the actual cautery, along the canal of the Eustachian tube.

DR. J. W. FARLOW said that a certain firm of manufacturing druggists had advertised tablets of cocaine for the relief of hay fever, and he had tried the remedy, with the result of a greater degree of irritation than was caused by the hay fever. Cocaine and bismuth diminish the sensitiveness of the membrane to a moderate extent, but they do not alleviate the tendency to sneezing. Cocaine and fuller's earth relieve the distress caused by the exquisite sensitiveness of the mucous membrane, but do not in the least restrain the flow of secretion. Cocaine in solution is quite useless. For the asthmatic distress as well as for reducing the flow of secretion, belladonna is of great service. Acetic acid has been of no service in two cases in which it was carefully applied to the mucous membrane. The actual cautery seems the best agent for most cases. One fact in regard to hay fever seems to be overlooked by the most of those who treat these cases. The susceptibility of the patient varies from year to year. Dr. Farlow employed the remedy so strongly recommended by the Rev. H. W. Beecher, and the patient escaped hay fever.

At a later period the same treatment was absolutely without avail in the case of same patient. The susceptibility varies according to the general health of the patient. When the general health is bad, the attacks of hay fever are usually severe.

DR. KNIGHT'S experience confirms that of Dr. Farlow in respect to the curative power of cocaine tablets. In one case the introduction of a single tablet was followed by the most distressing paroxysm of the entire season.

DR. FARLOW added that the cocaine tablets in the month afforded great relief to intolerable itching of the roof of the mouth and the palate, and this may contribute to the comfort of the patient.

DR. KNIGHT remarked that most gratifying results had been observed after the introduction of cocaine into the eye. The pain and lachrymation were quickly and completely relieved.

DR. BLODGETT spoke of a peculiar case which came under his observation, in which very severe attacks of asthma with complete obstruction of the nares, lachrymation, itching of the mucous membrane, sneezing, and all the other discomforts of typical and severe paroxysmal catarrh were induced in a young gentleman by drinking champagne. No other cause had ever produced the paroxysms in this patient; and recently the susceptibility to catarrh has become so modified that a moderate quantity of champagne can be drunk without the occurrence of a paroxysm.

DR. KNIGHT said that he had known of one similar case.

DR. EDGES stated that ippecacuanha is a substance which causes paroxysmal catarrh in some sensitive persons. Dr. Edges himself is made very uncomfortable by inhaling the smallest amount of this drug.

DR. LANGMAID added that green coffee has a similar effect upon many people, and that some grocers are well aware of this peculiar property of coffee, and usually seek to keep out of its danger. Certain other sub-

stances also possess the power of exciting paroxysmal catarrh in those persons who are peculiarly sensitive, or who suffer from a personal idiosyncrasy in respect to these special irritants.

Adjourned at 10:05 o'clock.

## PHILADELPHIA ACADEMY OF SURGERY.

A MEETING of the Philadelphia Academy of Surgery was held October 5, 1885. Vice-President DR. R. J. LEVIs in the chair.

### FOREIGN BODY CAUSING VESICAL CALCULUS.

DR. J. EWING MEARS: I desire to present to the Academy a urinary calculus removed from a patient in St. Mary's Hospital three weeks ago. The patient was a man from the interior of the State, fifty-six years of age, who had been suffering with bladder-troubles for nine months. There had been difficult micturition with pain, and the diagnosis of inflammation of the bladder had been made. Six months ago, in order to relieve the difficulty in passing water, he said that he had introduced a straw some two or three inches long. He was under the influence of liquor at the time, and the straw slipped from his grasp and entered the urethra. His symptoms then became more marked, and he came to this city. I introduced a sound, and discovered in the bladder the stone or mass which you see. The urine was carefully examined, and it was found to contain a large quantity of albumen and also phosphatic deposits. The question arose, in view of the man's habits, his age, and the condition of the urine, whether it would be better to perform lithotomy, or lithotripsy, or litholapaxy. Under the circumstances, I considered lithotomy the preferable operation.

I cut the man, and in so doing opened an abscess in the prostate, evacuating about an ounce of pus. I then entered the bladder and removed this cluster of calculi with a scoop. The bladder was then washed out, and in two weeks the man returned to his home with the wound entirely closed. At the end of this time, examination of the urine showed that its character was greatly improved.

It was certainly fortunate that section of the perineum was decided upon. The abscess was not recognized before operating, although exploration of the perineum was made. There was no pain, no swelling, and no tenderness.

The question arises in such cases as this, where the age of the man, his habits, and the composition of the urine indicate serious vesical and possibly renal disease, whether it is better to perform lithotomy or the crushing operation.

DR. LEVIs.—How would the introduction of a straw account for this fibrinated character of the mass? If a head of wheat or barley had been passed, it might explain it.

DR. S. W. GROSS.—Close examination will show that this is a spear of some grain, and that these little calculi are formed around the hairs of the grain.

DR. NAYENDE.—Could not the albumen in the urine come from the abscess in the prostate?

DR. MEARS.—It did not seem possible that the abscess communicated with the bladder. When I opened the abscess, I at first thought that it was connected with the bladder; but further examination showed

that such was not the case. The abscess might have been due to the impaction of one of these little masses in the duct of the gland, for I neglected to say that he had passed a number of these masses through the urethra.

#### EXCISION OF THE SCAPULA.

DR. JOHN BRINTOX.—I have a specimen which I removed on Saturday last. It is of a good deal of interest: first, from the character of the tumor, and, secondly, for the magnitude of the operation required for its removal. The operation consisted in the removal of the entire scapula, performed on a girl of eleven years of age, for a formidable tumor. I may say here that the operation was unsuccessful as far as the life of the child was concerned, as the patient sank rapidly from shock, and died an hour after the termination of the operation.

The history of the case is simply this: A little girl, eleven years of age, living in the interior of the State, while playing under an apple-tree growing on a declivity, caught hold of one of the branches and swung herself. The branch gave way and she fell backward, rolling some six or seven feet, and striking the scapula upon a little projecting edge of stone. The pain from this continued for about an hour and then passed away, and there was no more trouble until last April, when she began to complain of pain over the right *infra-spinatus fossa* of the scapula. About the latter part of May or the early part of June, swelling made its appearance, and gradually increased until the tumor assumed formidable dimensions. At the time I examined it, the base of the tumor measured fifteen inches in circumference, and the general thickness of the shoulder was four or five inches greater than on the opposite side. The child was suffering greatly. The pain during the daytime was somewhat paroxysmal, but during the night it was almost continuous. For a number of nights she received from ten to fourteen drops of *lanthanum* to give relief. During the night preceding the operation she was carried in a chair to give her as much rest as possible.

The case was seen in consultation, and the diagnosis of rapidly-growing sarcoma was made. It evidently involved the whole dorsum scapulae. After looking up the statistics of the operation, I decided to attempt the excision of the whole scapula. I ought to state that the parents were fully apprised of the nature of the operation, and all the parties concerned accepted the risks, owing to the urgency of the case.

On Saturday last the child was etherized, and, beginning at the point of the acromion process, I made an incision, carrying it to the posterior edge of the scapula. The incision was not at first carried the entire length, because I wished to divide the acromio-clavicular articulation as soon as possible. The idea was to save every drop of blood that could possibly be saved. I had gathered from the reports of cases that the great peril was from hemorrhage. I therefore commenced with a moderate incision, so as to divide the acromio-clavicular articulation. The incision was then swept across to the posterior portion of the bone. An incision was next made at right angles, and the incision (somewhat curved) was carried below the angle of the scapula and the four flaps dissected up. Then I commenced at the upper part of the bone, dividing the muscles; and then passed slowly down, dividing the muscles, taking the precaution, where there was any

chance of considerable hemorrhage, to include the mass of muscle within a ligature before dividing it. Where there was no danger, a mass of tissue was grasped between two large forceps, such as I formerly used for the extraction of bullets. The incision was then carried along the posterior border and the muscles divided; it was next carried under the inferior angle of the bone and the parts raised. The incision upon the anterior costa of the scapula was carried up, the vessels being compressed; and thus the parts being lifted, I opened the capsular ligament and turned out the head of the humerus. I next divided the heads of the muscle attached to the coracoid process. I had already divided the muscles along the spine. The bone was then readily lifted up and the hemorrhage was comparatively small. Performing the operation in this way, only one or two vessels required ligature after removal of the bone.

Examination of the tumor shows that it consists of two portions; that upon the dorsum, which is incised, and my finger goes directly to the bone, which is entirely destroyed, showing that the growth sprang from the periosteum. In examining the case before the operation, Dr. Gross and myself noticed a mass inside of the axilla. I myself thought that the mass must depend upon a prolongation of this mass of morbid structure. It, however, depended upon a mass of tissue developed from the venter of the bone. These masses are continuous at the junction of the upper and middle third of the inferior costa. It was the posterior mass which projected into the axilla. This lifted the scapula from the chest and increased the apparent size of the tumor on the dorsal surface.

Statistics show that the mortality following the operation is greater where a portion of the bone is left than where the entire bone is removed. In forty cases of entire removal, the mortality was twenty per cent.; after partial removal, twenty-one or twenty-two per cent. Where the scapula was removed after amputation of the arm, the mortality was twenty-four per cent.

The microscopical examination of this growth by Dr. Longstreth shows that it is a well-marked example of round-celled sarcoma.

One other case of complete excision of the scapula was performed by Professor Agnew some years ago. The patient died in a short time from shock. Two partial operations were performed by the late Professor Gross.

DR. R. T. LEVIs.—Once when contemplating an operation of the same kind on an adult with a large tumor, — an operation which I did not perform, — I determined upon an expedient to prevent severe hemorrhage. That was to tilt out the scapula and apply Esmarch's bandage around it, enclosing the axillary artery high up. To prevent slipping a bandage was to be placed in front, under the rubber tube, drawing it to the opposite side.

DR. J. EWING MEARS.—We should not expect much hemorrhage from a tumor which seems, as this does, to be, as it were, encapsulated. In this case the muscles are not attached to the growth. Where, however, there is a malignant growth which infiltrates the tissues and envelops the ramifications of the blood-vessels, the bleeding may be severe and prove fatal.

I would ask Dr. Brinton if, when he turned up the mass towards the axilla, he brought into view the axillary vessels?

DR. BRINTON.—I did not. I saw the subscapular artery and nothing else.

DR. MEARS.—I refer to that point for this reason: that in some cases, where the growth involves the entire arm, it is necessary to extirpate the scapula with a portion of the clavicle, and also the entire arm, and it has seemed to me that in such cases it might be possible, by tilting up the scapula, to reach the axillary artery and surround it with a ligature before amputating the arm. I have not found this method of controlling hemorrhage prior to disarticulation referred to.

In considering the mortality-rate after excision of the scapula, it is desirable to consider the causes for which the operation is performed. It has been performed for necrosis, for gunshot injuries, and for tumors such as enchondromata, sarcoma, and malignant growths. In necrosis of the entire scapula, where the disease is of some duration and where there is great inflammatory thickening of the periosteum, removal of the scapula is comparatively easy. An incision made along the spine to the posterior border and then continued along the posterior border will enable the operator to lift the periosteum with an elevator, periosteome or the handle of a knife. In that way the muscular attachments may be severed. Such an operation gives a better mortality-rate than do operations for malignant growths, and, if I remember, better than for operations for the removal of portions of the bone in compound comminuted fractures, the result of gunshot injuries.

DR. BRINTON.—In this case there was no difficulty in compressing the subclavian artery with the finger. This was done by Dr. Hearn. In some of the reported cases the pressure has been made directly. In some of these cases, as soon as the acromion-clavicular articulation has been severed, the coracoid process has been broken and pressure made directly upon the artery.

DR. LEVINS.—Did the patient seem much depressed by the anæsthetic?

DR. BRINTON.—She came from under the ether very well.

DR. HEARN.—The child was never thoroughly anesthetized at any time. I do not think that the anæsthetic had anything to do with the fatal result.

#### CONGENITAL MALFORMATION OF COLON.

DR. CHARLES B. NANCREDÉ.—I have here specimens of some little interest. They are the terminal part of the rectum and the caecum coli, which were removed from an infant, fifty hours old. The child had been delivered with instruments, and seemed to be in perfect health until the second night, when the nurse sent for me and said that there was something wrong; that the child was crying and straining, but had not soiled any napkins.

On examination, I found a well-formed anus, into which I could introduce my finger one-third of an inch. It was a female child, and I could therefore make a thorough examination; but I could detect no bulging at any point. As it was twelve o'clock at night and the distention was not great, I gave an opiate, and the next morning at eleven o'clock, Dr. Ashurst met me in consultation. Neither of us could feel any bowel, but we thought it right to make an effort to reach the bowel. I dissected along the hollow of the sacrum up to the promontory, but could not feel the gut. We then decided to perform the operation in the right

inguinal region, and I opened what I supposed to be the sigmoid flexure; but it proved at the post-mortem to be the caecum coli. As soon as the peritoneal cavity was opened, about an ounce of serum escaped, and with it the right Fallopian tube, which was intensely congested. There was marked peritonitis. The child lived four and a half days after the operation. The meconium passed freely, and afterwards the discharges were natural. The child died from exhaustion, evidently due to the peritonitis.

The post-mortem showed that if I had detected the bulging bowel, which I must have felt, as it was near the end of my incision, I should almost inevitably cut through two layers of peritoneum. There was a space about as wide as a director where the bowel was not covered by peritoneum, and I should have left behind the peritonitis. The question arises in these cases, if peritonitis does set in so early, and if death results, as it usually does, from peritonitis, whether it is worth while to add the double danger of two operations, especially in female children where it is impossible to detect any sign of the bowel.

DR. LEVINS.—Does Dr. Nancréde think well of operating before the sac becomes distended?

DR. NANCREDÉ.—Unless something is done, the patient dies early. I notice that Bryant has called attention to the fact that peritonitis sets in very rapidly, and that in true obstruction, death is frequently due to peritonitis. In this case, the peritonitis was very marked at the end of fifty hours.

DR. LEVINS.—I have never done any operation except in the fundamen. I would not like to save a child's life with an anus anywhere but in the fundamen. I have always been able to find the sac and to bring it down and stitch it to the skin.

DR. O. H. ALLIS.—At the post-mortem, how far were the two blind sacs from each other?

DR. NANCREDÉ.—I should say about an inch. I must have touched the bowel with my finger, but did not recognize it. Bryant strongly advocates the operation in case of deficient rectum, and the opinion of a man who has had such an exceptionally large experience in the surgery of the bowel in general, having reported eighty-two or eighty-three colotomies, ought to count for a good deal. There seemed to be no more difficulty in retaining the faeces in this case than where the anus is in the normal position. Sometimes hours would pass without anything coming. In this case, I think it would have been impossible to bring the bowel down and stitch it.

#### TREATMENT OF CARBUNCLE.

DR. JAMES COLLINS.—I have lately treated two cases of carbuncle on the back of the neck by a method which seems to have some advantages. The patient is put under the influence of an anæsthetic and a linear incision made. I then take a scoop and remove all the necrosed tissue, and wash the parts thoroughly with an antiseptic solution of mercuric chloride. I then put in a drainage-tube, and insert two stitches to bring the central part together. Each day the cavity is thoroughly washed out with the antiseptic solution. The patients have done well, and the cicatrix have been less than after any other method I have tried. The success depends upon the removal of the necrosed tissue and the use of the antiseptic solution.

DR. S. W. GROSS.—The plan of Dr. Collins is, I think, based upon proper principles. I consider it far

the best operation yet suggested. By scraping away all the dead tissue, he gets rid of the micrococci which produce putrefaction, which give rise to the sloughs. The application of the corrosive sublimate destroys the micrococci which line the walls of the cavity, and in that way removes the cause of the disease.

DR. MEARS.—I would ask if Dr. Collins, in scooping out the dead tissue, found anything like a thickened wall limiting the mass to be removed, and if he was able to satisfy himself that he has removed all the dead tissue.

DR. COLLINS.—I keep on scooping out until I reach a denser structure. The difference seems to be in the denseness of the tissue. The healthy tissue seems to be firm.

DR. LEVIs.—The operation of excision of carbuncles in their incipiency has been repeatedly advised and practised. In cases of constantly-recurring carbuncle, I think that excision would be of service.

DR. HUNT.—I have been trying to recall a case of carbuncle on the back of the neck of a woman. I cannot recall a case. I would ask if this is the experience of the other members, and, if so, what reason can be given for this peculiarity?

DR. COLLINS.—I remember one severe case.

DR. LEVIs.—I cannot recollect a case.

DR. NANCREDE.—I have seen a fatal case in which the carbuncle was on the side of the neck of a woman.

## THE AMERICAN ACADEMY OF MEDICINE.

The Ninth Annual Session of the Academy held October 28 and 29, 1885, in the city of New York.

The meeting was called to order by the President, ALBERT H. GHON, M.D., of Washington. Prayer was offered by REV. HENRY J. VANDYKE, JR., of New York.

The first paper was read by DR. ROBERT L. SIBBETT, of Carlisle, Pa., and was entitled:—

### THE STUDY OF MEDICINE AS A MEANS OF EDUCATION.

The reader first referred to the various elements in education, considering time the most important of these.

Taking up the subject of medical treatment, preliminary examination, with graded courses and frequent examinations were heartily recommended. A protracted course of academic training is necessary for a proper study of medicine.

The speaker concluded by saying that a State Medical Examining Board with full authority to examine all practitioners, irrespective of the degrees they may hold, would do more to elevate the profession, than all other means combined.

DR. CHARLES MCINTIRE, of Easton, Pa., then read a paper on

### MEDICAL SUPERVISION IN STUDENT LIFE.

This paper assumed that modern life made a greater demand upon the time and energies of the individual to the detriment of his health and development. It was considered impossible to diminish tasks and give more time to rest and recreation. There is no way known to shorten the period of rest, so something should be done for recreation. The plan suggested was the usual one given by students on these subjects.

A careful physical examination at the beginning of school life and a series of graded bodily exercise under medical supervision throughout school life was recommended. The end aimed at is to give such tasks as will tend to strengthen the weaker parts.

DR. HENRY O. MARCY, of Boston, read a paper on

### THE CLIMATIC TREATMENT OF DISEASE, WITH AN ILLUSTRATION OF WESTERN NORTH CAROLINA AS A HEALTH RESORT.

The fundamental factors of the zymotic diseases were first reviewed from our present knowledge of the rôle of the bacteria and the question of the wise adaptability of the individual to his surroundings was considered as the best definition of climate. A *résumé* of the latest investigations of climatologists was given with reference to, and the results obtained by the mountain health resorts of Europe and America. The deductions of the writer were that good must be looked for in the benefit to be obtained to the individual in the improvement of his resisting vital powers and invigoration of his cellular tissue regeneration, rather than in the escape from his bacterial enemies. The larger portion of the paper was devoted to the consideration of this new and important phase of the question of climate.

The higher Alleghanies in Western North Carolina were described at considerable length as offering mountain health resorts of a character well suited to a variety of diseases. The deductions were based on a long tour of personal investigation made during the last summer as a sanitary study.

The meeting then adjourned.

### EVENING SESSION.

The President, DR. ALBERT H. GHON, A.M., M.D., read his annual address, entitled:—

### WHAT IS MEDICINE?

He said that the place of the Academy was not to be sought among the pathological, clinical, sanitary and other national associations. It antagonizes none of these, but seeks to cement all into a compact unity.

Referring to the slow growth of the Academy, it was stated that one of the reasons was to be found in the fundamental condition of membership, restricting fellowships to graduates in medicine who have received degrees in letters. As the coöperation of every educated man interested in the objects of the Academy is desirable, he was of the opinion that the time had come when every limitation to fellowship should be removed, except the solitary requirement that the candidate shall be in fact, as in title, "learned in medicine," and in all else that this term implies, but he would make it impossible for any one unit or unworthy to enter, though he come with an armful of diplomas, have subscribed to the most inflexible of codes, and no matter what faculty, society or institution he may be delegated to represent. The nomination should be accompanied with the fullest record evidence, and be made long enough in advance, from six to twelve months, to enable the council to determine each man's fitness.

A second reason why the Academy had not met with more pronounced sympathy and support was its necessarily hostile attitude to institutions and individuals who defy the principles of its constitution.

The Academy encounters a third obstacle in the lukewarmness of its quasi-friends; some damning it with faint praise, others exuberant in private but chary of public endorsement. Reference was made to the case of a medical editor, who could not follow his wish in this respect on account of policy. The editorial columns of the medical press were preëminently high-toned, but the publishers were inconsistent in permitting under the same cover, advertisements of medical concerns, drug factories, and proprietary clap-traps. Why should the business venture of men who get up sham colleges be advertised in reputable journals? The *New York Medical Record* commends the recent action of the Florida Medical Association in resolving against the advisability of establishing a medical college in that State. These are encouraging signs, offsetting the fact that thirty-nine of the eighty-seven regular schools in the United States are only fifteen years old, and twenty-one not over five years. Reference was made to the fact that trashy communications of illiterate M.D.'s, were published simply because they were subscribers. The journals only reflect sentiment. Let us ask ourselves the question "What is medicine?"

If we look to this Academy for the answer, we shall find that it is the most profound and ennobling study which can engage the intellect of man. This is not the popular idea, which is, that medicine is only something in a box or bottle that is prescribed by a man or woman who has acquired more or less skill in administering the particular remedy appropriate for each disease. Like other professions whose offices are called for by the disagreeable incidents of humanity, it is only tolerated as a necessity. Sham aristocrats look down upon it, others hire its members as they do their cook and cabman. In military and naval services it is sought to degrade them. The ministry of the suffering and afflicted is nowhere regarded as an outcome of the study of the stupendous and sublime mysteries of existence. In the national councils, in military and naval organizations, in civic administrations, who thinks of giving a first place to the physician, although his are the mental attainments which fit him best for counsel in all that concerns the welfare and progress of the human race?

The science of medicine involves the knowledge of everything that relates, however remotely, to the existence of man, his place in nature, his origin, growth and development, preservation and continuance. The prevention and cure of those abnormal conditions which tend to his destruction, are but one chapter in the volume, which coming near the end, cannot be read understandingly without the thorough comprehension and diligent study of all that precedes. Medicine is so far-reaching in its sources and so connected with every other branch of knowledge that he who would begin its study must first have drunk deep of the well-spring of human knowledge. Medicine is a science of such proportions that only a well-educated man can master it. Is this the view entertained by the profession at large? What are the facts?

Let us see how the profession is recruited. Ordinarily a youth becomes a doctor, as it were, from a whim, and there are others, no longer young, and having failed in other occupations, who hope to make money by this, knowing nothing of its responsibilities and requirements, without aptitude, ignorant, illiterate, etc. Such a one goes to a college and as a first-course student listens to lectures on anatomy, practice, chemistry,

surgery, etc., one after the other, without understanding a word of the technical language. Seventy-nine colleges require evidences of preliminary education. In most this is only nominal. Recent instances of illiteracy on the part of graduates before examining boards are the following, "volume of mercury," "cours at Belevieu," "anylytic," "assend," "admission," "diamete of the earth ninty-two thousand miles," "the field of the cloth of gold, some kind of tapestry," "an alternative acts like food on building up system, and are favored in their action by stomachic, or anything which arouses the system to action." Could the man who after graduation says "was began," and spells "gravatation, femeral, superating, corpsels," etc., have ever comprehended the language used by the teachers?

Why should medicine be cheapened to every purchaser and the college debase its teachings to their limited understanding. A collection of these presented to American medical colleges during the last five years would be more entertaining than "English as She is Spoke." Only the utter ignorance of elementary chemical principles on the part of the men who study medicine, has made chemistry one of the seven chairs. It belongs to an academic course.

What then, can medicine be to the ignorant numbers who are annually mustered into the ranks of the profession? To these men, it can have no other aspect than that of a trade. Many enter upon it as a money-making vocation. It was taught them as a source of pecuniary profit, and they practise it for the fees they get. Manifestly, then, medicine is not the same to all men, even medical men. If improper men can be excluded from national services, why not from state, county, and city medical societies? This should be done for the protection of the community. Where a drug clerk kills one victim by his carelessness, he saves a hundred by recognizing errors in physician's prescriptions. (Examples from apothecaries' files were given.)

The debasement of medical education to the capacity of the ordinary purchaser of a diploma, will eventually cause the profession to deserve the reproaches of its friends. The public gauge the profession by the men with whom they most frequently come in contact. The wise physician does not hesitate to say, "I do not know." The typical doctor affects an omniscience in inverse ratio to his knowledge.

Until the mystery of the first departure from health is made clear, all our therapeutics must be empirical, and fundamental methods of cure be speculative. If we have not learned where disease begins, we have at least learned that the follies and weaknesses of man have in their wake a multitude of ills, and these we can prevent, and the wise physician, learned in all that pertains to the normal life of the body, aims to protect it from these evil influences, which his experience has taught him will do it harm.

Preventive medicine has at last attained recognition as the highest aim of the physician's art. It establishes new relations of the physician to the social system. It is not creditable to the intelligence of the age that in the department controlling internal affairs, among bureaus of labor, statistics, agriculture, education, and so on, there is no bureau of public health. Preventive medicine has more to do than warding off epidemic visitations of great scourges. Its most important duty is to consider the impairment of health of growing children through the sanitary defects of our school system, the prevention of insanity, the repress

sion of crime. It is too much to expect antidotes for every microscopic germ. The tiny swarms around us are at once our friends and foes. If we do not antagonize them, they purify the air we breathe, the water we drink, the dirt we tread, and prey upon our natural waste: it is only our own folly that causes them to turn and rend us. We are too prone to hasty generalizations. We inconsistently denounce the doctrinaires, who affect to believe in the panegyric virtue of similars, and ourselves find cure-alls in quinia, cocaine, germicides, etc.

Hence the greater need of impressing upon the tyro in medicine the fact that there are underlying principles never to be lost sight of. The chair of Institutes of Medicine has gradually been supplanted by that of principles and practice. If he were to banish chemistry and physics from medical colleges, he would establish a chair of the philosophy of medicine, to include the history of medicine, medical literature, medical jurisprudence, and medical ethics.

Reform has been hampered by adherence to existing methods. It will not do merely to establish adjunct chairs. The starting point must be the requirements of a thorough preliminary education. Four annual terms are necessary. Descriptive anatomy and materia medica are enough for the first year. Histology and practical microscopy, physiology in all its relations, and the mechanical processes of pharmacy, should occupy the second year. Hygiene, general pathology, and general therapeutics for the third year. Special pathology, special therapeutics, the philosophy of medicine, medical history, jurisprudence and ethics, for the fourth year. A fifth year may with advantage be devoted to clinical experience under supervision.

Medicine has no need to rear its superstructure on any other foundation than the broad basis of fact. It has been dragged down to the level of commonplace occupations by the dissensions incited by the dogmas of theorists. When all physicians stand on the plane of higher medicine, there will be less tendency to diverge into extremist classes.

Is our estimate of medicine visionary, and have we sought the impracticable? Must we silence our voices because few care to hear, and cease our efforts because the task is difficult? Must we tread the beaten track, lest we offend prejudices, antagonize pecuniary interests, and upset established orders? Not on this account shall we hesitate, if the truth be with us. The ethics of medicine rightly denounces fraternity with charlatans and quacks. Is the dishonor less if we degrade a noble profession by admitting to its rights and honors those who are ignorant, illiterate and incompetent?

— In notes on the aboriginal tribes of South Formosa, contributed to the Medical Reports of the Imperial Chinese Customs, it is stated that a tribe called the Amis believe that thunder and lightning are caused by two spirits, male and female, named Kaking and Kalapiet. A domestic row arises, the husband in his anger knocks about the household effects, thus causing thunder; and the wife, in the height of her effort at retaliation, uncovers herself, which gives origin to the lightning. Uncovering the person is a favorite way of showing anger, scorn, and contempt among the Amis-females. Earthquakes, they say, are caused by a pig scratching itself against an iron bar stuck in the earth.

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### ANTISEPTIC SURGERY IN AMERICA.

THE interest in antiseptic surgery in this country since the first introduction of the method has been very great. It has had many earnest advocates, but it has made its way into general use somewhat slowly. The effects of Listerism upon those who have failed to practice it, have been much the same here as in the older countries in enforcing a much greater dread of dirt and a much stricter meaning to the term cleanliness, and the benefit to surgical practice has been, in this way, very great indeed. Antiseptic surgery, strictly speaking, has been often attempted in certain severe operations by those who have failed to use it habitually, but not always with that faith necessary to the carrying out of all its details, and not always with the success that encouraged further efforts. Indeed, it is doubtful if it is possible to carry out the details properly unless it is practiced so habitually as to render the details a mere matter of routine.

The signs of the times, if we read them aright, show that the system is becoming a part of American surgery; we refer to certain papers which have recently been reported, and particularly to that of Dr. Stephen Smith, read before the New York Academy of Medicine; Dr. Bolles recently read before the Boston Society of Medical Improvement, and the Annual Address of Dr. Paddock before the Massachusetts Medical Society.

Dr. Smith shows the results of the change from the older methods at Bellevue Hospital, and claims results that are almost beyond belief. He appears to speak for his colleagues as well as himself, and to show that antiseptic surgery is the rule of the hospital, and not merely the whim of an individual surgeon.

The paper of Dr. Bolles, an abstract of which appeared in our last issue, with the discussion that followed, also shows that antiseptic surgery has obtained a strong hold in Boston, especially among the younger surgeons.

These two papers show that sustained and systematic efforts are made in two of the chief cities of the eastern portion of the country to carry into effect the

improved treatment of wounds, and that the results of such efforts are found in the practical banishment of septic diseases, high temperatures and excessive suppuration, while Dr. Paddock's address, which was published in this JOURNAL in July, was a plea for the use of antiseptics among practitioners who are only occasionally called upon to act as operative surgeons. One thing is especially noticeable—the increasing simplicity in the methods employed. Many who revolted from the use of the cumbersome spray, take kindly to the simpler methods. This comparative simplicity is well exemplified in the closing sentences of Dr. Smith's paper:—

"Cleanliness is the one great object sought to be attained in all operations. Whatever may be the final conclusion of scientific students as to the cause of putrefaction in wounds, practically it is determined that the surgeon may, with the most absolute certainty, protect an ordinary open wound from suppuration. To effect this object he finds that he has simply to resort to those measures which are known to secure perfect cleanliness of the wound. The agents now relied upon and found efficient are: 1. Soap and water to external parts. 2. Carbolic solutions for the instruments. 3. Bichloride solutions to all surfaces and tissues. 4. Iodoform for external dressings. We may summarize the conditions regarded as essential to success as follows, that is: *A clean operator; clean assistants; a clean patient; clean instruments; clean dressings.*"

It is interesting in this connection to quote from one who believes himself an opponent of antiseptics. In the last edition of his surgery, which has but recently issued from the press, Dr. Ashhurst remarks that "results quite as good as those of Professor Lister's followers are obtained by surgeons who rely simply upon enforcing cleanliness and attending to the constitutional and hygienic conditions of their patients without adopting any exclusive mode of dressing."

The most spirited opponents of a movement often contribute greatly to its progress by their criticism. They make plain the difficulties and dangers of the movement they criticize, and the absurdities into which its advocates may have fallen, and contribute in their turn, by their opposition, to the establishment of the truth. On the same page from which we have quoted, Dr. Ashhurst shows that the antiseptics have occasionally forgotten their patients in their attempts to destroy the disease germs.

The necessity for scrupulous cleanliness is the common ground on which antiseptics and their critics agree. The difference lies simply in the manner of securing it. How much of the present methods will survive even ten years is very uncertain. Probably new methods and new antiseptic substances will be introduced. The conscientious cleanliness will without doubt remain. It is gratifying to know that American surgeons are working at the question of the best method of treating accidental and operative wounds, and they give promise of valuable aid in its solution.

## PERINEAL LACERATIONS.

THERE is no accident connected with the accoucheur's art more dreaded than rupture of the perineum: there is no subject more fruitful in discussion at medical meetings than the means of prevention and treatment of the accident.

As for the frequency of this lesion—excluding the slight tears which in primiparæ are generally unavoidable, and the more serious rents, which still spare the posterior part of the perineal body occurring, according to Olshausen, in twenty-one per cent. of primiparæ, and four per cent. of multiparæ—lacerations extending quite through the perineum and including the sphincter are comparatively rare in the experience of most practitioners: many old accoucheurs have never had a bad case in their lifetime.

The causes of this accident are manifold. There are dyscrasic causes, producing a friable state of the tissues; anatomical, including straitened pelvis, cicatricial contractions, and rigidity of the vulvar outlet; physiological, due to mal-presentations and to the mechanism of the labor, which may be so tedious as to destroy by pressure the elastic resistance of the perineum, or so rapid as to expel the head before dilatation has been effected.

As for prevention: it is noteworthy that the antiquated custom of "supporting the perineum" during the stage of expulsion has undergone modification in the direction of a more equable distribution of pressure upon the periphery of the vaginal orifice. The support is now applied, not so much to the perineum as to the presenting part, according to Hohl's method, as endorsed by Olshausen and Lusk. The patient is enjoined, as far as possible, to refrain from voluntary effort, and ergot, if given before the birth of the child, is given with great circumspection. Goodell advises "in order to remove the strain from the thinned border of the vulva, and promote the elasticity of the tissues, to hook two fingers into the anus and draw the perineum forward during a pain." If laceration seems inevitable, it may sometimes be proper to avert this misfortune by slight lateral incisions<sup>1</sup> through the tense ring of the vulva.

If a laceration involving the entire perineum has taken place, there can be no doubt as to the propriety of immediately putting in a sufficient number of silver sutures to keep the torn parts well together till union shall have been effected. This is not always possible;

<sup>1</sup> This operation (epitomy) is a favorite one at the Vienna Lying-in Hospitals. Michaelis was the first to perform it in 1799. The name epitomy was suggested by Child, in his treatise on Midwifery, in 1819, though it had not then been attempted. There is an elaborate article on the subject by Crede and Golpe in the Arch. f. Gyn. for 1881. Cases of rupture, in spite of epitomy, sometimes occur (one and four-tenths of Crede's cases, a very rare percentage). Dr. Wilcox, of New York, in the New York Medical Journal, August 18, 1885, advises to change the left lateral position. "The operator, controlling the advance of the child's head with his left hand, takes the blunt pointed straight bistoury in his right. He inserts it at the commencement of a labor pain between the presenting head and the thinned vulva-outlet but never at where the vulva is made widest most. The bistoury is held in this position till the acme of the pain. Immediately after the acme has been reached, the edge of the bistoury is turned at a right angle to the edge of the vulva, the head being prevented from being forced out by the pain; the incision is made outward on one hand to one inch through the existing stricture. The labor is now conducted as usual the head, as a rule passing out at the next pain."

in fact a great proportion of primary operations are unsuccessful, owing to the irritation of the lochial discharges, which cannot readily be kept from infiltrating the flaps of the wound. Numerous expedients, such as packing the vagina with absorbent cotton, have been proposed to remedy this evil, but none of them are very practicable.

With regard to the details of the operation, no great amount of skill is requisite. The sooner after the rupture ligatures are applied the better. Silver sutures are better than silk, being less irritating; they can also be kept in several days longer than silk, a real advantage in many cases. If, however, silver wire be not at hand, carbolized silk may be used, but the old-fashioned quilled suture is not to be insisted on. In fact many surgeons have abandoned the quilled suture in perineal operations, as the bits of bougie used for this purpose are apt to cause irritation and sloughing. A very good way is to pass in three deep sutures—the first directly in front of the anus,—and three superficial ones, the latter being necessitated by the gaping of the superficial portion of the flaps which results from the deep stitches.

With regard to the after-treatment, the utility of drawing the urine by catheter the first few days is apparent, but there is not entire agreement as to whether the bowels should be kept confined or soluble; though the weight of authority seems to be in favor of maintaining a constipated condition the first seven or eight days, by means of diet and opiates. There is no doubt that excellent results have been obtained by this practice, and at the same time failures have been attributed to it. Dr. Granville Bantock reports in the *London Lancet* (Part II, 1880) several cases of ruptured perineum in which the primary operation was unsuccessful owing to long confinement of the bowels; union seemed good and the perineum sound at the time of removal of the stitches, but the evacuation was so solid, and came with so much force, that the whole gave way. In subsequent operations (immediate or secondary) Dr. Bantock pursued a different course.

The quietude of the bowels for several days was ensured by their thorough evacuation prior to the operation, and by a light diet. On the fourth day he began to administer some mild aperient, and for this purpose a pill, consisting of one grain each of the compound extract of colocynth and hyoscyamus, was given every four hours till the bowels acted. He believes it of importance to get the bowels to act before the sutures are removed, as the sutures strengthen the perineum and anal opening.

The immediate operation may be unsuccessful as far as the restoration of the perineum is concerned, and yet the functions of the rectum may be restored, even in cases where the sphincter has been torn. Under the most unfavorable circumstances considerable repair is likely to take place; a torn sphincter may unite and a rectal fistula may heal. There has of late years been much difference of opinion as to the real function of the perineum; some, as Emmett,

holding that to support the uterus and keep it in place is not one of the offices of the perineum, that "a simple laceration of the perineum, even to the fibres of the sphincter and produces no inconvenience after the parts have healed, and only occasionally do we find disturbance of a reflex character due to the presence of cicatricial tissue." Others, on the contrary, and notably, Dr. T. Gaillard Thomas, teach that the perineum is the chief support of the pelvic viscera; "it sustains and prevents prolapse of the anterior wall of the rectum, and of the anterior wall of the vagina; . . . upon the posterior vaginal wall rests the anterior, upon this the bladder, and against the bladder the uterus, all of which depend in a great degree for support upon the perineal body."

There is much to say in favor of the view of Emmett, as every physician in large practice has in mind cases coming under his observation where complete loss of the perineum has never, through long years, entailed any grave discomfort or inconvenience. Nevertheless such experiences pertain rather to the earlier years of women when the health is vigorous, the tonicity of the tissues good, and the pelvis has its usual amount of adipose tissue. Later in life when there is a loss of this adipose, and a general relaxation of the tissues, with a spongy state of the connective tissue, prolapse of the vagina is exceedingly likely to take place, and with it, displacement of the bladder and uterus, perhaps also of the rectum; it is needless to say that no condition more powerfully predisposes and contributes to this train of calamities than loss of the perineal body.

Hence it is that there is everywhere a predominant interest in the prevention and cure of perineal lacerations. Hence the desirability, where a first attempt to repair the mischief has failed, of trying again at an early date.

#### MEDICAL NOTES.

— It is announced that the number of candidates for the vacancies in the medical school at Kieff, Russia, is so great that an order has been made restricting the privilege of studentship to those who have received their previous education at a gymnasium. The Russian medical schools are becoming so crowded that some method must be resorted to for diminishing the number of applicants. It is impossible to give clinical instruction satisfactorily to such large numbers as there are at present. It is also stated by a Russian political journal that all students who are not Christians are to be deprived of their stipends. This is specially directed against Jews, who mostly belong to the medical faculties, and who, it is said, form a tenth part of the whole number of medical students.

#### NEW YORK.

— Two cases of small-pox have broken out among the patients in Charity Hospital, Blackwell's Island. Both the patients are male adults.

— Dr. Cyrus Edson, Chief of the Second Sanitary Division, recently seized at various meat markets in

the city the carcasses of 28 hogs which had been suffering from hog cholera when they were butchered.

—At the eightieth annual meeting of the Medical Society of the County of New York, held October 26, the following officers were elected for the current year: President, Dr. Daniel Lewis; vice-president, Dr. Lawrence Johnson; secretary, Dr. Wesley M. Carpenter; treasurer, Dr. Orlando B. Douglass.

—Three cases of yellow fever arrived at Quarantine on board the steamship Niagara, of Ward's Line, from Havana, on the 20th of October. The patients, who are all seamen, were removed to the hospital on Swinburne's Island, where one of them afterwards died.

—The Society of St. Luke's Hospital, held its annual meeting October 18. The annual report showed that 1,561 patients had been treated in the past year, at a daily cost per capita of \$1.14½. The largest number of patients in the hospital at any one time was 192, and the average daily number was 164. The number of days of hospital care was 59,782, and of this number 51,554 were gratuitous.

—The ninth annual commencement of the training school for nurses of the Charity and Maternity Hospitals on Blackwell's Island was held, under the auspices of the Commissioners of Charities and Correction, at the Carnegie Laboratory in East 26th Street, on the 29th of October; when there were eleven graduates. Addresses were made by the Rev. Dr. McGlynn, ex-Mayor Wickham, Dr. F. N. Otis, of the Board of Visiting Surgeons, and Dr. L. L. Seaman, Chief of Staff of Charity Hospital.

—Information has been received by the Board of Health that a number of milch cows on a dairy farm near William's Bridge, a short distance from the city, were suffering from pleuro-pneumonia. The farm being in Westchester County, beyond the jurisdiction of the board, notice was sent to the State Board of Health and the health authorities of Westchester County. Professor Liantard, veterinary surgeon of the State Board of Health, is now making an investigation of the outbreak.

—The first annual meeting of the Montefiore Home for Chronic Invalids, was held October 25. It was opened a year ago with 7 patients, but the number was soon increased to 25, the present capacity of the institution. Care and treatment are entirely free. The annual meeting of the United Hebrew Charities of the city of New York was held October 29, and the report showed that during the year ending September 30, the executive committee had acted upon 2,615 new applications for aid, and 2,377 cases for re-investigation. The physicians connected with the society made 1,027 visits and gave 2,252 prescriptions.

—Prof. Samuel G. Armor, Dean of the Faculty of the Long Island Hospital Medical College, died October 27, at his home in Brooklyn. He had not been well for some time, but was seriously ill for only a few days. Dr. Armor became connected with the Long Island Hospital School, as Professor of Thera-

peutics, *Materia Medica*, and *General Pathology*, in 1866, and the next year he succeeded Dr. Austin Flint, who had resigned, in the chair of Practice of Medicine and Clinical Medicine. During his residence in Brooklyn he contributed frequently to current medical literature, and built up a large private practice; while he was universally esteemed and respected in the community. Before coming to the Long Island Hospital school, Dr. Armor had gained a reputation as a medical teacher through connection with Western medical colleges for nearly twenty years. He practiced at Rockford, Ill., for three years, beginning with 1844, and was then invited to deliver a course of lectures at the Rush Medical College of Chicago. In 1848, he became Professor of Natural Sciences at Cleveland University. In 1853 he became Professor of Physiology and Pathology in Ohio Medical College at Cincinnati, and three years afterwards he was called to the chair of Pathology and Clinical medicine in the Missouri Medical College (his Alma Mater), at St. Louis. He remained there until 1861, when he went to Detroit as Professor of the Institute of Medicine and *Materia Medica* in the University of Michigan, in which position he remained until 1866, when he was invited to Brooklyn.

## Miscellany.

### SMALL-POX IN MONTREAL.

THE hospital accommodations for small-pox patients are being constantly increased in Montreal, and are still inadequate. Hospital accommodation for eight hundred more patients has just been ordered by the Board of Health. The records of the Board show the existence at the present time of at least two thousand five hundred cases in the city. But it is believed that the actual number would be nearer twice that.

This is the seventh month of the epidemic, and the daily number of new cases continues very large. The law for compulsory vaccination is not enforced, but the Richelieu and Ontario Navigation Company, which has been a financial sufferer by the interference with travel, will have a mass celebrated in the Church of Notre Dame de Lourdes for the cessation of the epidemic.

### A CORPSE IS NOT PROPERTY.

THE *New York Herald* says that the Supreme Court of South Carolina has recently rendered an elaborate opinion on a question which appears to have been decided for the first time in that case. It was an action brought by an administrator against a railroad company to recover damages for the mutilation of a corpse, caused by the negligent running of a train over it. The referee found for the plaintiff, and fixed the damages at ten thousand dollars. The case went to the Supreme Court on the question whether "there is such property or interest in the dead body of a human being as to sustain an action for its wilful or negligent mutilation, and, if so, whether the right of action belongs to the administrator of the deceased."

The Court decides that, while the next of kin have

recognized rights touching the dead, there is no such property in a corpse as is claimed in this case. It says: "While the remains of the dead should be tenderly protected, their interment carefully guarded, the mutilation of their bodies and the disturbance of their sepulchre severely punished, and while all laws necessary to that end should be passed and strictly enforced, yet, even for this purpose, to make such remains the absolute property of any one in the sense of objective appropriation would be abhorrent to every impulse and feeling of our nature."

But this view, the Court proceeded to explain, does not apply to the clothes in which the body was clad, and the watch on it. These were articles of personal property to which the administrator had a legal claim, and as they were destroyed he was entitled to maintain an action for their value.

## Correspondence.

### INTRODUCTION OF ANIMAL VACCINATION INTO AMERICA BY DR. MARTIN.

MR. EDITOR.—One point in Dr. Waterman's letter should be made a little clearer. Dr. Ephraim Cutter's vaccination of cows to which he alludes, was not true animal vaccination at all, but simply retro-vaccination with humanized virus. It is proper that there should be no misunderstanding about this.

A word of personal explanation. I am not aware that my letter "slandered a competitor." I merely stated such facts (principally the sworn statements of Dr. Cutter himself) as seemed necessary to illustrate the position of the two regular physicians involved. That my statements are true is not disputed. That the facts are discreditable to the parties concerned, is no fault of mine. If Drs. Garceau and Waterman, in response to my inquiries, had told me "an honest tale, plainly told," I should never have troubled you with the matter. No expression in my letter to you can be tortured into an advertisement of myself. My sole object was to thoroughly expose, and explode once for all, a false statement, deliberately made, tending to impair the credit justly due to my father for an honorable professional achievement. This I have accomplished, and am content to leave the matter to the impartial verdict of the profession.

Very respectfully,

STEPHEN C. MARTIN, M.D.

Hoxbury, Oct. 30, 1885.

### DEATH FROM UNDELIVERED PLACENTA.— CASE OF MALPRACTICE.

NANTUCKET, October, 1885.

MR. EDITOR.—A case has recently been brought to my attention as "medical examiner," which may be of interest to the medical profession; it indicates the desirability of regulating the practice of medicine. I will submit extracts from the view and autopsy with a portion of the testimony of the witnesses and that of the accoucheur himself. I have been careful to exclude nothing which I believe to be of importance in the case in question.

On September 4, 1885, I was notified that Mrs. H. had recently been delivered of a dead child, and the mother dying soon after, it was the wish of the family of the deceased that an examination should be made to determine if possible the cause of death. Accordingly, accompanied by Dr. Harold Williams, of Boston, on September 5th, I repaired to the home of the deceased.

We found the body well nourished and free from marks of violence, saving two small punctures on the abdomen, which had been made by the trocar used in embalming.

The face and body were markedly anæmic, nails bluish, no ecchymoses. Rigor mortis had supervened.

About eight inches of the umbilical cord protruded from the vulva. At my instance Dr. Williams, as an expert, delivered the placenta, which he found partly in the cervix, partly in the uterine cavity. The delivery of the placenta was easily accomplished and was followed by a large quantity of fluid blood and several large coagula.

The placenta, on careful inspection, was found to be free from all evidences of adhesions, and was entire.

From Mrs. M., mother of the deceased, I learned that Mrs. H. was a primipara, aged thirty-one years, of good health; that she was delivered at term. That the pains were first noticed about 4 P.M., September 1st. That C. D. Marsh, who delivered the deceased, arrived about 9 P.M. the same day. That Mrs. H. was delivered by forceps at 5.40 A.M., September 2d. That the child was alive at delivery but died. That C. D. Marsh made no satisfactory attempt to deliver the placenta. That C. D. Marsh left the house and came to the town of Nantucket, some six miles distant, within an hour after delivery. That there was much bleeding at the time of delivery and great pain. That C. D. Marsh did not return until about 3 P.M. of the same day. That when he did return he made no satisfactory attempt to deliver the placenta, although Mrs. H. had bled profusely during his absence. That C. D. Marsh assured the family that the woman was in no danger, and that there was no need of professional assistance, although the family desired a doctor's aid. That C. D. Marsh again left for the town of Nantucket about an hour later, the placenta still being undelivered, and the woman bleeding, and that he did not again return until about 9 A.M., September 3d. That Mrs. H. died about 11.30 P.M., September 2d, her death being preceded by bleeding, great pain, and convulsions. That Mrs. H. became very pale before she died.

I immediately reported these facts to the Hon. H. M. Knowlton, District Attorney, who advised an autopsy. Accordingly assisted by Dr. Williams, with Dr. Pitman and Wm. Lawrence, Esq., as witnesses, a careful autopsy was made.

The cerebral, thoracic and abdominal cavities were bloodless and normal in appearance on careful inspection; the uterus was large and flabby, unruptured, as was the vagina. On opening the uterus it was found to be empty, save one small clot about three-eighths of an inch in diameter and some small shreds of decidua reflexa. The placental surface was on the left side, extending from about one inch above the internal os into the upper third of the uterine cavity. Corpus luteum of pregnancy in right ovary. I might add, no blood was found in heart or lungs, and but a small amount of sanious fluid in the thoracic cavity.

Our opinion as recorded was:—

"From these facts observed in the autopsy and view, we are of the opinion that death resulted from uterine hemorrhage. From the evidences gathered from this autopsy and the view preceding it, and from the statements of those who were present from the delivery to the death of H.—, we believe this hemorrhage resulted from the non-removal of the placenta, which neglect prevented uterine contraction, nature's means of arresting hemorrhage. And there has appeared to us no satisfactory reason why the placenta should not have been removed."

C. D. Marsh, the accoucheur, is an irregular practitioner of newspaper fame, his doings being recorded in the *Boston Globe* and *Police Gazette* in the year 1879, I believe. C. D. Marsh under oath deposed:—

"That he used Codman & Shurtleff's pattern of forceps; that he attempted to complete the third stage of labor by pulling on the cord, and the placenta not yielding he was convinced there was hour-glass contraction; that he did not know the Credé method; that before he left he considered the woman in danger, but that with the traction already mentioned and the addition of stimulants, he did all that any physician could have done; that she had recovered from the shock of delivery, and that he left about 8 A.M.; that he returned about 2 P.M. the same day; that had he attempted to deliver the placenta it would have

brought on hemorrhage, and the woman was too weak to stand it.

"Q. What is the proper course when the placenta resists traction upon the cord? A. To cause a pressure on the abdomen over the womb, rubbing and blowing, let the patient blow, the physician holding on to the cord. Q. What supposing it does not then yield? A. Let it remain, as I did, that is the way physicians generally do. Q. How long? A. From one day to four days, and sometimes a week, and sometimes let it decay and come away."

That on the second visit he stayed about two and one-half hours and left the patient comfortable; that he resorted to the means already mentioned, and the placenta still remaining undelivered he returned to town, six miles distant, leaving orders that if anything happened to send for him.

"Q. Is it considered among physicians the proper thing

to leave a woman in the condition you left that woman, so that you could not be recalled in less than fifty-two minutes? A. I considered it so." When asked further questions he refused to eriminate himself.

This evidence, together with the opinion of an eminent specialist, who said, after reading the view and autopsy: "I am compelled to state that in my opinion such neglect to deliver the afterbirth was either gross and criminal ignorance, or gross and criminal malpraxis"; and the opinions of Dr. Williams and myself, in which we reiterate the verdict given at the close of the autopsy, being laid before the Grand Jury, an indictment could not be found, and C. D. Marsh considers himself justified.

Is it not the duty of the Legislature to form such laws as will at least protect the ignorant from such malpraxis? Other States have done this long ago.

Yours respectfully, J. ALBAN KITE, M.D.

## REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 24, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,240,114	569	201	18.54	18.26	5.58	1.41	5.58
Philadelphia	927,995	310	112	17.28	16.64	2.56	4.48	8.00
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	140	45	17.75	10.65	4.97	4.97	5.68
Baltimore	408,520	149	55	25.46	12.83	2.01	4.69	9.38
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	254,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	1.15	—	—	—	—
Providence	119,405	31	8	16.15	23.61	6.46	6.46	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	18	4	33.33	11.11	16.66	5.55	5.55
Charleston	52,286	38	17	18.90	13.50	10.80	2.70	—
Lowell	64,051	16	—	12.50	—	6.25	—	—
Worcester	68,383	19	8	31.56	5.26	5.26	5.26	5.78
Fall River	56,863	26	10	19.25	26.95	11.55	7.70	—
Cambridge	59,680	16	5	37.50	6.25	12.50	18.75	6.25
Lawrence	38,825	4	—	25.00	25.00	—	25.00	—
Lynn	45,861	10	4	—	10.00	—	—	—
Springfield	37,577	7	1	—	14.28	—	—	—
Somerville	29,092	7	2	—	42.86	—	—	—
Holyoke	27,804	9	2	22.22	33.33	—	11.11	11.11
New Bedford	33,293	7	2	—	12.84	—	—	—
Salem	28,084	2	—	—	—	—	—	—
Chelsea	25,769	1	2	—	25.00	—	—	—
Taunton	23,674	7	2	14.28	14.28	14.28	—	—
Gloucester	21,713	8	2	—	25.00	—	—	—
Haverhill	21,795	13	3	28.07	7.69	7.69	7.69	7.69
Newton	19,759	5	1	—	40.00	—	—	—
Brookton	20,783	6	2	—	33.33	—	—	—
Malden	16,307	4	1	—	—	—	—	—
Newburyport	13,716	7	—	28.56	28.56	—	14.28	—
Waltham	14,609	4	—	—	75.00	—	—	—
Fitchburg	15,375	4	2	—	—	—	—	—
Northampton	12,896	1	—	—	—	—	—	—
89 Massachusetts Towns		49	10	8.16	18.36	—	—	8.16

Population by State Census, of May 1st, 1885.

Deaths reported 1,490: under five years of age 501; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 272; consumption 247; lung diseases 126; diphtheria and croup 90; diarrhoeal diseases 70; typhoid fever 50; malarial fever 22; whooping-cough 11; scarlet fever 10; cerebro-spinal meningitis eight; erysipelas five; puerperal fever two; small-pox one, measles one, typhus fever one. From malarial fever, New York 10, Baltimore, nine, Philadelphia, Nashville and Charleston one each. From whooping-cough, New York 10, Philadelphia one. From scarlet fever, New York five Philadelphia three, and Boston two. From cerebro-spinal meningitis, New York three, Philadelphia two, Providence, Worcester and Haverhill one each. From erysipelas, Baltimore three, New York two. From puerperal fever, Boston two. From typhus fever, New York one. From small-pox, New York one. From measles, New York one.

In 103 cities and towns of Massachusetts, with a population of 1,312,471 (population of the State 1,911,465), the total death-

rate for the week was 14.38 against 15.57 and 14.06 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,206,146, for the week ending October 31, the death-rate was 17.06. Deaths reported 3,007: infants under one year of age 795; acute diseases of the respiratory organs (London) 265, diarrhoea 136, whooping-cough 52, scarlet fever 12, measles 16, diphtheria 35, small-pox (London six, Bristol one) seven.

The death-rates ranged from 12.3 in Bolton to 26.0 in Oldham; Birkenhead 12.9, Birmingham 15.6, Brighton 15.9; Hull 14.0; Leeds 18.5; Liverpool 25.3, London 10.0, Manchester 22.1, Nottingham 13.6, Sheffield 18.0; Sunderland 16.2.

In Edinburgh 14.8; Glasgow 20.7; Dublin 21.1.

For the week ending October 31, in the Swiss towns, here were 10 deaths from consumption, diarrhoeal diseases, 18, lung diseases 11, typhoid fever four, scarlet fever two, diphtheria and croup one, whooping-cough one, erysipelas one.

The death-rates were at Geneva 15.7, Zurich 9.7, Basle 9.1; Berne 21.8.

The meteorological record for week ending October 24th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.		Relative Humidity.				Direction of Wind.		Velocity of Wind.		State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	7.00 A. M.	3.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Saturday, Oct. 24, 1885.																
Sunday, ... 18	30.067	58.9	68.1	49.0	50.0	55.0	90.0	73.0	W.	S.W.	S.W.	6	14	6	O.	C.
Monday, ... 19	30.065	56.6	64.4	54.3	52.0	52.0	85.0	85.7	S.W.	S.E.	S.W.	6	14	6	O.	F.
Tuesday, ... 20	30.215	60.6	70.9	53.4	59.0	62.0	88.0	79.7	S.	S.	S.	2	6	11	O.	O.
Wednesday, ... 21	29.923	62.9	69.9	57.6	58.0	67.0	95.0	83.3	S.	S.	S.	6	24	16	O.	O.
Thursday, ... 22	29.995	47.5	59.1	41.6	50.0	58.0	67.0	68.3	S.	N.W.	N.W.	10	13	7	O.	O.
Friday, ... 23	30.100	46.4	56.2	38.8	58.0	67.0	70.0	75.0	N.W.	N.W.	N.W.	7	10	6	II.	C.
Saturday, ... 24	30.189	43.8	52.9	47.4	58.0	77.0	82.0	81.7	N.W.	S.E.	W.	6	10	7	C.	C.
Mean, the Week.	30.093	53.8	63.1	47.3				79.9								

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

# OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 24, 1885, TO OCTOBER 30, 1885.

HUNTINGTON, D. L., surgeon and major. Detailed on Board to inspect army and navy hospital buildings at Hot Springs, Ark. S. O. 245, A. G. O., October 24, 1885.

MCLDERBY, HENRY, surgeon and major. Granted leave of absence for four months from November 1, 1885. S. O. 246, A. G. O., October 26, 1885.

PATGRI, J. H., assistant surgeon and captain. Appointed member of Board to meet at Forts Jackson and St. Philip, La., on November 5, 1885, to select a site for the new quarters for the ordinance sergeants at those posts. S. O. 230 Department East, October 28, 1885.

TOMEY, G. H., assistant surgeon and captain. Granted leave of absence for two months, to take effect after the return from leave of absence of Surgeon J. C. Bailey (major). S. O. 87, Division of the Atlantic, October 24, 1885.

BARROWS, C. C., assistant surgeon and first lieutenant. In addition to his other duties, to take temporary charge of office of the Medical Director, Department of Arizona. S. O. 102, Department of Arizona, October 17, 1885.

EWING, C. B., assistant surgeon and first lieutenant (Fort Leavenworth, Kan.). To accompany congressional committee, of which Hon. W. S. Holman is chairman, in its visit and inspection through Indian Territory. S. O. 160, Department of Missouri October 23, 1885.

IVES, F. J., assistant surgeon and first lieutenant. Relieved from temporary duty at Fort Laramie, Wyo., and ordered to Fort D. A. Russell, Wyo. S. O. 106, Department of Platte, October 22, 1885.

MORRIS, E. R., assistant surgeon and first lieutenant (recently appointed). Assigned to duty at Fort Bayard, N. M. He will continue on detached service under orders of district commander. S. O. 160, Department Missouri, October 23, 1885.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE TWO WEEKS ENDING OCTOBER 24, 1885.

LEACH, W. H., surgeon. To proceed to Detroit, Mich., and assume charge of the service, October 23, 1885.

AYERS, H. W. To proceed to Albany, N. Y., on special duty, October 11, 1885.

WILLIAMS, L. L., assistant surgeon. Relieved from duty at Norfolk, Va., to proceed to Washington, D.C., for temporary duty, October 20, 1885.

## SOCIETY NOTICES.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT.—The Section for Clinical Medicine, Pathology, and Hygiene will meet at 19 Boylston Place, on Wednesday, November 11, at 7.45 o'clock. Papers: Dr. S. C. Martin, of Roxbury, "The Inoculation, Propagation and Preservation of the Virus of Annual Vaccinia, with a Description of the Appearance of Kimo-pox, and Demonstration of the Vaccine Vesicle upon Infants." Dr. E. W. Cushing, of Boston, "The Specific and Infectious Character of Tuberculosis, with Exhibition of the Bacilli of Tuberculosis, and those of Malignant Pustule (anthrax)." Dr. Vincent V. Bowditch, "A Case of Phthisis with numerous Bacilli: Complete Arrest of Disease."

F. I. KNIGHT, *Chairman*.

ALBERT N. BLOOMFIELD, *Secretary*, 138 Boylston St.

BOSTON GYNÆCOLOGICAL SOCIETY.—The next regular meeting of the Gynæcological Society of Boston will be held at the Medical Library Rooms, No. 19 Boylston Place, November 12th, at 4 o'clock, P.M. Papers: "The Relation of Certain Bacteria to Puerperal Septic Processes," by E. W. Cushing, M.D.; the discussion will be opened by H. O. Marey, M.D. A short paper on "Habitual Constipation in Women: Its Causes and Effects," by H. J. Harriman, M.D.

H. J. HARRIMAN, M.D., *Secretary*.

Boston, November 2, 1885.

## A NEW SOURCE OF CERTIFIED WET-NURSES IN BOSTON.

OUR Boston readers will be glad to learn that mutual arrangements have been entered into by the Directory for Nurses and the West End Nursery with the object of properly furnishing good wet-nurses. The Lying-In Hospital has hitherto been the only medical source of supply, so to speak, for this important need. The Directory for Nurses has kept a list of wet-nurses, but has never undertaken to assume any responsibility as to the qualifications of the women offered; having no means of keeping them under observation. The good work of the West End Nursery has been so unobtrusive that it will doubtless be news to many that this institution keeps wet-nurses as inmates, and is ready to part with them to private individuals requiring the services of such persons. While in the Nursery the women are, of course, under constant and skilled supervision by physicians and nurses, and ample opportunity is afforded to test their qualifications.

It is hoped that physicians will send the names of women desirous of taking a place as wet-nurse to either the Directory for Nurses, 19 Boylston Place, or to Dr. Haven, West End, 37 Blossom Street. The nursery will admit suitable women either with or without their babies, and will undertake in cases where it has furnished a wet-nurse to change her in case her milk does not prove satisfactory.

## BOOKS AND PAMPHLETS RECEIVED.

The Essentials of Histology, Descriptive and Practical. For the Use of Students. By E. A. Schäfer, F.R.S. Philadelphia: Lea Brothers & Co. 1885.

Milk Analysis and Infant Feeding. A Practical Treatise on the Examination of Human and Cows' Milk, Cream, Condensed Milk, etc., and Directions as to the Diet of Young Infants. By Arthur V. Meigs, M.D. Philadelphia: P. Blakiston, Son & Co. 1885.

Forty-Fourth Annual Announcements of the St. Louis Medical College. Winter Session, 1885-86.

Moisture and Dryness or, the Analysis of Atmospheric Humidities in the United States. By Charles Denton, A.M., M.D., Denver, Chicago, 1885.

The External Therapeutics of Pulmonary Consumption. Third Paper by Thomas E. Mays, M.D., of Philadelphia. (From Medical News, August 22, 1885).

Note on the Use of Cocaine in Hay Fever. By Roberts Bartholow, M.D., L.L.D.

Von Ziemssen's Handbook of General Therapeutics. In Seven Volumes. Vol. III. Respiratory Therapeutics. By Prof. M. J. Bertel, M.D., of Munich. New York: Wm. Wood & Co. 1885.

Lectures on the Principles of House Drainage. Delivered before the Suffolk District Medical Society (Section for Clinical Medicine, Pathology and Hygiene) and the Boston Society of Architects, at the Massachusetts Institute of Technology. By J. Pickering Putnam, Architect. Boston: Ticknor & Co. 1885.

## Lecture.

### LOCOMOTOR ATAXIA—AMYOTROPHIC LATERAL SCLEROSIS—LATERAL SCLEROSIS.

A CLINICAL LECTURE DELIVERED AT THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

BY H. C. WOOD, M.D., LL. D.,

*Professor of Materia Medica and Therapeutics and of Diseases of the Nervous System in the University of Pennsylvania.*

GENTLEMEN, this patient comes to us with the statement that every two or three weeks, or sometimes at longer intervals, he has frightful attacks of abdominal pain accompanied with vomiting. Under these circumstances, attention is naturally directed to the condition of the stomach. We learn that these attacks are not provoked by any error in diet, that they are apparently spontaneous, and that between the attacks there are no symptoms of dyspepsia or indigestion. The attacks are exceedingly violent. The patient came to the hospital two weeks ago. When I first saw him, he appeared to be suffering from no severe symptoms. A day or two later, I found him in bed, groaning and moaning as though in agony. There was frequent vomiting of mucus tinged with bile, or of a liquid so thin as scarcely to be called mucus. These attacks of pain with persistent vomiting lasted three or four days and kept the man from sleeping, in spite of the free use of opium. Such attacks are evidently not dependent on irritation of the mucous membrane of the stomach.

The pain would suggest the passage of gall stones. Careful examination, however, shows that the pain lacks the sudden cessation which is characteristic of biliary colic. It is a steady, unbearable pain, lasting for hours and days and unaccompanied with jaundice, disturbed digestion, or any other manifestation of the passage of biliary calculi. You will call to mind the case of the woman with attacks of pain, similar to these, occurring in the rectum, which I showed you last week. When you have brought to your notice a case of horrible, recurring, violent, unaccountable pain, remember the possibility of its being one form of crisis occurring in locomotor ataxia. Sometimes these paroxysms of intense, shooting, darting, tearing, boring pain attacks the genital organs.

When I found this man sitting at his bedside, my attention was at once directed to his pupils. I found that they were very small, in other words, he had a distinctly myotic or contracted pupil. When I shut off the light with my hand, I found that the pupil did not dilate. It was, indeed, insensible to light. I then tried the pupillary reflex, but there was no dilatation of the pupil produced by pinching the skin of the neck. Then I asked him to look at my finger held close to his face and a moment later to look at a distant object, and found that the pupil which was immovable to light, and responded not to peripheral irritation, reacted normally to the movements of accommodation. Our patient has, therefore, that comparatively rare pupil known as the Argyle Robinson pupil, because first described by that gentleman.

Before going further with this case, I wish to say a few words in regard to conditions of the pupil as seen in nervous affections. We have as the afferent nerve, so to speak, going from the eye to the centre within the brain, the optic nerve. We have two centres, connected as motor centres with the pupil, the oculo-motor centre and the spinal dilating centre, situated high

in the neck. What happens when a person's neck is pinched? An impulse is sent through the sensitive nerves which reaches the cervical centres, lying in the upper part of the spinal cord. As a result, there goes out from the cervical sympathetic ganglia, an impulse causing dilatation of the pupil.

Again, the pupil contracts with exposure to light, and dilates when the light is withdrawn. This is especially accomplished through the oculo-motor centres. The optic nerve is the afferent nerve. Its fibres run through certain centres in the neighborhood of the thalamus opticus and then pass down to the corpora quadrigemina and oculo-motor centre. As a result of exposure to light, there is oculo-motor stimulation and the pupil contracts.

Then as to the movement of accommodation. When a near object is looked at, the eyes are brought convergent as to their axes, and at the same time, the pupil contracts and the shape of the lens is altered for the purposes of distinct vision. These are so-called consensual or associated movements, that is, movements which habit or the original construction of the nervous system has brought about as always being performed together. They apparently take place through the oculo-motor centre. An impulse from the upper cortical region of the brain is sent down to the oculo-motor centre for the act of accommodation, and the centre sends out an impulse which contracts the pupil, and at the same time, converges the eyes.

Besides these various movements of the pupil, there are others associated with emotional conditions, but we have been unable to study these in this case.

In the Argyle Robinson pupil, there is want of response to light and to reflex irritation from the skin, but the pupil does respond to alterations of accommodation. Wherever this pupil is found, there is almost of necessity serious organic nervous trouble, and the probabilities are always in favor of the idea that the patient is suffering from locomotor ataxia. The Argyle Robinson pupil has, however, been found in a certain number of cases of general paralysis of the insane, and perhaps, in a few other diseases, but it marks especially the presence of locomotor ataxia. Where in any given case, as here, there exists violent gastric crises, along with the presence of the Argyle Robinson pupil, you have even without further examination, sufficient grounds for the diagnosis of locomotor ataxia.

The explanation of this peculiar condition of the pupil is not difficult. We know that the optic or afferent nerve is perfect because the patient sees. There is no evidence of paralysis of the oculo-motor nerve and the pupil is contracted. Supposing the man to be suffering with locomotor ataxia, it is plain that the reason why there is no response to light is that the fibres which connect the optic centre with the oculo-motor centre are involved in the diseased structures.

There is interruption of the pathway and there can be no passage of the impulse from the centre of the optic nerve to the oculo-motor centre. The reason that the pupil does not respond to peripheral irritation is because the sensitive nerve connected with the upper spinal region is also involved in its passage through the cord. You will remember that in locomotor ataxia, there is a chronic inflammation and sclerosis or hardening of the posterior column of the spinal cord, and hence these sensitive fibres are cramped and squeezed and their function abolished. When the skin is irritated, no impulse reaches the centre. It is interest-

ing to observe in connection with the gastric crises, these other signs that the disease is high up in the spinal cord, even in the medulla, for the medulla, although placed within the skull for purposes of protection is nothing more than the upper part of the spinal cord.

When the man is examined further, other evidences of locomotor ataxia are found. In the first place, he has lost the patella reflex. He has darting and shooting pains through the legs, unaccompanied by soreness, or with pain on motion. Remember that bilateral, darting shooting pains, without soreness and without pain on motion, are in nine cases out of ten, if they are persistent and not due to gout, the result of locomotor ataxia. When with this there is loss of the patella reflex, the diagnosis is almost positive. I have also found some disorder of coordination in this case. The man has a somewhat ataxic gait. He walks with the feet spread wide apart so as to give a firm base of support. The movement of the legs are irregular. With some difficulty he can stand on both legs with the eyes shut, but is unable to stand on one foot with the eyes shut.

We are therefore able in this case to arrive at a positive diagnosis of locomotor ataxia.

Leaving this case for the present, let me briefly call attention to the various forms of local inflammation of the spinal cord with which we meet in practice. In the so-called system diseases of the cord, the sclerosis or chronic inflammations involve certain tracts of the cord, running up and down, but do not invade widely scattered foci. In the centre of the cord is the gray matter. Then we have the lateral tracts. In the centre of the anterior portion of the cord is a small tract which corresponds to these lateral tracts physiologically. Then we have the posterior median columns or the columns of Goll. So far as system diseases are concerned, we know of two sclerosis especially, which produce definite symptoms. In the first place the posterior region may be involved, especially the region where the posterior nerve roots emerge, constituting *locomotor ataxia*. In the second place, the lateral columns of the cord may be affected, constituting *lateral sclerosis*. There are one or two cases in which the symptoms have been said to have been due to sclerosis confined to the columns of Goll. This is, however, rare, and I have never met with such a case. In the anterior portion of the gray matter there are certain groups of large cells. These are the motor cells whose function it is to convey the nervous impulses which shall cause contraction of the muscle, and it is also their function to preserve the nutrition of the muscle. When a muscle is cut loose from these cells it wastes and its electrical reactions change. When this portion is diseased, we have, if the affection is acute, infantile paralysis or acute muscular atrophy; if it is chronic, we have progressive muscular atrophy. When in spinal affections, there is rapid wasting of the muscles and rapid changes in the electrical reactions, there is disease of these cells; whatever else may be present in the spinal cord these cells are involved.

There is an affection of the spinal cord, in which there is disease of the lateral columns associated with disease of these motor cells. This is known as *amyotrophic lateral sclerosis*.

In the consideration of the case before us, I have called attention to most of the symptoms of locomotor ataxia. They are disorders of locomotion and coordi-

nation and pain without loss of motor power or wasting of the muscles.

Let me now call attention to this second case which represents another form of spinal affection, namely, lateral sclerosis. The symptoms of locomotor ataxia are sensory and afferent. The lack of the power of coordination is due to the failure of afferent impulses to reach the brain. In lateral sclerosis, the symptoms are disorders of motion, but not of nutrition of the muscle, nor of sensation. There is no wasting of the muscle and no lack of coordinating power. There is simply disorder of the motor function of the muscle. These are chiefly the result of irritation, so that there is more or less permanent spastic muscular contraction. With this there is excitability of the reflexes with a certain amount of loss of power, because whilst the fibres are irritated, there is also interference with the passage of currents down from above.

This case exhibits the symptoms of lateral sclerosis. Although I lift the leg and support it at the thigh, there is no bending at the knee, and it requires considerable force to flex the leg. Tapping the tendon of the patella, I find that the patellar reflex is abnormally increased. I cannot at this time develop ankle-clonus, although it has been noted in this case. There is, then, excessive rigidity, increased reflex activity, and, in addition, a peculiar gait. When the disease is fully formed, the gait is characteristic. The patient cannot get his toes from the floor, owing to the spasm of the calf muscles. Examining the legs, no muscular wasting is found. The electrical reactions are normal. The arms are sometimes affected in lateral sclerosis, but in this patient the stiffness is very slight at the arm. There is, however, great loss of power in the arms. On exploring the arms, fibrillarily contractions are noted as abundant. These are never seen in pure lateral sclerosis. Moreover, there is great wasting of the shoulder and arm muscles. These symptoms, we are told, came on gradually, they are evidently due to disease of the motor or anterior cells of the gray matter of the cord, and we have an instance of the chronic spinal disease, known as *amyotrophic lateral sclerosis*.

Turning now to the third patient, we find the following history. This girl is twenty-six years of age. She was in good health until three and a half years ago, when she developed the symptoms with which she now suffers. The affection has come on gradually. There was, she stated, at one time partial loss of power in the left arm and leg, and she was unable to work for four weeks. She then obtained an easy place and returned to work.

You observe the same stiffness of the legs, seen in the previous case. When I raise the thigh from the bed, there is no flexion at the knee. The muscles of the calf are contracted. The patellar reflex is increased. There is some rigidity of the arms, most marked on the left side.

We have then, in this case, either lateral sclerosis or something simulating it. There is an affection known as hysterical contracture in which there is loss of power, with heightened reflex activity, rigidity, or more or less permanent contraction of the muscles, a disease which very closely simulates lateral sclerosis, and in some cases it is almost impossible to make the diagnosis. Two years ago I had a case in the Philadelphia Hospital which well illustrates the difficulty in diagnosis. This woman suffered with Pott's disease of the vertebrae which had produced angular curvature.

It is not uncommon to have secondary sclerosis following the transverse myelitis of this affection. With a pronounced history of disease of the vertebrae, there were the typical symptoms of lateral sclerosis and an almost entire absence of hysterical indications. The diagnosis of lateral sclerosis was made. On one occasion, she was given some powders of bismuth for a slight derangement of the stomach, and she began to rapidly improve, so that in a few days, instead of being confined to a rolling chair, she was able to walk about. That was largely a case of hysterical contractures.

This woman before us is not distinctly hysterical. If in a decidedly hysterical patient you have symptoms like these, especially if they have developed suddenly, the probabilities are that you are dealing with a case of hysterical contracture. Although this patient is somewhat nervous, she is not distinctly hysterical. The disease has come on slowly. Hysterical contractures are more apt to come on suddenly, but not necessarily so. This woman has another symptom which I believe is characteristic of organic disease, and at present, I should always make the diagnosis when I found it distinctly present. During the past two months she has complained of having the feeling of a bandage around the waist. This she spoke of herself. Of course if you ask an hysterical patient if she has a band-like feeling around the waist, she will be very apt to say that she has, when she had never dreamt of it. Another point I wish to allude to, and that is, that chronic nervous diseases, especially in women, are often associated with hysteria. If any one of us were shut in a room for months and months, over-shadowed by a great cloud of approaching troubles, it is probable that we would develop hysterical symptoms. The point is always to be borne in mind, that underlying the hysterical manifestations, there may be a real organic trouble.

There is in this case, a slight inequality of the pupils. Everything, therefore, points to the existence of lateral sclerosis and the prognosis is unfavorable. We should, however, not pronounce a too positive prognosis, but should leave a way of escape in case the condition should prove to be largely hysterical.

## Original Articles.

### A CASE OF INFANTICIDE.<sup>1</sup>

BY W. H. CAYLOR, M.D., NEW HEMPSTED, *Medical Examiner*.

M. R., aged a few years over thirty, gave birth to her fourth illegitimate child at some time during the night succeeding April 21st, 1881. She was employed as a domestic in a gentleman's family, and as she did not appear at her customary duties on the morning of April 22d, search was instituted, and she was found in bed suffering from the effects of her delivery. The physician to the poor being summoned, found a dead child lying upon the floor, closely wrapped in a shawl, together with the results and debris of the labor. Not being satisfied that the child was still-born he referred the case to me, and gave a very full account of the appearances of the room, mother, and child, which caused in his mind the suspicion that all was not as it should be. Upon arrival at the house I found the woman in bed in a room at

the farther end of the attic from the stairway, which stairway was shut off from the story below by a door. She occupied this attic alone, and had neither medical nor other attendance during her labor.

Upon the floor in front of the bed, and a foot or a foot and a half from it, was a waterproof overgarment of india rubber, the edges of which had been carefully turned over to make a sort of trough three feet by two perhaps. Upon this garment was a chamber-vessel filled completely with bloody fluid and a placenta with membranes attached. Four inches of the umbilical cord remained upon the placenta, and the extremity of the cord was ragged. Beside the chamber-vessel the garment had upon it the body of a new-born child (wrapped in a red and black checked shawl), a blue flannel skirt, and a large quantity of human feces, meconium and bloody fluid.

The mother on being questioned concerning her labor, stated that she went to bed as usual on the night of the 21st, not expecting to be confined. At eleven o'clock, p.m., she had a desire to urinate, and rose to perform this act. Upon resuming the bed, she had a few slight pains not sufficient to prevent sleep. At midnight, as near as she could judge, she had a desire to stool, and, rising for the purpose, while in a squatting posture by the bed, she gave birth to her child, then fainted and fell to the floor. At one o'clock, a.m., she regained consciousness, and, throwing a shawl over the child, she went to bed, where she remained until found in the morning. She did not know how the cord became ruptured, or how the placenta came to be in the urinal, and the child upon the floor. She did not hear the child cry or manifest any sign of life.

Examination of the child's body revealed the following appearances. The body was well smeared with meconium, and a considerable quantity had escaped from the child. The face, hands and feet were cyanotic. The body was cold with hardly any rigor mortis. The portion of umbilical cord attached to the child was twenty-five inches long and had one turn about the child's neck, leaving a free end fifteen inches long. The extremity of the cord was ragged and bulbous, and had clot behind the incurved extremities of the vessels. The cord had not compressed the neck to leave any depression or mark, and could not have compressed it except by strong traction of the maternal end. A little whitish froth was noted about the left nostril. There was a slight erupit succedaneum over the occiput and a little to the left. No marks of bodily injury were seen on inspection. The cavities of the body opening externally, contained no solids or fluids except what might naturally occupy them.

Autopsy showed a fat male child at term, twenty inches long and weighing seven and three-quarters pounds. Both testicles were in the scrotum, and the nails had grown to the ends of the fingers. No fluids escaped on inverting the child, and none were found in the respiratory passages.

On opening the body, the diaphragm was found at the level of the sixth rib. The lungs removed with the heart and thymus gland, floated high above the surface of water. Sections of all parts of the lungs floated after being subjected to heavy pressure. Sections made from the edges of the lungs with the freezing microtome by my friend, Dr. Wm. N. Swift, who kindly assisted me, showed the alveoli to be everywhere fully dilated. The lungs were rosy red anteriorly, darker posteriorly. They contained much dark

<sup>1</sup> Read before the Massachusetts Medico-Legal Society.

blood, and were somewhat congested centrally, and posteriorly. The cavities of the heart, particularly the right ventricle, contained a good deal of dark fluid blood, as did also the entire venous system. The liver was much congested, dark blood flowing copiously on section. The kidneys were much congested, but otherwise were normal. No uric acid infarction was observed on gross inspection. The stomach contained a drachm of yellowish fluid and some air. Air was seen in the intestines as far down as the transverse colon. The urinary bladder contained a few drops of fluid. The brain was much congested but otherwise was normal, and the same remark will apply to the upper two inches of the spinal cord.

It is certain that the child did not die of hemorrhage. It is equally certain that it was a well-formed and normal child capable of carrying on its existence with ordinary care. No marks of injury to cause death were anywhere apparent. The appearances were those of death from suffocation, and an opinion was given to the proper legal officers that the child came to its death from suffocation, exposure, and neglect. At the inquest the justice of the district court held the woman to appear before the grand jury for murder of her child. Upon taking testimony, the grand jury found no bill against her.

Certain points of interest appear in this case which it may be profitable to discuss. First, as to the truth of the woman's story. It is evident from preparations made that she *did* know of approaching labor, and the caput succedaneum shows that the labor was not quite tumultuous. She could have summoned aid had she been so disposed. How came the child upon the floor and the placenta in the vessel? How was the cord ruptured? If the woman fainted immediately after extrusion of the child, she must have fallen into the surrounding filth. Nothing was found upon her clothing but a little ordinary lochial discharge. The extraordinary movement of the placenta is hardly consistent with the statement of fainting. Upon inquiry, the woman stated that at time of delivery, her buttocks were not more than a foot from the floor. The cord had a free end of fifteen inches in length, and the child weighed only seven and three-quarters pounds. With regard to the sustaining power of the cord, the only reliable statement at my hand is that of Robin, quoted by A. Flint, Jr., who puts it at ten to twelve pounds. Taylor says nothing definite about it, and Tidy refers to the experiments of Negrier and others as being inconclusive, without giving any definite views of his own. I wished to make some experiments in this direction before presenting this case, but have not been able to do enough reliable work as yet to warrant notice. If members feel so disposed, I would suggest that a good spring-balance would occupy but little room in the obstetric bag, and any information sent me will be gratefully received and acknowledged in a subsequent paper. A broad tape might be used to attach the fetal end of the cord to the hook of the balance, and the balance being fixed, traction upon the cord to the point of rupture be made. The index of the balance could be made self-registering in many ways which readily suggest themselves. It is almost superfluous to say that such observations should be made immediately after birth of the child, as the changes going on in the cord may make delayed experimentation useless. Reports giving the length of time after delivery, the weight required to break the cord,

and the part of the cord broken, would be of value in the present uncertainty on the subject. Where possible, the effect of weight combined with falling from a known distance would, if noted, be valuable, but naturally such experiments would be more subject to error than simple ones.

How long did the child live? Tardieu, quoted by Tidy, says that the presence of air in the alimentary canal indicates an existence of ten or fifteen minutes, the length of time being in proportion to the depth to which the air has penetrated. In this case, the opinion was given that the child lived some minutes. It is not probable that in this case the child breathed in the maternal passages, as the presentation was of the vertex, and the labor was not delayed.

Could the child have been strangled by the turn of the cord about its neck? The turn was what is commonly called a half-hitch, necessarily exercising no constricting power in absence of a strong pull upon the maternal end. The cord was of unusual length (twenty-nine inches) and, as has been before noticed, the position of the mother would preclude the possibility of strangulation after birth. With regard to strangulation before birth, it is evident that the full dilatation of the lungs and the air in the alimentary canal would have been lacking. Taylor very justly says, that the term strangulation should not apply to those cases where by constriction or knotting of the cord during labor the maternal oxygen is withheld from the fetus. Though the child dies in the same manner as in strangulation, still the term is better limited to subjects which have breathed. My view of this case is that the woman knew of her approaching labor, that she ruptured the cord by pulling upon it after the child was born and before the placenta was delivered, that she removed the placenta and placed it in the chamber-vessel, and, rolling the child snugly in the shawl to avoid warning the family of what had taken place—if for no more unworthy purpose—she went to bed, leaving the child to succumb, which it soon did by suffocation. How much exposure may have favored death it is difficult to say. The temperature of the outside air was about 33° F. during the night. It is hardly reasonable to suppose that the mother was ignorant of the care necessary to be given to a neonatus, as she had had three children previously.

#### ON THE ABUSES CONNECTED WITH GRATUITOUS MEDICAL TREATMENT.<sup>1</sup>

BY HASKELL DEERY, M.D.

It may be taken as a maxim that gratuitous medical attendance is to be exercised with discrimination. The obtaining from their profession a means of support for themselves and their families will always be a necessity to the great majority of practitioners. The difficulties in the way of this would evidently be enhanced if they were forced to compete with those whose desire of increasing their clientele led them to reduce their fees far below the usual standard; or whose private means enabled them to practice without remuneration, for the sake either of extending their knowledge or spreading their reputation.

Every physician, therefore, owes it to his brethren to limit his gratuitous practice to certain classes of people. It is his right and duty thus to treat members

<sup>1</sup> Read before the Boston Society for Medical Observation.

of his own profession, unless they have reasons for desiring the contrary, and his privilege to extend his unrequited services to his immediate relatives, and perhaps even to a few most intimate friends. And, over and above this, he expects throughout his life, and especially if connected with any hospital or public clinic, to constantly prescribe for a large number of the poor.

The multitude of those classing themselves under this head, and applying for free medical attendance, is increasing at a considerable rate; and even more than keeps pace with the clinics, public and private, that now open their doors. In Boston, the Eye and Ear Infirmary alone treated 1,911 out-patients in 1852, 3,580 in 1867, 11,027 in 1884. In the same year the total number applying at this institution, the Massachusetts General Hospital, City Hospital, Carney Hospital, and Boston Dispensary was 56,908. When we add to this the number treated at their homes by medical men connected with the above charities, as well as those applying at other clinics scattered through the city, it is evident that these figures would be largely added to. And, considering the population of Boston and the surrounding country, the question naturally arises as to whether the percentage of those receiving free medical and surgical attendance is not abnormally large, and whether a greater degree of discrimination ought not to be exercised by those prescribing for the poor.

I am well aware that this is a threadbare theme on which to submit a paper to this Society, and that much has already been said and written on this subject by those more competent than myself to discuss it intelligently. I venture, however, to again bring it forward, believing as I do that it has thus far largely fallen into the wrong hands, and that it is not for the directors and trustees of our public institutions, whose management of their finances may be admirable, but whose knowledge of their medical and surgical workings might be superficial, to deal theoretically with so grave a question, and frame regulations for the government of an out-patient Utopia. It belongs to the profession, who devote their skill, energies and time to the extension of this relief, to decide on the cases to which it is applicable, as well as to adopt practical measures for the restriction of its abuse. No principle is more false than the one that a physician should be compelled, at the bidding of the lay directors of any medical institution, to treat gratuitously any patient from whom he might with justice accept a fee, had he applied at his private office rather than at the hospital.

The throng requesting medical aid at the out-door department of any public institution may ordinarily be classed as follows:—

*First.* There are those able and willing to pay for treatment. They are attracted to the institution by its established reputation, as well as by reports of the skill of its staff. They neither expect or desire to be treated gratuitously.

*Second.* Those able to pay a fee less than the ordinary one; but anxious to have what they consider the best talent brought to bear on their cases, and deterred from consulting the same privately by a fear of the expense.

*Third.* Those able to pay but unwilling so to do; hoping to steal an opinion and pass unnoticed among the crowd.

*Fourth.* The deserving poor.

The problem for solution is how to deal with these various classes; to define those really entitled to relief, as well as to arrive at a practical plan for their ready selection. My own solution I offer with all modesty. It is based on twenty years' experience at the Eye Infirmary. Here we have at present an out-patient department of over eleven thousand, recruited from all over New England, and more largely perhaps composed of our native population than would be the case among those applying from the city proper.

The first class, or those able and willing to pay, find placards hung at conspicuous points in the waiting-room, informing all comers that the institution is a public charity, that "it is designed wholly for the poor and needy, under no circumstances for those who are not proper subjects for charitable treatment." These notices prove entirely sufficient and bring about the withdrawal of such people as those above described.

Those able to offer a fee less in amount than that ordinarily demanded are more difficult to deal with. They at once admit, on being questioned, that they do not care for charitable treatment, and expect to pay something. But they have been informed that they will get "the best advice" here; or they assume that professional ability depends on the length of time a man has been in practice, but fear that a private consultation with the older members of the profession will be beyond their means. It is hardly possible to lay down a hard and fast rule applying to all such cases, and yet I believe that this class should, in the great majority of instances, be refused treatment. An honest statement of their circumstances to the private practitioner will almost invariably result in an arrangement by which the fee will be proportioned to their means. And, what is of much importance, the withdrawal of this class of patients from the profession at large, works a distinct injury to the struggling beginner, whose time has not yet become sufficiently valuable to oblige him to always insist on a full honorarium and whose possible absence of private means compels his entire dependence on his professional income; an income largely recruited, during the earlier part of his practice, by the smaller fees derived from patients of relatively humble means. Wealthy hospitals and well-appointed clinics, by absorbing such cases, render the upward path of the medical beginner more difficult year by year.

This whole question of fees, large and small, is both delicate and distasteful. Its discussion lays us open to the imputation of mercenary motives; its easiness is objected to as unworthy the disciples of a great and beneficent science. But if the laborer is worthy of his hire, if those who serve the altar are to live by the altar, the devoted physician has surely a right to a decent support from the community whose well-being is intrusted to his care, and to whose service he often sacrifices health, and sometimes life itself. Nor can he regard the matter from the airy height of disinterested benevolence, but must keep his books and collect his dues on the same business principles that govern his relations with his own creditors.

The above classes being eliminated, there remain those seeking to obtain advice or treatment by fraud, and those legitimately entitled to both. How to distinguish between them, and in the case of the latter, how to determine that precise degree of absence of worldly possessions that entitles one to free medical treatment, is the great out-patient problem.

The ingenuity of those who seek to disguise their resources must have been experienced to be credited. We were once surprised by a handsome legacy from the estate of an old lady, who had for weeks enjoyed the hospitality of the Infirmary and there been relieved of a cataract: an excellent thing for the institution itself, but not calculated to raise the spirits of the surgeon originally in charge of the case. Another free patient, treated for the same disease, was afterwards discovered to have been the mayor of a New England town, and a large real-estate owner there at the time of the operation. "I prefer to see you at your office, Doctor," said a young man to me once, "as I get more of your time. But I suppose I might go to the infirmary as uncle does." "Is your uncle a very poor man?" I asked. "O, Uncle owns a factory." "But how does he manage to pass at the infirmary?" "Uncle's sly," said the youth, with an exquisite enjoyment of the fact: "he puts on old clothes and dirties his hands, every time he comes down." A well-known lawyer of this city once emerged from the waiting-room, and sat down in the patient's chair. On being remonstrated with for attempting to impose himself on a charity, he coolly informed me that all he wanted was an examination and opinion, having obtained which he proposed to place himself under private treatment outside. He had evidently thought he would escape recognition. A well-to-do merchant, being similarly detected, informed us that he had been a tax-payer for forty years, and demanded treatment as a right. Finally, one day, a very respectable and well-dressed lady from New Hampshire presented herself for treatment, and disclaiming poverty, was refused an examination. The next patient, evidently in good circumstances, hailed from the same place. So did the four succeeding, all unfit cases for relief. At last it transpired that we were dealing with the members of a cheap excursion, where one of the attractions offered by the enterprising agent had been a free call at the Eye Infirmary.

Various have been the expedients proposed for the sifting out of those cases justly entitled to free relief, and numerous the rules laid down for the purpose of defining them. It has been sought to draw the line at a certain sum earned weekly; all in receipt of smaller wages being accepted, the rest rejected. The absurdity of such a test is borne on its face. A weekly income, large for a single man, may mean absolute want to one with a family dependent on him; while certain occupations involve an expenditure for personal appearance that leaves very little of the modest salary for other than the most urgent wants, even to the man who has but himself to care for. Attendant circumstances are therefore as important as the gross amount of wages earned. Again, it has been sought to test the good faith of applicants by an adaptation of the detective system, employing a trained official to cross-examine them in the outset, and ultimately to investigate doubtful cases at their homes. Were the city poor alone to be considered, such a system might not be without its advantages, but it is evidently inapplicable to a clinique whose material is collected over a wide territory. But little more than half our Infirmary patients are residents of Boston, many of the remainder coming from distant parts of New England. Information might, it is true, be obtained from their town authorities, but the necessary correspondence, besides involving us in the expense of an increased

clerical force, would bring upon the really deserving poor a publicity both unpleasant and unmerited. This would be especially true in the smaller towns.

Passing over other plans, the solution of the whole matter seems to me so simple that I mention it with diffidence. It is but to accept the principle that the out-patient department is for the benefit of those whose lack of means would prevent their obtaining relief elsewhere, and to leave the application of this principle to the physician in attendance. He alone has the responsibility of examination and treatment, he alone should have the privilege of deciding whether his services are well bestowed. If charged with the direction of an important clinique, he is ordinarily an older man than any of his subordinates, has a larger experience of human nature, and, from previous work among the poor, has acquired a more intimate knowledge of their modes of thought and action. Bound by no arbitrary and inflexible rule, he will be able to judge humanely and act promptly. We shall at once be met by the objection that police work of this description is not only distasteful, but no part of the duty of a medical man. A little reflection will, however, show that it can never be very onerous. About the great majority of patients that throng the waiting-rooms of our hospitals, there can be no manner of doubt. And when anything in the dress, manner, or statement of the individual causes hesitancy to be felt, a few questions, put with tact and kindness, will readily resolve the matter; or if doubt should still be felt, the applicant for aid should certainly receive its benefit. It is not pretended that the medical examiner will be infallible, but we claim that fewer mistakes will be made by him than by any other to whom this task may be delegated, and that he should not be hampered by a set of arbitrary rules, in the framing of which he has had no voice, and from the principle of which he may even dissent.

We would not, however, give him unlimited powers. The claim is sometimes made that, for purposes of medical instruction, all should be fish that comes to the net, that valuable material for demonstration is on no account to be thrown away, and that a rare and interesting form of disease may be retained and treated, even though the patient belongs to the better classes. But the end justifies the means as little in medicine as in theology. Such a patient has no claim whatever on an institution endowed for the benefit of the poor. His withdrawal from the ranks of those on whom the profession at large depends for support, works a distinct wrong to the private practitioner, into whose hands he would otherwise fall. If the chief of the clinique elects to utilize in that way his own material, if he conscientiously diverts patients from his office to the hospital, and forgoes his just remuneration for the benefit of his class, all honor to him who thus immolates himself on the altar of science. But he has no right to assume that his professional brethren are equally disinterested, or to aid the individual who is in fraudulent search of gratuitous treatment.

This abuse, however, sinks into insignificance by the side of one to which I wish, in closing, to call particular attention. It is the requirement, on the part of the lay-governing board of a hospital, that their professional staff shall attend and, if required, operate free of charge on any patient, whatever his means, who may choose to occupy a private room at the institution, and pay the rate of board demanded for the same. The charging a fee is, under these circumstances,

strictly prohibited; the invalid pays his twenty-five or fifty dollars a week, and receives in return the free attendance of the best medical and surgical talent that can be found in the community.

A case in point will show the practical working of this state of things. And I would call attention to the fact that what follows is a simple narrative of an actual occurrence. In a New England city, a surgeon, eminent for his skill, was consulted by a woman from the country, who had a tumor of the breast requiring removal. She was accompanied by her clergyman, who proceeded to make the necessary arrangements on her behalf, for the operation. After some inquiry into the patient's circumstances, a fee was named that she declared herself quite able to pay. A boarding-house was engaged, and the day fixed upon. The two left the office, congratulating themselves on having obtained the desired professional skill on terms that met with no objection. Two days later the clergyman appeared alone.

"Doctor," said he, "I am come to tell you that we will not have you perform the operation. You are not, however, to infer that we doubt your skill, or are dissatisfied with your fee of one hundred dollars, but Sister Blank has visited the So-and-So Hospital, and there learned that, by taking a room at twenty-five dollars a week, she can have the operation performed for nothing. She can readily find other uses for the money she would have paid you, and feels it to be her duty to save the amount."

So the matter ended. The surgeon lost his fee, the hospital got its board, and Sister Blank swindled the profession. Comment is here superfluous. We see the reputation, wealth and influence of a powerful institution pitted against the private practitioner, who naturally goes to the wall. And this state of things will continue until the profession takes a firm stand in its own defence, and enacts that its members, who serve a public charity without emolument, shall deny their gratuitous services to all save those who are really unable to meet a fair charge from their own resources.

#### RUPTURE OF MALE URETHRA AND CORPUS SPONGIOSUM DURING COITUS.

BY F. S. WATSON, M.D.

Cases of rupture of the urethra during coitus are of such comparatively rare occurrence, that I have thought it worth while to report the following case, which came under my notice last summer, at the Genito-Urinary Clinic of the Boston Dispensary.

R. D. presented himself at the clinic with the following story.

Six days previous to visit, while drunk, had connection with his wife, coitus occurring en postillon, the man suddenly felt a severe pain in the penis, hemorrhage from the urethra followed and persisted as a slight oozing for two days.

A swelling surrounding the urethra, and extending from about one inch behind the meatus, to the perineum appeared immediately after coition. Two days after the accident micturition became difficult, owing to a diminution in the size of the stream, and at the end of the next two days there was complete retention of urine. He then sought relief.

The bladder was distended, reaching two-thirds of the way to the umbilicus. A swelling as already de-

scribed occupied the tissues surrounding the urethra, and greatly increased the size of the penis; there was no discoloration; the swelling was hard and tense. A No. 12, English catheter was passed into the urethra, and met with an obstruction two inches behind the meatus; slight pressure easily overcame this obstacle, in passing which the impression to the fingers was as though the instrument had slipped over a ridge of ruptured mucons membrane. Immediately after the eye of the catheter had passed this point, the urine began to flow through the instrument. About forty ounces of clear urine were allowed to drain slowly away through the catheter, and the patient thus relieved was sent to the Carney Hospital. In the evening the patient being unable to urinate voluntarily, the house officer drew off thirty-one ounces more of urine.

The obstruction to the outflow of urine being complete, a soft rubber catheter was tied into the bladder and retained there; on the following day pus discharged itself freely from the meatus. The urethra was now irrigated several times daily with the following solution: Potass Permang. .04; Aqua 200. The patient continued to wear the catheter, which was frequently changed, for twenty-six days, during which time the discharge of pus slowly diminished, and the swelling decreased in size. He then removed the catheter himself, and tried to urinate. Only a little urine came, the stream suddenly stopped, the swelling became at once very large and tense again; during the night he had several chills, and high fever.

On the following day, I freely incised the swelling from without, in the mediary line on the raphe. About an ounce of fetid pus was evacuated from an abscess cavity lying on either side the corpus spongiosum, and beneath the corpora cavernosa. A ragged transverse rent was seen to occupy the floor of the urethra, about two inches behind the meatus. The abscess cavity and the urethra were thoroughly washed out with a solution of corrosive sublimate, 1-10,000. Iodoform was blown into the wound, a drainage tube inserted, and the wound dressed. Directions were given to catheterize the patient at each call to micturate, and that the urethra be washed out after each catheterization with corros. sub. sol. 1-10,000. Two days later the drainage tube was removed, and the wound had entirely closed two weeks later, except a minute fistula, which persisted for a month.

The temperature fell to normal on the day of the operation, and did not rise again. At the seat of the rupture of the urethra, a traumatic stricture resulted, which was very dense, and showed a tendency to very rapid contraction.

The patient was last seen two months after being discharged, when he was advised to have internal urethrotomy performed, which he refused, and was lost sight of. This case besides being interesting from its rarity presents a few other points worthy of attention.

*First.* The accident caused rupture of the urethra and corpus spongiosum only. As shown by the hemorrhage occurring from the urethra, and no discoloration of the penis taking place.

*Second.* The obstruction to the flow of urine and consequent retention, was probably caused by a valve-like action of the ruptured mucons membrane, and not by pressure from the surrounding infiltrated tissues. This was illustrated by the ease with which the catheter No. 12, Eng., passed the obstructing point.

*Third.* The pressure caused by the urine accumu-

lated in the bladder was sufficient to hold open both sphincter vesicae, and compressor urethrae, shown by the fact that as soon as the eye of the catheter passed the seat of injury the urine began to flow through it, and continued to do so until the bladder was somewhat relieved of its contents, when it had to be carried on into the viscus to obtain the rest.

*Fourth.* Suppuration occurred in the tissues about the urethra, from the entrance into them of urine through the rent in the urethra, and its subsequent decomposition. This took place in spite of the retention of a catheter in the bladder.

*Fifth.* As soon as the healing process had gone on far enough in the urethra to make drainage from the abscess insufficient by that road, retention of pus with fever at once announced itself.

*Sixth.* The case serves as an illustration of the well known rapidity of formation of traumatic stricture, and its great contractility. And the inefficiency of dilatation as a means of keeping such a stricture open, especially in the anterior urethra. (In spite of the passage of a steel instrument every few days, the calibre of the urethra had contracted to twenty-one *peræ* at the end of two months.)

The treatment to be adopted in such a case is, I think, emptying of the bladder *very slowly*, using several catheterizations and occupying a number of hours before all the urine be drawn off. An overdistended bladder should never be suddenly emptied!

Subsequent catheterization at each call to micturate, each operation to be followed by irrigation of the urethra, by an antiseptic solution, introduced through a retrojecting soft rubber irrigator.

If suppuration occurs, and abscess formation takes place around the urethra, external incision, drainage and cleansing of the wound.

The passage of a full-sized steel sound or bougie, every few days, until such a time as the stricture formation calls for operation, and then the employment of internal urethrotomy, dividing the obstruction to the size of the urethra one has to deal with.

## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.

BY WILLIAM F. WHITNEY, M.D.

### THE CONTEST BETWEEN THE CELLS AND BACTERIA.

AT the present time, when the rôle played by the micro-organisms is attracting so much attention, Virchow<sup>1</sup> has well chosen the above subject for the opening paper of the one hundred and first volume of his *Archiv*. With the beginning of that journal, he departed from the old epigenetic explanation of many pathological phenomena and established in its place the theory of descentence. This he formulated in the sentence of *omnis cellula e cellula*. The plastic material and exudation was replaced by the idea of the inherited continuance of the cell. From this time, the unicellular plants and animals began to assume a prominent place in scientific botany and zoology. As years have gone by, the conception of these organisms has been greatly modified; but each year has more clearly proved that the vital peculiarities and powers of a single cell of a complex organism must be placed in the closest parallel with these lowest forms of life.

From this has resulted a sort of personification of the cell.

As new and different aspects of vital activity were demonstrated, there were those who thought the cellular theory was to be set aside. Even as instructive and convincing a fact as the independent movement of the white blood corpuscles has been regarded as making a breach in it, while in reality it only substantiated and expanded it.

It was otherwise in respect to the external influences to which the cells were subjected. Etiology, it cannot be denied, was a long way behind phenomenology, and this became more clearly recognized when parasitic micro-organisms began more and more frequently to be associated with pathological processes. From this, many are willing to conclude that the older knowledge is worthless. But before going too far in this direction, it would be well to see if the relations of these same micro-organisms to disease are as clearly and precisely known as they should be.

The tendency to assume a parasitic origin for all infectious diseases dates from the discovery of the bacillus of anthrax by Davaine in 1854, the micrococcus of variola and vaccinia by Keber in 1868, and the spirillum of relapsing fever by Obermeier in 1873. These are to be regarded as the first proofs of specific diseases due to bacteria. From that, much has been done; but still more remains. For the whole series of the commonest infections and contagious diseases, the proof is wanting of the specific organism, which is presupposed to exist in them. And this is but the first step in the difficult path of a true knowledge of the entire disease.

For with the simple proof of the existence of a bacterium or micrococcus but little has been gained. Neither pathology nor therapeutics can be satisfied with this. In what way is recurrent fever better understood or treated now that a spirillum has been discovered in it? What influence has the presence of a micrococcus in the lymph and tissues on the knowledge of small-pox and vaccination?

If the results claimed by M. Pasteur in the production of an attenuated virus had not drawn attention to them, all the practical interest would have been concentrated in Listerism. And this, it must be remembered, was due more to a divination of genius than a strict scientific precedence.

Nevertheless, the micro-organisms have occupied the foreground of medical attention, and the cells appear almost forgotten. Any one who, by means of his Zeiss-Abbé microscope, has made them invisible and sees nothing but the colored bacteria, might well be justified in believing that they were to be disregarded. But they are there, and they are — let it be openly said — still the chief point of interest. But they are patient and can wait. Their time will come again as soon as the physician has filled some of the gaps in botanical knowledge. Then will they again take the first place in scientific and practical interest.

Perhaps this may seem to some a little too strongly expressed. But with the discovery of each new parasite, the same road is gone over again. First, its detection; then the investigation of its habits of life; then finally, the question, how does it produce the disease with which it is associated? In this third stage, it comes back to pathology and to the very same pathology that was already there. Nowhere is this more apparent than in the history of phthisis. When Dr.

<sup>1</sup> Virchow's *Archiv*, Vol. 101, page 1.

Koch had found the tubercle bacillus, there were some who imagined that all the patient work of the past was superfluous. Unity of the bacillus, unity of phthisis! Tuberculosis of the lungs is identical with cheesy degeneration, tuberculosis of the glands with scrofula, etc. But this beautiful unity has not long held together. Tuberculosis has remained, as it was, an ambiguous process, which commences in many ways; sometimes starting in the mucous membrane of the air passages, sometimes in the interior of the alveoli, sometimes in the parenchyma of the lungs. And further, its products differ greatly; some are simply inflammatory, while others are specifically tuberculous, and whoever will rightly understand its true nature, must learn something more than how to color bacilli. Indeed, the bacillus has done so little to elucidate the problem, that attention has been turned back again to the investigation of predisposition and immunity.

In leprosy this is still more evident. The discovery of the bacillus lepræ has shut out an entire series of other possible explanations. But a positive extension in the direction of diagnosis, prognosis and treatment, has not been made. And it will not, until the territory of the previous knowledge of the local affection has been more enlarged than by the addition of a few bacilli to the cells.

Their relation, the explanation of which form the proper nucleus of special pathological, or more widely expressed, medical investigation, can be designated as the struggle between the cell and the parasitic micro-organisms (bacteria, for short.) At this time, two living micro-organisms are in the field against each other. The microscopic cells, the vital elements of the body, on one side, and the yet smaller fungi, the lowest plants, on the other. Each is supplied with its own life, its own activity, its own powers. Which of the two is the attacking party? How is the attack conducted? How is the defence made? Which of the two is destroyed? These are the questions that are to be answered.

Provisionally, more is known of the peculiarities and action of the cell than of the vegetable parasite; but by far, not enough. Namely, however, the activity of the living cell is more easily studied than that of its guest, and scientific interest will thus be naturally turned in this direction.

Furthermore, a distinction is to be made between the action of the bacteria as such upon the cells and their products, especially the poisonous substances formed by them. The isolation of the ptomaines, (or alkaloids of putrefaction), shows the importance of this, and what was originally a purely botanical question, is becoming more and more a chemical one.

On the other hand, it will be the work of the future to investigate the living cell in respect to its powers of resistance and the mechanism of its offensive and defensive weapons.

A step in this direction has been taken by Metschnikoff,<sup>2</sup> who describes the way that bacteria are taken into cells, and who has followed their subsequent history, especially their digestion in the cells. Though the ability of the invaders to penetrate the cells has not been clearly proved, still the method which he has employed is a decided advance. He has chosen for his object of study one of the lowest forms of marine life, which from their great transparency and the fluid

medium in which they lived, could be easily observed under normal conditions.

So the question comes back logically to the cellular pathology. And there is no need of a rearrangement of knowledge for the new facts to assume their proper place in the territory of experience already acquired. It is only to be hoped that the new array will be a large one. But it must never be forgotten that aetiology is but a preparatory step to pathology, and that the task of the latter will never be accomplished until the entire course of the disease, that is, the process of the disturbance of the vital activity, is laid bare.

#### ON THE NATURE OF THE GIANT CELLS IN TUBERCULOSIS.

Weigert<sup>3</sup> gives a good illustration of the method of investigation insisted on by Virchow in an article with the above title, in which are embodied his own original views.

Although giant cells had been occasionally noticed in connection with tuberculous products, it was the work of Langhans to establish their proper relations. The name was given, not only from their size, but also for the numerous nuclei which they contained. These last usually occupy a definite position in the periphery of the cell, leaving the central portion free. In some cases they form a continuous mantle, in others they are arranged like a girdle or circle, or are massed together in one part. Their shape, in general, is more oval than round. Many observers have interested themselves in their mode of origin, and it seems to have been proved that they are derived chiefly from the fixed connective tissue elements. Their peculiar appearance has still, however, to be explained.

This was more easily done when they were supposed to represent portions of occluded vessels, in which the thrombus had become cheesy. As this view became untenable, a confluence of cells was invoked; but from this there could only result the pseudo-giant cells of the French; and even this was only possible where the preëxisting cells were arranged in districts, as, for example, in glandular canals. The true giant cell not only has the nuclei arranged in a regular manner, but also shows that they have resulted from proliferation. That is, that they are not separated from each other by any appreciable amount of protoplasm.

Whatever may be their mode of origin, one thing is certain. Whereas, it was formerly believed that they were the product of an excess of "formation irritation," now, from what is known of the method of division of the nucleus and cell, they are rather to be regarded as the result of a defect. For, if the first was the fact, the protoplasm would have been divided also, and as many distinct cells would have resulted. Now the process has stopped short of this, and has only given rise to many nuclei in a single cell.

There may be very widely different causes for this, but in the author's opinion, the tubercle bacillus is a very important one, and best explains the failure of division of the protoplasm as well as the peripheral position of the nuclei.

The presence of the bacilli within these cells has been accorded by all, but Weigert goes a step further and holds that they also have a particular position, which is on the line separating the free central part of the cell from the outer portion containing the nuclei. The meaning of this is best understood when the rela-

<sup>2</sup> Virchow's Archiv., Vol. 96, page 177, and Vol. 97, page 502.

<sup>3</sup> Deutsches. Medicin. Wochenschr., August, 27, 1886.

tion of the bacilli to a large cheesy centre is considered. All agree with Koch that such a centre is, as a rule, poor in parasites. On the other hand, they are found in tuberculous products, which are well supplied with nucleated cells. But it is fair to assume that they must also have occupied at some time the cheesy places from which they have disappeared (on the formation of spores) after having accomplished their work. While on the periphery of such places their growth still takes place. The bacteria have been destroyed in the centre because their supply of nutritive material has been used up. And the fact that they grow well in cavities does not disprove this, as with a free supply of air, new histological and chemical factors have come in.

If, now, the giant cells are looked at in the light of what has been seen in the cheesy foci they are found to present identical conditions, only on a minute scale. This likeness is strikingly shown in the nodules occurring in the livers of tuberculous fowls. Here there are giant cells which assume an irregular cylindrical form with the nuclei all confined to one end. The other end is gradually lost in the cheesy central mass of the entire tubercle. From this the conclusion is justified that a partial necrosis of a single cell can also occur. And in accordance with the present views of the relation of the nucleus to the life of the cell, it is hard to conceive how such large non-nucleated areas could be capable of life.

It may seem as if it were going beyond bounds to speak of the partial destruction of so small a body as a single cell. But this arises from the habit of regarding the cell not only as a unit but as an anatomical one. This, however, is not so, for a consideration of normal changes teaches that a part of a cell may cease to live and be cast off, while the rest persists. The "goblet cells" of the muciparous glands are a striking example of this. While pathologically it is seen in the coagulation necrosis of renal epithelium, in which only the interior of the cell is changed while the external part containing the nucleus remains intact.

But an *a priori* doubt might be raised as to the ability of the bacilli to bring about this incomplete death. It has been usually supposed that after they have once entered a cell they kill it entirely, either by using up its material for their own nutrition, or by the action of their poisonous productions. Such would be likely to take place with a rapidly-growing parasite, but where one is of such slow growth and uses as little food as the tubercle bacillus it is probable that it would kill only that part of the cell which lies in immediate contact with it; while the rest still remains capable of life.

The facts in the history of the tuberculous process seem also to bear this out. For it has been shown that in cases of inoculated tuberculosis the giant cells were not formed at the point of impregnation when many of the rapidly growing ones were introduced. But this only took place when those of slow growth as from the tuberculosis of cattle had been employed, or in situations where only a few could be introduced, as in the lymph canals of the cornea. The fact furthermore, that giant cells are especially to be found in slowly progressive forms of the disease in man stands in accordance with this, as well as that in these forms a proper caseation from the death of the entire cell may be wanting, as occurs in leprosy. On the other hand, acute processes (meningitis, cheesy pneumonia, and tuberculosis of children, monkeys and rabbits) can

run their course without the formation of giant cells, but are prone to diffused caseation from the death of entire cells.

This assumption best explains also the peculiar grouping of the nuclei and bacilli. In this regard, however, an assertion of Koch's must be recalled, namely, that the giant cells are quite persistent structures, while the bacilli are short lived, and can only hold their own by a succession of generations. Bearing this in mind, the cells may be regarded as representing three stages:—

*First stage.* The parasites have killed only a circumscribed part, and the production of nuclei still goes on. These surround the necrosed portion which is not easily to be differentiated. This stage is best seen in the tuberculosis of fowls.

*Second stage.* From the continued action of the microorganism a larger and larger area is destroyed, until the nuclear zone is clearly marked off from the central portion. The bacilli are still scattered everywhere in the cell.

*Third stage.* Here the nutritive material in the necrosed spot has been used up, as is shown by the gradual disappearance of the bacteria from the centre, while they still abound in the periphery. This stage is the one generally found in man.

As long as a new formation of living material on the outside can keep pace with the destruction going on within, the cell can continue to increase in size. But when the latter gains the ascendancy and the last remnant of living tissue is used up, then the cell sinks into a diffuse caseation. At first its shape can still be recognized, but finally it is melted into an ill-defined mass and blends with the general granular detritus.

Occasionally there are found giant cells in which remnants of bacilli can still be made out in the centre, while the peripheral zone is free from them. Such can be regarded as persistent forms in which these cells have conquered the parasitic microorganisms.

#### ON TUBERCULOSIS OF THE MAMMARY GLAND.

Within the last few years it has been shown by microscopic examination that certain cases, which from a clinical standpoint had been regarded as cancer of the breast were in reality tuberculosis. The number of those recorded up to the present time is not large; but now that attention has been directed to the subject an increase will naturally be expected. Orthman<sup>4</sup> adds two to the number already published.

The first was in a woman forty-two years of age. At first, a nodule of the nature of a feruncle was noticed in the left breast. Upon opening this a little pus escaped. In spite of this the tumor increased in size and a fistulous track was established. Later the axillary glands became swollen and they were excised together with mammary glands six months after the disease was first noticed. Preparation made from the immediate neighborhood of the sinus failed to reveal the presence of bacilli, although the structure was regarded as characteristic of tuberculosis. In the axillary glands, however, the presence of the parasite could be readily demonstrated. Disease of no other organ could be detected at the time when the patient left the hospital.

The second was in a woman forty-four years old, who died with symptoms of dyspnea and dropsy. The autopsy revealed general tuberculosis of the internal

<sup>4</sup> Virchow's Archiv. Vol. 100, p. 305.

viscera, and in one breast a tumor which was said to have existed about fifteen months. The gland itself was atrophied, and was traversed by numerous opaque lines, following the course of the ducts. These were of firm consistency, due to thickening of the walls. The interior was filled with inspissated or cheesy material, recalling the condition found in tuberculosis of the epididymis. Numerous bacilli were found lying in the cells.

The first case is to be regarded as one of primary tuberculosis, while in the last one it is doubtful where the original seat of infection was.

The author thinks the giant cells which were found in the tissues originated in part from the epithelioid cells and in part from the union and subsequent fusion of the epithelium lining the glandular alveoli and ducts.

#### A CONTRIBUTION TO THE ANATOMY OF THE PAROVARIAL CYSTS.

Killian<sup>8</sup> gives the results of a study of a series of five cases. As a rule, the peritoneal covering was found to be smooth, although in two cases the remains of adhesions were evident. These are certainly rare and their existence has been denied by some. In all the cases the infolding of the internal surface was very distinct. This has been explained as due to a contraction of the involuntary muscular fibres of the wall. But these were so sparingly present that they could exert but little influence, while the microscopic examination showed the internal layer of the connective to be thrown into ridges. The Fallopian tube lay in close proximity to the cyst and was apparently increased in length. The fimbriated extremity was somewhat elongated as well as the ovary.

The end of the ovary turned towards the uterus was always found at some distance from the cyst wall. And this is not accidental, as might at first sight appear, for it must be remembered that the parovarium is normally situated near that end of the ovary which is farthest removed from the uterus.

In regard to the cells lining the interior, it is to be remarked that the ciliated ones, which theory demands, were not found. Well-marked cylindrical forms, however, were seen in these cases, but these were always associated with the lower and more cubical ones. The latter were the most constant, being present in all cases. In two cysts there was a single layer of flat epithelium. All stages from high to low forms of cell were found in the same specimen. These are supposed to arise from a thinning of the cyst wall, by which means the cells covering it are pulled out.

In one case a sort of papillary form was found like that occurring in a true ovarian cyst; and in another an unquestionable formation of gland tissue. It has usually been supposed that the accessory cysts which are occasionally found, were derived from other canals, as the normal parovarium has from ten to fifteen in all. But the author is inclined to regard them as retention cysts, from the glandular form mentioned above.

If one wishes to decide whether a cyst is of parovarian origin or not, there must be taken into account, first, whether its position in regard to the neighboring organs is analogous, and second, whether its anatomical structure is referable to it. In regard to the latter point, the author was unable to find any structure that was absolutely characteristic of it, unless it is ciliated epithelium, which must occur very infrequently.

He is therefore forced back upon its position, as before stated, in relation to the tube and ovary, as the chief point in diagnosis.

## Hospital Practice and Clinical Memoranda.

### CASE OF GLANDERS. BOSTON CITY HOSPITAL.

OCCURRING IN THE SERVICE OF E. H. BRADFORD, M.D.

REPORTED BY ROBERT W. LOVETT, M.D., *House Surgeon.*

W. C., twenty-three years old, an Irishman by birth, had been employed for some months as hostler in the stables of one of the city horse-railroads. He was an intemperate fellow, and so often involved in rows and disputes that he was discharged from the company's employ August 4, 1885. During the last few weeks of his work in the stables he had been given the care of a horse, sick with what appeared to be influenza. Patient was in the habit of picking the scabs from this horse's nose, beside giving him pills and washing away the thick nasal discharge. But the horse grew worse and was sold as suspicious and unprofitable, probably about July 20th, but this date is uncertain. At this time the horse had developed no ulcerations or other positive signs of glanders, but he was regarded with so much suspicion that the patient had been cautioned as to the danger of inoculating himself, especially as he had at that time a sore hand which was generally bandaged.

After his discharge from the stables the patient went upon a considerable spree, secluding himself in his room and drinking heavily, but August 9th, he declared himself sick and took to his bed, complaining of pain in his back and of fever. He had no chills, but some vomiting, and August 11th, he was seen by a physician who pronounced the attack lumbago, and sent him to the City Hospital, where he was admitted.

At the time of admission he presented the appearance of a man in the early stage of typhoid fever. His temperature was 101; he complained of pain in his left side and his back, and his tongue was thickly coated. He had no cough, and the examination of his lungs and heart showed nothing abnormal. There was tenderness over the epigastrium and flanks, and a markedly tender point in the back over the tenth dorsal vertebra. The urine was normal.

He was given rum and quinine in moderate doses, but his fever gradually increased and his general condition became worse. August 15th there were found a few sonorous rales in both chests, and in the left side of the back there was an area of marked dullness extending from the ninth to the twelfth ribs and to the left of the spine for about two inches. This area was tender and slightly bulging.

For about a week there was no marked change, his condition was typhoidal but his mind was clear. His fever was still high, and August 21st a swelling of the dorsum of the right hand, looking like a cellulitis had appeared. There was also a small abscess upon the left calf and acute pain in the left foot was complained of. On August 22d, sixteen days after the first attack, one or two pustules were noticed upon the shoulders looking not unlike large acne pustules, and there were some reddish diffuse swellings upon the dorsum of the left hand. The sweating had begun to be profuse and

<sup>8</sup> Arch. fur Gynaekologie. Vol. 26, p. 460.

the breathing was becoming more rapid. At this time there was no noticeable nasal discharge and there had been no nosebleed. Both heart sounds were weak and variable and there was a systolic murmur at the apex of the heart. The glands of the neck were not swollen, nor was there any glandular enlargement, except in the inguinal glands.

August 23, the eruption was much more noticeable: the pustules were larger, and vesicles and papules were to be seen. There were not more than ten pustules in all this time, and these were situated upon the face and arms. The swelling in the left lumbar region was more prominent and fluctuation was felt. There were several reddish nodules, the size of a cherry, noticed upon the thighs and legs to-day, and reddish blotches with induration upon the feet and hands. He had a slight nosebleed at this time, and sniffed from time to time as if a mild coryza had begun. Examination showed uniform redness of the pharynx. At this time the patient was taking his nourishment very well, being fed every hour, and in addition to this he was given twelve ounces of brandy, and thirty grains of quinine daily. His breathing was rapid and rather shallow and his sweating was profuse. Altogether his appearance was that of a man suffering from severe septic poisoning. He answered questions intelligently although slowly and thickly, and seemed glad to be let alone and lie in a sort of half doze. There had been no diarrhoea and no tympanites.

Between the 23d and 25th of August the development of the eruption was very marked. Upon the 24th, vesicles, pustules, and papules abounded upon the arms and face while tubercles predominated upon the legs. The papules became vesicles and these in turn pustules, very rapidly, and throughout the eruption this seemed to be the course. The tubercles did not break down. Some of the vesicles and pustules were umbilicated, and on the right shoulder a number of pustules had united and broken down, leaving an ulcer with ragged everted edges.

Toward the night of the 25th, low typhoid delirium came on, and respiration became very shallow.

The morning of the 26th the patient was very much weaker and semicomatose. Tracheal râles came on at noon and the patient became a little cyanotic. He died at 6 p.m., August 26, twenty days after the onset of the disease and four days after the appearance of the eruption.

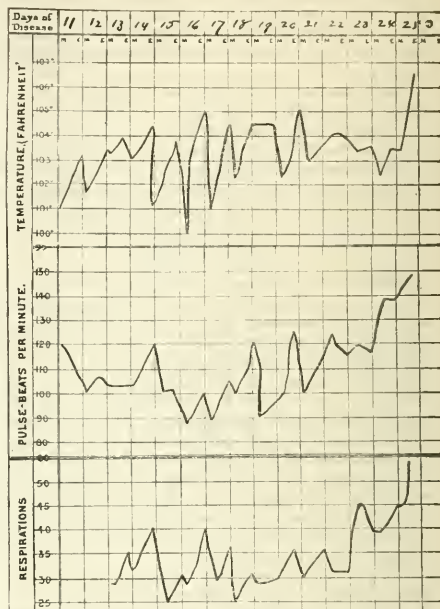
From first to last there was no marked glandular enlargement, and no severe coryza, symptoms of septic poisoning seemed to predominate over everything else, accompanied by markedly rapid breathing and profuse sweating. The development of the eruption was surprisingly rapid.

The accompanying chart indicates the course of the temperature, pulse and respiration.

An autopsy was made twenty-two hours after death by Dr. Gannett. Pustules, vesicles, and ulcers abounded upon the surface of the body, the ulcers evidently the result of the breaking down of pustules. The nodules and tubercles upon incision proved to contain pus between the subcutaneous fat tissue and the muscles. One of these nodules had reached the size of a walnut.

An incision made over the swelling in the left lumbar region showed nothing abnormal in the superficial layers, but the deeper layers of muscles from the spine of the left scapula downward were infiltrated with

pus over an area the size of the hand. Between the ninth and tenth ribs an opening from here communicated with a cavity in the perivertebral connective tissue to the left of the vertebral column from the



ninth to the eleventh ribs and along those ribs for a short distance to the left of the vertebral column. In addition there was found cloudy swelling of the heart, liver, and kidneys, and acute hyperplasia of the spleen with a certain amount of chronic endoarteritis.

Some pus was taken during life from a pustule upon the left arm by Dr. Ernst and cover glass preparations made from it showed large and small micrococci and a number of small bacilli. Cultivations made from the pus of a nodule taken from the same arm after death, gave rapid and vigorous growth upon the second day as two distinct colonies; the first was yellow, glistening, and raised above the surface of the culture medium, the second was white. Under the microscope both colonies were seen to be made up of micrococci. About the seventh day a third colony made its appearance, growing very slowly, and of a brownish yellow color. Under the microscope this colony was found to be made up of fine rods about the size of the bacillus of tuberculosis, which answered to the description of the bacillus of glanders, both under the microscope and under cultivation.

— "Luminous doctors' signs are prominently advertised in the pages of a contemporary. That is just the kind of doctors who run the least to such things. As a rule, it is where the "inward and spiritual grace" least abounds that there is the greatest ostentation of the "outward and visible sign."

## Reports of Societies.

### THE AMERICAN ACADEMY OF MEDICINE.<sup>1</sup>

THURSDAY.—MORNING SESSION.

The Academy was called to order at ten o'clock.

A resolution expressing the sympathy of the academy with Dr. H. P. Farnham, in his painful illness, was offered by Dr. H. O. Marcy, and adopted.

The following resolution was adopted:

*Resolved.* That a committee of three be appointed by the president to report at the next annual meeting, and instructed to prepare a statement of the best preliminary education for medical students, and also a statement of the minimum attainment which medical schools should require of students before admitting them to the study of medicine.

It was also resolved to appoint a committee of two whose duty it shall be to report the requirements for a preliminary education of the various medical colleges in the United States and Canada.

The following officers were elected for the ensuing year:—President, Dr. R. Stansbury Sutton, Pittsburg, Penn.; vice-presidents, Drs. Lewis P. Bush, Del., S. J. Jones, Ill., R. L. Sibbet, Pa., and F. H. Gerrish, Me.; secretary and treasurer, Dr. R. J. Dunglison, Philadelphia, Pa.; assistant secretary, Dr. Charles McIntire, Easton, Pa.

Pittsburg was selected as the next place of meeting. The time, the third Tuesday of September, 1886.

The following gentlemen were elected fellows of the academy:

S. M. NELSON, Cambridge, Mass.; J. H. W. CHESTNUT, Philadelphia; RUFUS W. BISHOP, Chicago; E. E. MARIOTT, Springfield, Mass.; GEORGE N. ACKER, Washington, D. C.; H. V. LOGAN, Scranton, Pa.; H. W. ELMER, Bridgeton, N. J.; H. F. HANSELL, Philadelphia; E. W. CUSHING, Boston, Mass.; J. S. WRIGHT, Brooklyn, L. I.; WILLIAM OSGOOD, North Yarmouth, Me.; C. A. PACKARD, Bath, Me.; W. K. OAKE, Auburn, Me.; A. MITCHELL, Brunswick, Me.; D. A. ROBINSON, Bangor, Me.; C. A. BING, Portland, Me.; J. A. SPATULONG, Portland, Me.; G. W. MARSHALL, Milford, Del.; WM. A. HUGIE, Charleston, S. C.; J. B. SHAPLEY, St. Louis, Mo.; M. H. POST, St. Louis, Mo.; C. E. BRIGGS, St. Louis, Mo.; J. S. ALLEYMAN, St. Louis, Mo.; N. S. DAVIS, JR., Chicago, Ill.; CHARLES EDGAR COOK, Ill. Dr. HENRY H. SMITH, and Dr. S. WEIR MITCHELL, of Philadelphia were elected to honorary membership.

### MEDICAL EVIDENCE.

By THOMAS J. TURNER, Medical Director U. S. N.

The paper had its origin in the writer's duty in connection with the naval retiring board. The positions of the medical member of the board are that of an ordinary witness, that of an expert witness, that of a concurrent judge of both the facts and the law, but with the execution of the verdict the board has no authority whatever.

In the first instance the medical officer makes a physical diagnosis, in the second place he makes a rational diagnosis based upon subjective phenomena. Combining these he arrives at a conclusion. On questions of science, skill, art, and the like, persons instructed on such subject matters, known in ordinary language as experts, are permitted from the necessities of the case, to give "matters of opinion" in evidence; and as to the necessity which permits the introduction of such opinions, each tribunal determines for itself at the time. Herein the expert differs from the ordinary witness who testifies as to "matters of fact."

The boundary line where ordinary testimony ends and expert testimony begins, is not always well defined.

As far as relates to opinions on medical questions, any one at present may be permitted to testify, the question of the special amount of knowledge being left to the jurors to determine. It follows from this that there is no evidence which varies so immensely as so-called expert evidence. It has been decided that a medical opinion may be received as evidence if it is based upon study without practice, or upon practice without study, and it has been ruled that it is not absolutely necessary that one should have studied or practiced medicine.

The opinions of medical men are admitted in courts, upon the condition of the human race; thus, is or was a certain person sick? upon the nature and cause of the disease; the cause of death; the cause and effect of an injury; the effect of medicine or of a particular treatment; the likelihood of recovery; the mental condition of the person; and upon the examination of the party whose condition is under inquiry.

It was the speaker's opinion that the term "expert testimony" was somewhat misleading, and he preferred the term "opinion evidence" as used by Best, as preferable, for opinions may be admitted in evidence by those who could not be classed as experts. The test of the admissibility of opinion evidence seemed to the writer to be this: has the expert witness any peculiar knowledge or experience not common to the world which renders his opinion founded upon such knowledge or experience upon the subject matter under inquiry, of value to the court in determining the truth of the matters at issue? The degree of credence given to opinion evidence should be founded upon the professional skill, the quickness of perception, the powers of discernment, the aptitude, the acquirements and the education, as well as the experience and observation of the expert in the matters upon which his special expert knowledge arises.

### REPORT ON LAWS REGULATING THE PRACTICE OF MEDICINE IN THE UNITED STATES AND CANADA.

By RICHARD J. DUNGLISON, M.D., of Philadelphia, and HENRY O. MARCY, M.D., of Boston, was read by Dr. R. J. Dunglison.

The doctor said that so little change has taken place within the last twelve months with reference to legislative restriction of the practice of medicine, that your committee might in a few brief sentences dismiss the subject with the statement of the actual work accomplished in this direction. The honest efforts of medical men and of others during the past year to accomplish creditable results in the States for the repression of quackery have been unabating, but in several cases, disappointment has been the only issue of their labor. Indiana and North Carolina are the only States in which any alteration in existing laws have been made.

Your committee entered into correspondence with medical gentlemen in the different States with regard to the working of laws for the regulation of the practice of medicine, and their replies are submitted.

The following is a synopsis:—

From New York it was reported that the act of 1884, had not been effective in excluding from the profession grossly incompetent and uneducated men.

Massachusetts has no satisfactory law on this subject.

In Pennsylvania the registration act is executed

<sup>1</sup> Continued from page 150.

about as well as any law of the kind could be without an executive head. It has stopped the non-graduated class from practicing.

From Michigan, it is reported that the present law is defective.

In Tennessee, there is no law regulating the practice of medicine.

In Ohio, the only law is one passed fifteen years ago, requiring a diploma or a certificate from a chartered medical school. Several bills for regulating the practice of medicine have been proposed, but none have been adopted.

Wisconsin has adopted no law for the regulation of the practice of medicine.

Kentucky requires a diploma or a certificate from a State Examining Board. This law is working well.

Dakota, last winter passed an act establishing a Territorial Board of Health, the function of which is to grant licenses to practice medicine and surgery in the territory. There are however several difficulties in the satisfactory enforcement of this law.

Texas is practically without any law upon this subject.

In North Carolina an act has recently been passed making it a misdemeanor punishable by fine or imprisonment or both, to practice medicine in North Carolina, without a license from a board of examiners elected by the State medical society. The results of this law have so far been satisfactory.

In New Jersey, the registration law has proved of little service.

Nebraska has a registration. While its results are not evident, yet it seems to be preparing the way for more effective action.

Iowa has no law regulating the practice of medicine.

Two years ago, Virginia passed a law establishing a State board of examiners. This is working satisfactorily.

Maine has no law on this subject.

In New Hampshire, the law regulating the practice of medicine has not accomplished very marked results.

In Maryland, the law works very badly.

In closing, Dr. Dunglison said, "From this sketch of medical legislation, the inference is fairly deducible that the legislation upon the subject of medical practice is not yet placed upon a sufficiently firm foundation to gratify the advocates of restrictive enactments, and that the obstacles to such healthful results are still operative but not insurmountable."

Dr. BENJAMIN LEE, of Philadelphia, read a paper on HEALTH OFFICERS, ANCIENT AND MODERN.

The important position assigned to hygiene and State medicine during the past decade is an evidence at once of the advanced stage of civilization and of the dense and rapidly increasing population. It also indicates that long occupancy of the land by successive generations has at length overtaken the regenerative and self-purifying energies of the earth, and that extraordinary methods have now become necessary. Reference was then made to the honors bestowed on the officers of public health in ancient Rome, and the high esteem in which they were held. To this was largely attributed the excellent sanitary condition of that city.

The second portion of the paper was occupied with a consideration of the organization of boards of health.

The first point made was that in selecting the material for boards of health, politics, in the bad American sense of the term, should be rigidly excluded. Where it is possible to avoid it, the members should not be elected by the people; especially is this the case in large cities.

*Secondly.* Boards of health should be composed chiefly of physicians, but at least one member should be a man eminent among his fellows for prudence and judgment in trade and commerce, for doctors are, proverbially, bad business men.

*Thirdly.* As it is desirable that there should be harmony of action and of sentiment between the municipal government and the Board of Health, there should be a representative of the one on the other.

*Fourthly.* It is essential for the practical working of the Board that it should employ a paid agent who shall devote as much time as is necessary to inspection and investigation of the sanitary conditions of the locality, and carry into execution the orders of the Board.

*Finally.* Every member of the Board should receive a fair, and even generous compensation for his labors.

Adjournment of Morning Session.

#### AFTERNOON SESSION.

Dr. SAMUEL N. NELSON read a paper entitled

#### MICRO-ORGANISMS AND THEIR RELATION TO DISEASE.

Dr. Nelson began by saying that the importance of the subject, already much discussed, was the only apology offered for presenting it. That these minute organisms make up what they lack in size, by the interest they are causing in the scientific world. That great numbers of observers are at work on both Continents in the solution of the germ theory of disease. Their history is related to that of spontaneous generation, to that of the fermentations, to the pathology and therapeutics of a great number of virulent and contagious affections, and in a more general manner, to all the unknown field, which, notwithstanding the efforts of modern science, still surrounds the origin of life and its preservation.

The bacteria belong to the vegetable kingdom and are the lowest of organisms, being merely cells of a globular, oblong, or cylindrical form, reproducing themselves partly by spores and by transverse division. The best authorities now adopt the simple classification into (a) bacilli, or the rod forms, and (b) micrococci, or the round forms. The first observer who recognized them was Loewenhoeck, as early as 1675. Their study has advanced with the improvement of the microscope, until now, many forms are only seen by the best of lenses aided by special condensers. The more delicate and exact methods of the most recent observers with regard to their nature, show that there are many varieties of them, each of which has its own conditions of growth and varies in its susceptibility to different temperatures and chemical reagents. Apparent identity of form does not necessarily indicate identity of nature. They may be cultivated in both solid and liquid nutrient media.

The theory of a causal relation between bacteria and diseased processes has recently received a wide acceptance. In some diseases this relation is demonstrated, while in others, it is presumed on the ground that bacteria are found in the blood and diseased products. It is not only necessary that the germs should

be isolated and grown in pure cultures, but by inoculation the disease should be produced in healthy men or animals with a reproduction of the bacteria. Reference was then made to the various diseases that have been studied from this standpoint, and the present status of our knowledge was remarked concerning tuberculosis, cholera, variola, scarlatina, measles, diphtheria, erysipelas, etc. Dr. Nelson related some of his own experience in cultures of the micro-organisms of many of these diseases, with which he has made many thousands of experiments the last five years, both at home and in Germany, under the supervision of Professor Koch in his laboratory in Berlin.

The next paper was on

#### OBSERVATIONS ON THE RELATION OF BACTERIA TO CERTAIN PUERPERAL INFLAMMATIONS.

By DR. ERNEST W. CUSHING, of Boston.

These observations were based on the results of examinations of the bodies of such women as died from these maladies in the General Hospital at Vienna, last spring. He called attention to the great difference between the customs and rules governing the obstetric assistants and students in Berlin and in Vienna. In the former city, every precaution is taken to avoid not only direct infection, but also any possible carrying of germs in the hair or clothing, as if bacteria were freely present in the air. In Vienna, although the possibility of so finding them is admitted in theory, yet in practice, the assistants and students are allowed to be present at autopsies. Obstetric operations and laparotomies are performed before the whole class, without spray, and the chief assistants give operative courses on the cadaver every afternoon, relying for safety on washing, bathing, and change of clothing. Practically, sepsis arising in the hospital is very rare, and the results obtained by avoiding direct infection through the fingers and instruments, were regarded by the speaker as an argument in favor of the view that puerperal fever is not an entity, the poison of which is carried about in the air and enters the system through the lungs, etc.; but that such fevers are the result of the invasion and multiplication of bacteria, arising from the infection of the uterus or abraded vagina, as a rule, directly from hands, instruments, or applications.

Discussing the results obtained by the examinations above mentioned, the reader stated that the most frequent cause of infection was the streptococcus; the next the staphylococcus, with which is frequently associated the bacillus pyogenes fetidus. The first occurs in chains not distinguishable from those of erysipelas, the cocci usually lying in pairs, each pair representing a link. The staphylococci occur in bunches, like those of grapes. One or the other of the above were found in all acute cases examined, and were present in the uterine or iliac veins. In pelvic abscesses, they were found in the lungs and joints, and, in fact, wherever metastatic abscesses occurred. Microscopic preparations of the above were shown and three specimen cases described. Finally, puerperal inflammations were compared to infected wounds. The powers of the system to resist, fence out, and kill the invading bacteria when the latter are not continually reinforced, were emphasized, and an active hopefulness was advised in regard to treatment, which to be successful, should be analogous to that of surgical wounds, that is, prompt removal of decomposing matter, evacuation of pus, cleansing and disinfective douches, and drainage.

DR. R. STANSBURY SUTTON said that while there was no question as to the success achieved by the use of antiseptics in general surgery, yet in abdominal surgery, the best results so far had been obtained by strict attention to cleanliness without the use of any antiseptic agencies. He agreed with Dr. Cushing that when the poison enters the abdominal cavity in laparotomy, or into the vagina or uterus in puerperal cases, the germs are not carried by the atmosphere, but by the hands, the forceps, ligatures, or instruments. As far as abdominal surgery was concerned, he thought that all chemical agents could be discarded, but cleanliness could not be lost sight of. He then referred to the injurious effects which had at times resulted from the absorption of such agents through the peritoneum.

DR. HENRY O. MARCY related a case bearing on the introduction of antiseptics into the peritoneal cavity. It was that of a child four years of age, whose abdomen was filled with pus, in which the streptococcus was found. The pus was evacuated and the peritoneal cavity thoroughly washed out with bichloride of mercury solution. The patient recovered without a bad symptom.

#### MEDICAL LICENSES AND MEDICAL HONORS.

was the title of a paper read by Dr. EDWARD JACKSON, of Philadelphia.

A comparison was made between the requirements of the medical colleges of this country when first organized and the requirements of to-day, and the gradual lowering of the standard with the corresponding decrease in the honors conferred was noted. While the population had increased twenty times, the number of graduates had increased five hundred times. Part of this increase is due to the fact that men who formerly practiced without a degree, now attend colleges and receive the degree.

In 1881, the medical diploma was put to a new use and became a license to practice. The inefficiency of the registration law, as well as the lessened honor which attaches to the medical degree, was shown by the fact that in fifteen hundred registrations, only forty-eight were destitute of the doctor's degree, and these belonged to the poorest order of irregular practitioners. The speaker thought it doubtful if any system of State license to pursue any calling should be looked on with favor. If adopted, it must be removed from all possibility of lowering competition, and surrounded by every guarantee of honest enforcement which disinterested examiners and full publicity can give.

A paper entitled "The Physician and his Patient," by Dr. J. D. Kelley, of Utica, and one by Dr. Lewis P. Bush, of Wilmington, Del., on the "Physicians of Delaware in the Eighteenth Century," were read by title.

The President-elect was then introduced and made a brief address.

The Academy then adjourned.

—The *British Medical Journal* in answer to the query of a correspondent, says that "the sinew of the hip upon the hollow of the thigh which the children of Israel eat not of," is the sciatic plexus of nerves with all its branches and ramifications from the pelvis down to the foot.

PROCEEDINGS OF THE BOSTON SOCIETY FOR  
MEDICAL OBSERVATION.

H. L. BURRELL, M.D., SECRETARY.

NOVEMBER 2, 1885, DR. J. H. McCOLLOM in the chair.

DR. H. DERBY read a paper

ON THE ABUSES CONNECTED WITH GRATUITOUS  
MEDICAL TREATMENT.<sup>1</sup>

DR. HENRY I. BOWDITCH said that the paper was an instructive one and showed some evils existed with which he thought it would be hard to deal.

As to the apparent increase of the number of beneficiaries in the Eye and Ear Infirmary during the progress of years, he thought that in order to be sure of such increase some consideration at least should be given to the large increase of population in the city and to the great numbers that were daily brought to the metropolis by the various railroads—during the later years. If this could be done, the *apparent increase* of beneficiaries would probably be lessened.

DR. C. E. STEDMAN remarked that several years ago Dr. O. F. ROGERS contributed several able and pointed letters on the subject so cleverly handled by the reader to the *Boston Medical and Surgical Journal*. They were replied to, or commented on by the *Journal*. The difficulty of effecting any reform in the matter seemed to be owing to the teachers of medicine who felt that they must have all the available material of the dispensaries and out-patient departments; and that the young men who were so rash as to try to get a living by the practice of medicine must look out for themselves.

DR. C. H. WILLIAMS said that in an out-patient service it was not right to expect the physician to give his time to the questioning of patients as to their means in the endeavor to eliminate the unworthy; it was entirely apart from their medical work, and often took more time than the ordinary examination of the patient. The managers of our large institutions, when they ask their medical staff to devote a great deal of time and skill to unpaid work at a hospital ought to take some measure to protect their staff from imposition while carrying on the work.

DR. C. P. PUTNAM said that free patients are wanted by practitioners for instruction. He did not believe that gentlemen served in hospitals as a sense of duty, but as a pleasure, and not the practitioners so much as the managers are the ones who invite the patients.

Regarding operations, he thought that surgeons did not object to caring for private patients in hospital, as it was usually a rare and interesting operation that they were called upon to do, and he thought that surgeons were glad to do the operation for its own sake.

There is a class of people who are not very rich nor very poor, who expect to pay their ordinary bills to the grocer, butcher, etc., but do not feel like paying a doctor's bill; they are a cleanly set, and are more agreeable to treat at an out-patient's than the ordinary habitué.

Dr. Putnam thought that doctors rather liked these patients and encouraged their coming.

This middle class, the speaker thought, considered it rather the fashion to receive charitable medical treatment.

<sup>1</sup> See page 160.

Many men do not care to take a small fee, considering that in that way they depreciate their services, and these men send their patients to a hospital.

He further alluded to the possibility of patients paying a fee for the treatment of, for instance, an abscess, whereas if they had necrosis, an affection which would require long and careful treatment, they would be unable to meet their debt.

The custom of charging a small fee at clinics he did not like, and suggested that a certain number of patients could be treated at out-patient departments in consultation; that is, that they should bring with them a note from their own doctor.

The speaker favored the plan of medical assurance clubs, and concluded by saying that he thought that a concerted action on the part of all the different hospitals and dispensaries might result in good.

DR. HAVEN did not feel that there was such a marked injustice done to young practitioners, for if a physician charged small fees he soon acquired the name of being a cheap doctor. He had heard men designated as fifty-cent doctors. This he felt was an injury to the practitioner. Dr. Haven favored the contract system, and believed that poor people who required special skill from specialists would gravitate to the clinics where special material was needed.

DR. E. L. PARKES had listened to the paper just read, with much interest. He had acted as recording officer at the Infirmary, and felt that a just discrimination should be used in directing suitable cases to the junior specialists. He had learned to regard with suspicion the class of patients that came from a distance, experience having taught him that they were frequently able to pay for advice. He called attention to the fact that a clinic varies from time to time, according to what surgeon is on duty, and believed that many patients obtained an opinion in this manner from an especially popular and skillful practitioner.

DR. C. M. GREEN had always endeavored to discriminate in his treatment of charity patients, and had found that one could not depend upon personal appearance as a guide, as to whether the person was deserving or not. He had felt the injustice of the gratuitous treatment of prostitutes. He had always thought that the sending of patients to one's own office from a charity, laid one open to the charge of having a selfish motive in so doing. Dr. Green asked whether the members of the society considered that clergymen were to be considered subjects of gratuitous treatment.

DR. H. I. BOWDITCH said that he always made a discount from his regular fee when it seemed necessary, and explained to clergymen that it was owing to their profession that the deduction was made.

DR. H. DERBY discriminated in reference to clergymen and charged them what he felt that they could afford to pay.

DR. W. A. DUNN then read a paper upon

A CASE OF HYDATIDIFORM MOLE WITH PLACENTA  
PREVIA.

DR. H. I. BOWDITCH complimented the reader, and thought that it was most fortunate that the case had fallen into such good hands.

DR. C. M. GREEN had never met with a similar case, and spoke of the rarity of the combination of the two conditions of mole and placenta previa.

## Recent Literature.

*Transactions of the American Gynecological Society.*  
Vol. IX, for the year 1884. New York: D. Appleton & Co. 1885.

The address of the President, Dr. Albert H. Smith, is an interesting and comprehensive review of the chief prevailing theories of the aetiology of what is known as puerperal fever. The writers of recognized authority are broadly divided into the essentialists and the infectionists: the former holding mainly the doctrine advanced by Dr. Barker in his *Puerperal Diseases*, "that there is a distinct fever altogether apart from any local lesion, or specific poison other than its own"; in other words, that puerperal fever is an essential disease: the latter school, the infectionists, regarding the disease as a traumatic infectious fever, in short, as septicæmia. This latter school is further divided, however, into the followers of Semmelweis and those of Pasteur, the former believing that the malady results from the absorption by traumatic surfaces of decomposing animal matter, which may be of either autogenetic or heterogenetic origin; the latter, that the disease is due solely to the entrance of micro-organisms into the circulation, either through the open surfaces of the parturient canal or through the sound mucous surfaces of the lungs or intestines.

While not prepared to say that the views of the pangermists, as the Pasteureans are sometimes called, are not true, Dr. Smith regards them as not proved, and does not hesitate to ally himself with those who believe in the septic origin of the disease. He would, therefore, rely on a careful prophylaxis, and the intelligent and faithful use of antiseptic measures.

Dr. Paul F. Mundé contributes a valuable paper on "Interstitial Cervical Fibroids as a Cause of Dystocia, and their Removal by Vaginal Enucleation." From his personal experience with one case, in which he successfully enucleated at the sixth month a tumor weighing three pounds, the mother recovering, but subsequently miscarrying, and from his comparison of eight other similarly treated cases with the results obtained by Cesarean section, the author is strongly impressed with the superiority of enucleation by vagina. In the discussion of the paper, the opinion prevailed that it is better to wait until labor begins before attempting enucleation, as the danger to the mother is no greater at that time, and perhaps even less; while the chances of delivering a living child are much greater.

Dr. T. Gaillard Thomas read a report of six additional cases of extra-uterine pregnancy, supplementary to the twenty-one cases reported two years ago. The paper and the subsequent discussion are of great value in clearly defining the method of treatment which promises the best results. Dr. Thomas still believes in the use of electricity to kill the foetus in the early months rather than resort to laparotomy. If the pregnancy has advanced beyond four and a half or five months and the child is living, he would wait until the end of the ninth month and then remove it living by laparotomy. If the child is dead, he would wait for the shrivelling of the placenta, unless unfavorable symptoms demand earlier interference. In connection with Dr. Thomas' paper, Dr. R. B. Maury's case of tubal pregnancy, with rupture of the sac in the second month is of interest, in regard to the propriety

of early laparotomy, that is, at the time of rupture. Dr. Maury's opinion is that at the time of rupture effort should be directed solely to the relief of shock, from which, rather than from collapse from hemorrhage, the patient is in greatest danger. Subsequent operation would depend upon the age of the fetus, the amount of extravasated material, and the character of the resulting inflammation.

The paper by Dr. Mundé on the "Limitation of Vaginal Hysterectomy for Cancer of the Uterus," and the subsequent discussion, in which many members took part, constitute a very valuable contribution to the literature of this subject. The essay is intended to controvert the opinion advanced by Dr. A. Reeves Jackson in his paper read at the preceding meeting of the Society, namely, that extirpation of the cancerous uterus is not a justifiable operation. The question as viewed by this Society, is now fairly before the profession. For our own part, we believe that in properly selected cases, that is, in those in which the disease cannot be entirely removed by excision of the cervix, but in which the growth has not extended to the parametrium, vaginal extirpation is a justifiable operation to try. What the ultimate decision will be concerning the value of the operation we cannot tell: it is still in its infancy; but, in view of the inevitably fatal result of this disease when not arrested, we believe it not only justifiable for, but incumbent on, the profession to give the operation of vaginal hysterectomy a long and patient trial.

The space at our command does not allow us to notice the other papers in this admirable volume. The title-page is faced by a portrait of the late Dr. James D. Trask, and the volume ends with a worthy memoir of J. Marion Sims, by Dr. Ely Van de Warker. The portrait of Sims which accompanies the memoir is excellent. C. M. G.

*The Use of the Microscope in Clinical and Pathological Examinations.* By DR. CARL FRIEDLAENDER. Translated with the author's permission by HENRY C. COE, M.D., etc. New York: D. Appleton & Co. 1885. 195 pp.

We are glad to see that a good translation of this valuable little book has been made. The author is well known for his original work, and we can feel assured that what he writes must have come from practical experience in the laboratory, and is not simply a product of the "library table."

The first half of the book is devoted to the preparation and staining of specimens for microscopic examination. Of late years, the latter part has been so greatly developed that it has almost become a study by itself, and the beginner is often perplexed in knowing what to choose. Here the selections have been well made, and the particular end aimed at by the method clearly shown.

In the second half, the examination of fluids and such other substances as are readily examined without special preparation, and the aid which such examination can give to clinical medicine, is dwelt upon. We wish that the differential diagnosis between the different ovarian fluids and ascites might have been taken up, but the subject is such a large one that it would have extended the work too far. It is not intended as a treatise on pathological histology, but rather as a practical guide, and as such we can most heartily recommend it.

## Medical and Surgical Journal.

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### RACIAL CHARACTERISTICS OF THE JEWS.

THE question whether the race of modern Jews is or is not a pure one, which has received considerable discussion in its historical aspect, is taken up on its anthropological and anthropometrical side by Mr. Joseph Jacobs in the *Journal of the Anthropological Institute of Great Britain* for August. The arguments therein advanced are reviewed in an interesting article in *Science*, October 9, 1885.

From his former studies, Mr. Jacobs takes the following statements: 1. Jews have a less marriage rate, less birth-rate (both due largely to the less mortality of Jewish children), and less death-rate than their neighbors. 2. They marry earlier. Cousins intermarry more frequently, perhaps three times as often. 3. Jews have larger families, though fewer plural births. Mixed marriages with foreign races are comparatively infertile. 4. Among Jews, male births are more frequent, still-births and illegitimate births less frequent than in the average population. (Amongst the illegitimate births the proportion of still-births is not less.) 5. Jews have a smaller mortality of children under five. (Not true of Jewish illegitimate children.) Deaths over sixty are more frequent; suicides are less frequent than normally. 6. Their claim to immunity from certain diseases (phthisis, cholera) is doubtful. They are apparently more liable to diabetes and hemorrhoids, and have, proportionally, more insane, deaf mutes, blind and color-blind. 7. A vast majority live in cities. They have a larger ratio of poor.

Of these conditions only four are held to be of racial as distinct from social origin, and of these some, as the smaller number of twins and triplets, are at present quite inexplicable. The relatively greater infertility of mixed marriages is based on the following facts:—

In Prussia, between 1875 and 1881, 1,676 such mixed marriages resulted in 2,765 children, an average of 1.65 per marriage; while the average for pure Jewish marriages was 4.41, — *nearly three times as great*. In Bavaria (1876–80), 67 such marriages showed an average of 1.1 against 4.7 for pure Jewish marriages.

Other apparently racial peculiarities, namely, greater

longevity and liability to certain diseases are not as yet established on indisputable grounds. For instance, insanitary modes of life, as in crowded tenements, weaker constitutions and greater proportion of men unfit for military service are against the fact of longevity. Moreover, other factors favoring longevity, such as more healthy occupations, greater care of their women, and tranquilizing effect of their religion and family life, belong rather to social than racial considerations.

Jews, we are told, are shortest and narrowest of Europeans (Moyars perhaps are shorter). Their height is 5 ft. 4 in.; girth 31.6 inches. The importance of social influences is seen in the measurement of 130 English Jews of the better class, whose average height was 5 ft. 7 in., and girth 35.2 inches. As to shape of head, they are brachycephalic, or short headed, the cephalic index being 83.4. They have fewer blue and gray-eyed individuals, and more brown and dark-eyed than their Teutonic neighbors. So also their hair and skin are darker. The statistics on color-blindness are unanimous, making three Jewish children so afflicted where only two would be found in other races. The common notion as to length of nose is supported by measurements, while that of the thickness of the lips is not.

A number of photographs of Jewish boys' faces taken at random from the Hebrew Free School of London are given and also composites prepared by Mr. Francis Galton according to his well-known process. These, by the way, Mr. Galton considers the best composites he has ever prepared. In point of beauty the composite portrait reproduced in *Science* is certainly of a high order, although the children from whom it was formed were all of poor families and the individual pictures are none of them specially fine-looking. Mr. Jacobs thinks that we have in this composite the nearest representation of the lad Samuel, or the youthful David. He also identifies the features of the captive Jews of Lachish in the Assyrian *bas relief* (B. c. 701) with the modern features, thus showing the persistency of the Jewish type. "If these Jewish lads," he says, "selected almost at random and with parents from opposite parts of Europe, yield so markedly individual a type, it can only be because there actually exists a definite and well-defined type of modern Jews."

Historically, Mr. Jacobs holds that the evidence also favors the purity of the race. The effect of proselytism has been exaggerated through neglect of the fact that only one small class, namely, the "Proselytes of Righteousness," so called, had the *jus connubii*. Then the strong penalties attaching to marriage in the early days, and other segregative influences, among them the existence of the *Cubanim*, (about five per cent. of all the Jews), who were forbidden to marry outside the race at all, combined to reduce the foreign element. Furthermore, it is pointed out that in all species, the male varies more than the female; indeed, variation in the latter produces a new species. But the variations of Jewesses are less than those of Jews. Finally, the less fertility of mixed marriages compared with

purely Jewish ones would cause a foreign element, even if introduced to grow less conspicuous. An intermixture of foreign blood amounting to one-tenth per cent. would, from the lessened fertility of mixed marriages, become, he estimates in two hundred years, only one-fiftieth. The popular belief as to the essential purity of the Jewish race would thus seem to have scientific corroboration.

#### THE VITAL STATISTICS OF MASSACHUSETTS FOR THE YEAR 1884.

DURING the year 1884, there were reported in the State of Massachusetts 48,615 living births, 17,333 marriages, and 36,990 deaths, which, with an estimated population of 2,037,390, makes the birth-rate 23.86, death-rate 18.15.<sup>1</sup>

The birth-rate is the lowest, with three exceptions since 1850, and 3.17 lower than the average of the thirty years ending in the year of the last census, 1880. It varied, as usual, according to the population, in the various cities and towns, the extreme this year being in round numbers, 30 in the large cities and 15 in the towns of less than 1,000 inhabitants. The ratio of males to females born alive was 105.4, quite near the average. There were 1,628 still-births, and 894 recorded as illegitimate. Native mothers bore 23,347 children during the year, foreign-born mothers 23,808, excluding 1,460 births of unreported parentage, the last census making 50.61 per cent. of the population of the State of purely native-born parentage. The distinction of native and foreign, however, is fast losing its significance, and 8,671 births in 1884 were of mixed parentage.

The marriage-rate is lower than in any other previous year except during the years 1875 to 1879. The average age of first marriages in men was 26.6 years, in women 24.1. There were 733 fewer marriages than in 1883, the financial depression showing itself, as always before, by a lessened ability in the community to marry.

There were 611 divorces granted, 110 to women, 201 to men; 278 for desertion, 163 for adultery, 79 for intoxication, 58 for cruel and abusive treatment, 22 for extreme cruelty, 9 for neglect to provide, 4 for imprisonment, 1 for impotency. The number of divorces annually, from 1865, has been 333, 392, 282, 339, 339, 379, 325, 312, 419, 617, 577, 525, 553, 600, 516, 580, 409, 515, 655, 611. The population in that time has increased from 1,267,031 (census) to 2,037,390 estimated.

If we assume that the population is correctly estimated (on the basis of 511,997 polls) the death-rate (18.15) is .80 below the average of the four years since 1880, 1.06 below the average from 1876 to 1880, 1.11 less than the mean from 1851 to 1880 and exceeded in every year except 1852, 1856, 1859, 1866, and 1867 since 1850. Of the total number of deaths, 20.91 per cent. were of children under one year of age,

32.33 per cent. under five. The "zymotic" diseases caused 21.1 per cent. of all the deaths, as compared with an average of 24.5 for the past ten years, the mortality from the most prominent nine being as shown in the following table:—

	Dysentery.	Typhoid Fever.	Whooping Cough.	Group.	Diphtheria.	Measles.	Scarlatina.	Cholera Infantum.	Small Pox.	Total.
1875	437	1,059	242	680	1,200	233	1,684	2,696	34	8,175
1876	417	881	192	684	2,610	47	1,232	2,087	31	8,171
1877	680	844	269	544	2,634	135	467	1,927	26	7,496
1878	662	679	400	783	1,334	303	401	1,573	2	6,482
1879	372	637	302	559	1,734	19	850	1,349	8	5,530
1880	395	882	230	625	1,769	236	574	2,118	38	6,867
1881	369	1,072	217	677	1,706	220	397	1,861	47	6,263
1882	358	1,079	265	494	1,258	68	318	2,150	45	6,163
1883	336	860	137	530	1,091	321	575	1,941	5	5,796
1884	254	875	410	562	1,084	75	627	2,081	3	5,971

The death-rate from pulmonary consumption continued its moderate decrease; the great increase in the rates from cancer, apoplexy, paralysis, insanity, heart-diseases and Bright's disease is maintained. From child-birth and puerperal convulsions the deaths for the last ten years beginning in 1875 are 317, 296, 227, 242, 204, 211, 205, 191, 193, 159, with an increase in the population in that time of not quite twenty-five per cent., perhaps indicating a gratifying improvement in medical practice. The total number of violent deaths 995, shows an increase from 831, the number in 1875, at very nearly the same rate as the increase in population; 112 were from burns and scalds, 59 from poison, 186 from railroad accidents, 426 from loss at sea and drowning, 3 from freezing, 34 from heat, 11 by homicide, 184 by suicide.

The number of deaths attributed to softening of the brain, apoplexy, paralysis, cephalalgia, and unspecified brain diseases has increased from 1,386 in 1860 to 3,669 in 1884, or at a rate *nearly two hundred per cent.* greater than the increase in the population. There can hardly be any assertion that any considerable part of this increase is due to improved diagnosis where the symptoms are so manifest, and it becomes a matter of great importance to ascertain how far it may arise from change in methods of living, immigration of poor stock or emigration of young active natives. The steady annual rise in the number of deaths from Bright's disease from 110 in 1870 to 619 in 1884, with an increase of only forty per cent. in the population, if partly or chiefly explainable by similar causes, must be largely due to greater accuracy in diagnosis. The highest mortality from Bright's disease is between the ages of 50 and 60.

There is a satisfactory improvement in the number of deaths from diarrhoeal diseases, which have diminished more or less steadily in ten years from 3,920 to 3,514 in face of an increase of about twenty-five per cent. in the population. In diphtheria, there has been an almost unbroken decrease since the height of the epidemic in 1876, but the mortality of the last two years was exceeded in each year from 1861 to 1865.

The mortality from pneumonia was .38 per cent. less than the average for the past ten years, a little more

<sup>1</sup> Forty-third Registration Report, edited by Dr. Frank Wells.

than one-half the deaths occurring in children under five years of age and in old people over sixty. In the order of fatality, the months were December 378, January 320, March 320, November 306, February 299, April 264, May 197, October 161, June 124, July 99, September 97, August 81.

The year was, on the whole, a favorable one, from the point of view of the public health. The decrease in the mortality from diseases which boards of health can control must be a gratification to those who have worked in the cause of practical sanitary science, in which our definit State Board of Health led the way. At the same time, the increase of diseases attributable to the less obvious faults and vices of concentrated populations in overwork, overcrowding, bad air, excesses of all kinds, and deterioration of stock is naturally a source of alarm, and suggests a hopeful result from labor among the young in that most fruitful field of effort, our public schools.

The report is a creditable one to the State and to its various editors whose intelligence and industry have made it what it is. We have always maintained, however, that there are manifest advantages in its being under the management of the State Board of Health, if we can have, as we now hope to have, an independent board worthy of the full support of the medical profession.

#### MEDICAL NOTES.

—A retailer of methylated spirits, in Glasgow, has been fined 20*l*. for each offence, having sold half-a-gallon of methylated spirits as a beverage, to two persons on the 9th of August last.

—A medical man in England recently objected to taking the judicial oath in the ordinary form, to wit, by kissing the testament, on the score of uncleanness and risk of infection. The judge refused to entertain this as a "conscientious objection" within the meaning of the act. The witness at length complied under protest. One is inclined to sympathize strongly with the compunctions of the witness on reflecting upon the number and miscellaneous character of the osculations performed upon the volume in an average court-room.

—A correspondent of the *Philadelphia Press* recently visited the dwelling of a poor landlady in Montreal, where he found two children ill with small-pox, and a third, as yet well, playing around the same room. "Why don't you have that child vaccinated?" exclaimed the reporter. "Ah! non, non!" said the mother, and she snatched up the little one in an involuntary fear that the objectionable virus might be surreptitiously introduced beneath the cuticle of her offspring. "Have the Board of Health been around?" "Yes, some one came and put up a notice." "Who pulled it down?" "Ah, je ne sais pas," replied the landlady. "Do you know the child is dying?" "Ah, yes, but I have to do the washing for madame's lodgers." "You don't mean to say that you are washing the clothes of an outside family?" "Oui, oui, certainement."

#### BOSTON.

—An old man at the south end of Boston, grandfather of a girl who was recently admitted to the small-pox hospital, has run away. The Health officers visited the house to vaccinate all who had been exposed to the disease, but just before the old man's turn came, he disappeared, and all attempts to find him have failed. How often it happens that the health and welfare of a whole community lie at the mercy of a single fool.

—There is now only one patient in the small-pox hospital.

—We regret to note that a prominent gynecologist of Boston has been subjected to a suit for malpractice by a woman whom he treated gratuitously, the claim being made that he performed an operation upon her against her will, the operation itself being unnecessary and improper. Moreover, that she was discharged from the hospital where she had been treated, at an unsuitable time. She lays her damages against the physician at \$10,000, and for a like sum against the hospital. The amount of "solace" claimed suggests the possibility that in the future the lacerated uterus may prove a greater source of profit to the professional adventurer than the traditional lacerated affections have in the past. Meanwhile, the physician has our sincere sympathy.

—The Massachusetts Veterinary Association, a body composed of regularly graduated veterinary surgeons, all practising in Massachusetts, held its first meeting at the Medical Library a few days since. Its objects are the elevation of veterinary science, and it will apply for articles of incorporation the coming winter. The officers are: President, Dr. Frank S. Billings, of Boston, now of the Polytechnic School of Medicine, New York City; Secretary and Treasurer, L. H. Howard, D.V.S., of Boston; Executive Committee, W. Dryden, D.V.S., W. T. Simmons, D.V.S., and J. M. Skally, D.V.S., all of Boston. The paper read was by Dr. Billings on the subject of "Tuberculosis." He criticized the present methods of milk inspection, which included only an examination of the milk, and paid no attention to the source of the milk, to wit, the cow. The great frequency of phthisis was considered to be due to a considerable extent to the use of tuberculous milk. The disease has not been found at the actual time of birth, but has been detected in calves in cases of premature birth, and in calves three months of age and upwards. The bacilli have been repeatedly found in milk from cows that had tuberculosis. The disease has invariably been produced in young animals when they were fed with the milk of their mothers so affected. Among cattle, the Jerseys are the most afflicted with tuberculosis. The only way to find a remedy for this disease is by inquiry and observation into its cause and effect. The conclusion was a recommendation that the matter be taken in charge by a board appointed by the State.

## Miscellany.

### ON TUBERCULAR MILK.

THE *Therapeutic Gazette* (Oct. 15, 1885), contains the substance of remarks on this subject by Dr. Bang, of Copenhagen, speaking before the last International Medical Congress meeting of that city. He pointed out that milk taken from the tubercular cow is probably a fruitful cause of tuberculosis in children. It must be admitted that the etiology of tuberculosis is still an obscure subject. Hereditary transmission, malnutrition and confinement, are no doubt, powerful causative agencies, though scarcely able to account for all cases. The fact that milk is the principal factor in the nutrition of children, and that tuberculosis is of such frequent occurrence in the early phases of life, leads naturally to the consideration of the question whether or not milk be one of the etiological factors of tuberculosis.

Bang declares that tuberculosis of the udder of milk-cows is by no means a rare affection, and is characterized by a diffused painless swelling of one, rarely of two portions of the udder proceeding without any constitutional implication. A gland thus affected furnishes in the beginning an apparently perfectly normal milk, while in a simple non-tubercular inflammation the milk is at once materially and conspicuously altered. The affected portion of the gland grows larger and harder, while the unaffected portions gradually diminish in size. The diagnosis is corroborated by the swelling of the supramammary lymph gland. This milk, then, though looking perfectly normal, contains, according to Bang, a great number of tubercle-bacilli. The question whether such tubercular milk may infect domestic animals and man can be only definitely settled by feeding experiments, though *a priori* it would appear quite possible. Of John's ninety-one experiments, thirty gave positive, fifty-nine negative results, while Bang's own experiments on five pigs and three rabbits all gave positive results. Besides, Dr. Bang quotes the case of a calf infected by the milk of a tubercular cow. Tubercle-bacilli having been observed by the author in the milk coming from an apparently healthy udder, it is possible that the milk of a cow be tubercular and no local manifestation on the udder be present.

Fortunately, the experiments of Bang showed that boiling of the milk killed the bacilli in every case, hence it is but prudent to resort to this process in every doubtful sample of milk.

### A CASE OF HYSTERIA IN THE MALE SEX.

A REPORT concerning a case of aggravated hysteria in a boy of ten years is given in the *Archives of Pediatrics*, September 15, 1885, having originally appeared in the *Deutsch. Med. Wochenschrift*, 16, 1884. As to the patient's family history, his grandmother on his father's side was epileptic. The patient suffered painful sensations in the course of the trigeminal and other nerves. After a time there appeared irregular action of the muscles, insteadness of the intellect, incontinence of urine during the day, and within a year and a half pains in the head, vomiting, amblyopia in the right eye, and emaciation. By the end of another half year all these symptoms, with the exception of irritability and perverseness, had disappeared, and were followed by the following series,

drumming with the feet, dizzy sensations, emprosthotonus, with rapid forward movements of the body, and without loss of consciousness. These symptoms appeared in paroxysms for twelve days. On the thirteenth, in place of the tonic spasm, there appeared spasmodic shaking, spasms of laughter, hallucinations, and loss of consciousness, amaurosis of the right eye, paresis of the right arm. Six days later the blindness and the paralysis had disappeared, and a general hyperaesthesia was developed, then amaurosis of the left eye lasting twenty-four hours was added. About this time the boy was removed from the house of his parents to a public institution. In three days he was well, nothing remaining of his old trouble save a decided excitability.

### AN HISTORICAL INSTANCE OF ALLEGED LATE MENSTRUATION.

PROBABLY there is no more striking illustration of the truth that a man is incapable of judging alleged facts belonging to a department of knowledge which he has never studied, says the *Medical News*, than was given by Gibbon in regard to the death of Asima, the mother of, Abdallah. The statement referred to is found in a note to the fifty-sixth chapter of "Decline and Fall of the Roman Empire." Abdallah had for months successfully sustained the siege of Mecca, but was finally compelled to yield, the city was taken, and he was slain. The tidings of his death were borne to Asima, and Gibbon states as a "physical effect of her grief for his death, the return at the age of ninety, and fatal consequences of her menses." The authority from whom Gibbon seems to have derived this remarkable statement was D'Herbelot; and, upon referring to his great work "Bibliothèque Orientale," 1777, it is found that this author not only asserts the return of menstruation in Asima in consequence of the profound emotion caused by her son's death, but that the flow proved fatal in five days.

Our contemporary remarks that a knowledge of human physiology would have saved Gibbon from accepting as a fact so marked a violation of physiological law. Such a flow as occurred in Asima's case was in no proper sense to be set down as menstruation—the very fact of its proving fatal would be an obvious objection, apart from any other, to accepting such view.

If so learned a man as Gibbon, one so little disposed to be credulous that he often leaned to incredulity, could repeat that which every intelligent physician would reject, it is not astonishing that the ignorant will accept the most absurd statements in regard to medical matters, and are so frequently made the prey of designing quacks. The narrative too, has a wider application, as indicated at the beginning of the note.

## Correspondence.

### ABUSES AND MISAPPLICATIONS OF MEDICAL CHARITY.

CHARITY ORGANIZATION OF THE CITY OF NEW YORK, CENTRAL OFFICE, 79 Fourth Ave., Nov. 6, 1885.

MR. EDITOR.—Will you kindly give notice in your next issue, that in compliance with many requests from officers in charge of medical institutions, the Charity Organization Society invites the Medical Staffs and the Boards of Managers of the several hospitals and dispensaries of the city, to meet at the hall of the New York

Academy of Medicine, on Friday, November 20th, at 8 A.M., to confer together concerning the existing abuses and misapplication of medical charity, and to consider how these abuses may be remedied, through the registration system and other facilities of the Charity Organization Society. Yours very truly,

CHAS. D. KELLOGG,  
Organizing Secretary.

### COCAINE FOR TEETHING.

MR. EDITOR,—I cannot find that cocaine has been employed to any extent for the relief of the local tenderness in teething children, and should be glad to obtain the experience upon this point of any brother physician. Furthermore, whether any one has derived benefit from the internal administration, in such cases, of any preparation of the hypophosphites would be a piece of valuable information.

Very respectfully yours,

EDWARD WIGGLESWORTH, M.D.

BOSTON, November 7, 1885.

### DEATH FROM UNDELIVERED PLACENTA.— CASE OF MALPRACTICE.

UPTON, MASS., Nov. 7, 1885.

MR. EDITOR,—In your issue of November 5th, J. Alban Kite, M.D., gives a thrilling account of "death from undelivered placenta, case of malpractice." The evidence therein given under oath by C. D. Marsh, shows most lamentable ignorance and carelessness.

Unless such cases as this are brought to light, and the public informed that such practice is *not* the way educated physicians generally do, then this State will swarm with irregulars, quacks and medical tramps of every hue.

I, for one, thank Dr. Kite for ventilating this case, and hope that our Legislature will wake up to the necessity of protecting the people from danger and death at the hands of pretenders and medical frauds.

Yours respectfully,

JEROME WILMARTH, M.D.

### THE CLIMATIC TREATMENT OF PHTHISIS.

DENVER, COLORADO, Nov. 3, 1885.

MR. EDITOR,—If I had the time, and could occupy your valuable space *ad libitum*, I should like to discuss the conclusions of Dr. Harold Williams, which appeared in your issue of October 1st, with reference to "The Climatic Treatment of Phtthisis." I will, however, by your permission, content myself with a brief notice of the fallacies, or instabilities upon which these conclusions are made to rest. It is indeed, true, that the opinions and published statements of climatologists can, on most every phase of this subject, be made to contradict each other; but that is no fair argument against a given statement of either fact or opinion, as the general tenor of the article in question would seem to assume. I have somewhere seen "one hundred and forty-four self contradictions in the Bible" ingeniously arrayed by some skeptic, who fancied he could convince himself or his readers of these "contradictions" by playing selected phrases in opposition to each other.

It is much to be regretted that the medical profession is not far enough along to be at harmony on this question of the "climatic treatment of phtthisis"; but the value of *climate* and *change* is none the less potent when they are given a reasonable chance to show their influence.

The trouble probably is that too much has heretofore been expected of climate *alone*, and too little been known of the diseased conditions to be overcome. The writer of this article has strong hopes that some future perfected knowledge of the life, growth and *climate* of the bacilli of tubercle, studied with reference to the experience of invalids under varying atmospheric conditions, will effectually settle these many discrepancies harbored by medical men on the subject of climate and consumption. He is very willing to

submit all he has ever written on climate to such enlightened verdict, for he feels confident he will not be judged to have been very far from right, since the elimination of bacilli tuberculosis, with their source of life and conditions of growth, seems to have been most facilitated by those conditions of climate he has always upheld, chief of which are dryness, cold, sunshine and elevation.

But to return to Dr. Williams's conclusions—who confers upon me the honor of stating that mine is "the nearest approach to a theory" he has been able to find "as to the effect of diminished pressure upon phthisical patients," and then goes on to quote that part of my argument<sup>1</sup> based upon the increased "rarefaction" of the air contained in the lungs *during inspiration*, which he attempts to combat as the *whole theory* without even mentioning the last half the argument, that of increased "pressure" during expiration. To quote my own words, "But expiration follows, and it is during expiration that the respiratory muscles have the greater power—greater because the muscles of expiration are in their normal condition for activity when the thorax is distended, and the thorax is *more distended* because it has to labor with more air."

It is not my purpose to dwell upon the consequences of this rarefied air process—the quickening and correction of pulmonary circulation of both blood and air, and the increased elimination of carbonic acid and the results of disease—but simply to show that my "theory" was not overthrown because it was not considered.

Again, Dr. Williams states that the advocates of high altitudes have not "given sufficient reasons for upholding their belief in the importance of dryness." He is respectfully referred to the writer's report on "Dryness," made to the Am. Climatological Association in 1884.<sup>2</sup> The argument based upon atmospheric dryness rests chiefly on the innocuousness of low temperatures, with a low relative humidity as compared with similar temperatures and a high per cent. of saturation, and on the augmented exhalation of moisture from the lungs, the air going in at a low and coming out at a high per cent. of saturation, and so producing an increased throwing off of inflammatory products, bacilli, etc.

Not being willing to admit the beneficial influence of dryness, which renders considerable changes in temperature comparatively innocuous, Dr. Williams sticks to the old hobby of *equability* in temperature, which, since the air of the sea is generally damp, is a favorable factor for that kind of air. But equability, being governed by atmospheric humidity, must necessarily cease to be the criterion by which to judge of the driest and sunniest health resorts, since these, in the United States, generally give the greatest mean daily and monthly variations in temperature.<sup>3</sup> The "shocks to the nervous system," and ill-effects of daily temperature changes, are unreasonably harped upon by the advocates of seaside resorts when speaking of the dry interior and unusually elevated sanatoria. A great change at the latter places is not more perceptible than a small thermometric change at the former, because of the difference in atmospheric humidity. This is a common experience with residents of Colorado.

As to the electric state of the atmosphere and favorable conditions for living out of doors in elevated sections, we can only account for the perversions of evidence which Dr. Williams shows in his paper, by a determination to believe in nothing, except that kind of climate which is now "knocked out" by his peculiar method of combat, namely, sea-air. As to his statement that mountain air, because the temperature is lower, "is opposed to the principles of hygiene in so far as it admits of less open-air exercise and prevents a suitable ventilation of the houses," there could

<sup>1</sup> The Rocky Mountain Health Resorts. An analytical study of Elevations, with reference to the cure of Chronic Pulmonary Diseases. Houghton, Mifflin & Co., Boston, Publishers. 8vo, pp. 91 to 94. 2d Edition.

<sup>2</sup> "Moisture and Dryness" with eight Signal Service Humidity and Cloudiness Charts of the United States. Rand, McNally & Co., Chicago.

<sup>3</sup> See "Moisture and Dryness" already mentioned, or the Border Tables, on either the Author's Annual or Seasonal Climate Maps of the United States. Rand, McNally & Co., Chicago.

be nothing more misleading; for the evidence of all the physicians from Cheyenne, Wyoming, south through Colorado, and around through New Mexico and Arizona, would be that, despite the cooler temperature and the uniformly cold nights, due to elevation, no section of country half so large has a climate comparable with this for the time that can be healthfully spent out of doors. As to the "prevalence of winds" among the mountains it is as well to bear in mind that the fourteen windiest places, according to the reports of the 136 signal stations in the United States since their establishment, are on the coast, excepting the exposed Pikes Peak and Mt. Washington stations.

I think the statement that the sea air is "purer" than the mountain air is erroneous, for you can rise in the latter till its purity becomes absolute, while in the former you

will have to go north or south till you reach the regions of almost perpetual congelation to find the same absolute freedom from germs. This is in accordance with the analysis of the air made by Professor Miquel at the Observatoire de Montsouris near Paris, who found less germs in the air (namely, none at all), at six thousand feet above sea level than in the air out at sea.

In conclusion, I will suggest to Dr. Harold Williams, and to all others who, like him, are sceptical as to what Colorado, New Mexico, and Arizona can do for phthisical invalids, to visit these sections and personally examine what the evidence is worth, which is deemed by physicians heretofore to be so conclusive.

Respectfully yours,

CHARLES DENISON, M.D.

# REPORTED MORTALITY FOR THE WEEK ENDING OCTOBER 31, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	535	190	16.80	19.80	4.32	1.80	7.02
Philadelphia	427,985	327	96	16.74	—	1.24	3.10	9.92
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	167	66	16.75	17.11	4.72	2.36	4.72
Baltimore	408,520	148	47	19.80	16.50	2.64	3.96	9.90
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	—	—	—	—	—	—	—
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,370	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	35	6	11.44	20.02	—	5.72	2.86
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	30	4	30.00	15.00	15.00	10.00	—
Charleston	52,286	26	8	8.58	31.32	—	—	—
Lowell	44,051	26	8	19.25	26.45	3.85	—	15.40
Worcester	68,383	16	4	37.50	6.25	6.25	6.25	25.00
Fall River	56,863	12	3	25.00	8.33	—	8.33	—
Cambridge	59,060	12	11	50.00	16.66	8.33	—	33.33
Lawrence	38,825	—	—	—	—	—	—	—
Lynn	45,861	00	2	11.11	22.22	—	—	11.11
Springfield	37,577	—	—	—	—	—	—	—
Somerville	29,982	3	—	—	33.33	—	—	—
Holyoke	27,894	9	5	11.11	22.22	—	—	11.11
New Bedford	33,333	13	5	7.69	7.69	—	—	—
Salem	28,084	10	2	10.00	20.00	—	—	—
Chelsea	25,709	5	1	20.00	—	20.00	—	—
Taunton	23,674	13	—	—	33.33	—	—	—
Gloucester	21,713	6	1	—	16.66	—	—	—
Haverhill	21,795	—	—	—	—	—	—	—
Newton	19,759	3	—	—	—	—	—	—
Brookton	20,783	—	—	—	—	—	—	—
Malden	16,407	2	1	—	—	—	—	—
Newburyport	13,716	—	—	—	—	—	—	—
Waltham	14,049	5	1	40.00	40.00	—	40.00	—
Fitchburg	15,375	—	—	—	—	—	—	—
Northampton	12,896	51	11	25.48	25.18	11.76	*1.96	11.76
86 Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,143; under five years of age 402; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 256, consumption 220, lung diseases 123, diphtheria and croup 115, diarrheal diseases 52, typhoid fever 10, malarial fever 17, scarlet fever 13, cerebro-spinal meningitis seven, whooping-cough seven, purpural fever three, measles two. From malarial fever, New York eight, Baltimore four, Philadelphia and Charleston two each, New Haven one. From scarlet fever, New York and Philadelphia four each, Boston three, Providence and Salem one each. From cerebro-spinal meningitis, New York three, Fall River two, Philadelphia and Baltimore one each. From whooping-cough, New York four, Philadelphia, Charleston and Boston one each. From purpural fever, New York two, Boston one. From measles, New York and Providence one each.

In 101 cities and towns of Massachusetts, with a population of 1,228,015 (population of the State 1,911,465), the total death-rate for the week was 15.08 against 11.38 and 15.57 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,896,446, for the week ending October 10th, the death-rate was 17.6. Deaths reported 3,011; infants under one year of age 829; deaths in London 1,300; acute diseases of the respiratory organs (London) 231, diarrhoea 97, whooping-cough 51, scarlet fever 19, fever 12, measles 38, diphtheria 21, small-pox (London) two.

The death-rates ranged from 13.8 in Wolverhampton to 28.1 in Preston; Birmingham 15.6; Blackburn 11.8, Hull 16.8; Leeds 17.7, Leicester 13.8, Liverpool 22.5; London 16.7, Manchester 22.7; Nottingham 51.1.

In Edinburgh 14.4, Glasgow 19.6, Dublin 21.1.

For the week ending October 10th, in the Swiss towns, there were 24 deaths from consumption, diarrheal diseases 17, lung diseases 12, whooping-cough three, typhoid fever three, diphtheria and croup two.

The death-rates were: at Geneva 13.2, Zurich 5.8; Basle 16.6, Berne 25.1.

The meteorological record for week ending October 31st, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Saturday, Oct. 31, 1885.																		
Sunday, . . . 25	30.244	45.1	50.9	37.8	83.0	73.0	82.0	79.3	N.	S.E.	S.W.	6	7	C.	C.	C.	—	—
Monday, . . . 26	30.135	46.7	56.4	38.0	90.0	84.0	83.0	85.7	E.	W.	W.	0	10	C.	C.	C.	—	—
Tuesday, . . . 27	30.037	55.6	68.1	44.1	80.0	37.0	69.0	73.3	W.	W.	W.	10	9	G.	C.	C.	—	—
Wednesday, . . . 28	30.101	50.2	54.8	47.3	95.0	92.0	100.0	95.7	W.	E.	E.	3	13	G.	G.	G.	—	—
Thursday, . . . 29	29.706	52.0	54.9	49.3	100.0	92.0	100.0	97.3	E.	E.	N.E.	14	26	G.	O.	R.	—	—
Friday, . . . 30	29.406	45.0	52.1	36.9	100.0	53.0	83.0	92.0	N.	N.	N.	14	14	R.	R.	O.	—	—
Saturday, . . . 31	29.598	37.7	46.8	32.9	71.0	37.0	67.0	68.5	N.W.	N.	N.	16	14	O.	F.	O.	38.40	1.25
Mean, the Week.	29.946	47.5	53.0	40.9				83.4										

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; K., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM OCTOBER 31, 1885, TO NOVEMBER 6, 1885.

MCLELLAN, ELY, surgeon and major. Leave of absence granted in orders, Cav. Depot, Jefferson Barracks, Mo., October 30th, is extended seven days. S. O. 234. A. G. O., November 4, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 7, 1885.

KINDLEBERGER, DAVID, medical director. Granted leave of absence to June 30, 1886, with permission to leave the United States.

WIEBER, F. W. F., assistant surgeon. To remain on receiving ship "Vermont" until May 15, 1886.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDING OCTOBER 31, 1885.

AUSTIN, H. W., surgeon. To proceed to Portland, Maine, on special duty, October 31, 1885.

CARTER, H. R., passed assistant surgeon. When relieved, to proceed to New Orleans, La., and assume charge of the service, October 27, 1885.

BATTLE, K. P., assistant surgeon. Granted leave of absence for thirty days, October 27, 1885.

WILLIAMS, L. L., assistant surgeon. To proceed to Chicago, Ill., for temporary duty, October 28, 1885.

#### ERRATA.

For Dr. Ephraim Cutter on page 454 of the last issue of this JOURNAL read Dr. William B. Cutler.

#### SOCIETY NOTICE.

SUFFOLK DISTRICT MEDICAL SOCIETY.—OBSTETRIC AND GYNECOLOGICAL SECTION.—There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, November 18th, at 7.15 o'clock. Communications: Dr. William A. Dunn, "An Unusual Case." Dr. J. P. Reynolds, "Every-Day Cases of Labor, Prepared with some Reference to the Ether Question." Gentlemen are requested to bring specimens, new instruments, or apparatus to exhibit at any meetings of the Section, and are requested to send to the secretary, as early as possible, the titles of any papers or communications they may wish to present. Launch after the meeting. JAMES R. CHADWICK, M.D., *Chairman*. ROBERT B. DIXON, M.D., *Secretary*.

#### BOOKS AND PAMPHLETS RECEIVED.

Alpine Winter in its Medical Aspects, with Notes on Davos Platz, Weissen, St. Moritz, and the Maloja. By A. Tucker Vise, L.R.C.P., M.R.C.S. Second Edition. London: J. & A. Churchill, 1885.

A Guide to the New Pharmacopœia (1885) containing an epitome of the changes, etc. By Prosser James, M.D., Lecturer on Materia Medica and Therapeutics at the London Hospital. London: J. & A. Churchill, 1885.

Observations on the Cause and Treatment of Infantile Eczema and Allied Eruptions. By Henry T. Byford, M.D., of Chicago. (Reprint from Journal of American Medical Association, August 17, 1885.)

Miscellaneous Reprints. By James Craig, M.D. Jersey City, N. J.

Applied Medical Chemistry; a Manual for Students and Practitioners of Medicine. By Lawrence Wolff, M.D. Philadelphia: P. Blakiston, Son & Co.

The Science and Art of Midwifery. By Wm. Thompson Lusk, A.M., M.D. New Edition Revised and Enlarged, with numerous Illustrations. New York: D. Appleton & Co. 1885.

Transactions of the Medical Association of the State of Alabama. The Report of the State Board of Health, Thirty-Eighth Annual Session, 1885. Montgomery: 1885.

Methods of Research in Microscopic Anatomy and Embryology. By Charles Otis Whitman, M.A., Ph.D. Illustrated. Boston: S. E. Cassino & Co. 1885.

Quarterly Station-List of Officers of the Medical Department and Hospital Stewards, United States Army, October 1, 1885. Washington.

Transactions of the New Hampshire Medical Society at the Ninety-Fifth Annual Session. Held at Concord, June 16-17, 1885. Manchester, N. H., 1885.

The Therapeutic Significance of the Cervical Follicles. By Simeon Baruch, M.D. (Reprint from the New York Medical Journal.) June 27 and July 4, 1885.

Tracts on Massage, No. II. The Pathological Effects of Massage. Translated from the German of Reijmayer, with Notes by Benjamin Lee, M.D., Ph.D. Philadelphia, 1885.

A Sanitary Survey of St. Louis. Being a Series of Short Papers on Leading Public Health Topics contributed by City Officials and Local Sanitarians, with an Appendix, Edited by George Homan, M.D. Concord, N.H.: Republican Press Association, 1885.

The Therapeutics of High Temperatures in Young Children. By Wm. Percy Watson, A.M., M.D. Jersey City, N. J. (Reprint from Archives of Pediatrics, September, 1884.)

Suggestions on Some Symptoms of Renal Disease and Their Management. By Charles W. Purdy, M.D., of Chicago. (Reprint from Journal American Medical Association, September 12, 1885.)

New York Cancer Hospital. First Annual Report, 1885.

A Case of Moral Insanity; with Removal of the Ovaries and Recovery. By W. B. Goldsmith, M.D., Superintendent of Danvers Lunatic Hospital. (Reprint from American Journal of Insanity, October, 1883.)

The Care of the Insane at Home and Abroad. By Wm. B. Goldsmith, M.D. (Reprint from Proceedings of Twelfth Conference of Charities and Correction.)

Iritis: its Relation to the Rheumatic Diathesis and its Treatment. By Chas. J. Lundy, A.M., M.D. (Reprint from the September number of the Physician and Surgeon.)

The Principles and Practice of Surgery, by John Ashhurst, Jr., M.D., etc. Fourth Edition Enlarged and thoroughly Revised. With 597 Illustrations. Philadelphia: Lea Brothers & Co. 1885.

Post-Mortem Examinations with Especial Reference to Medico-Legal Practice. By Prof. Rudolph Virchow. Translated by T. P. Smith, M.D.; with additional Notes and New Plates. From the Fourth German Edition. Philadelphia: P. Blakiston, Son & Co. 1885.

## Original Articles.

ON DEATH BY DROWNING.<sup>1</sup>

BY F. W. DRAPIER, M.D.,

Assistant Professor of Legal Medicine in Harvard College.

THE discovery of a dead body floating in the water, or cast upon the shore, presents to the medical examiner four problems for his solution:

- I. The identification of the person dead.
- II. The cause of the death.
- III. The manner of the death.
- IV. The interval since death.

I propose to discuss these topics very briefly in the light of my own observations during the past eight years. This experience has had as its material the personal inspection of one hundred and forty-nine dead bodies rescued from the harbor, river and other open waters abounding in Suffolk county, or cast upon the land after having been in the water, or found in tanks, privy-vaults, bath-tubs and the like, after domestic submersion. Of this number one hundred and twenty-four were males and twenty-five were females. All ages were represented, from the new-born infant, at one extreme, to the melancholy veteran of seventy-five at the other; but nearly all were under fifty years old. As would be expected, the influence of season showed itself in the fact that a majority of the inspections occurred between May and November, the deaths predominating then because accidents incidental to bathing and sailing are then most common, and because the bodies of persons perishing by submersion during the winter months appear subsequently for the first time when the ice has gone and putrefaction brings them to view as the warmer days approach.

The first question which confronts the medical examiner when he is called to view a dead body recovered from the water is, "Who is this person?" Occasionally it is a question of much difficulty and requires considerable attention. Like other floating material, a dead human body may be borne upon a stream or by the tide many miles from its point of departure, and identification may thus be rendered increasingly difficult by distance. In March, 1879, a boy was accidentally drowned in a creek in Waltham; twenty-seven days later his body was found on the South shore of the Charles River in Boston, ten miles away from the scene of the drowning. Again, time is an element of importance in facilitating identification. Putrefactive changes speedily destroy the facial characteristics and render recognition by the features impossible. But, fortunately, these cases which have to be recorded as "unknown" are very few. The friends of missing persons are on the alert to see all dead bodies which the newspapers announce to have been found, and generally the clothing and personal effects afford a ready means of identification. Of the one hundred and forty-nine dead bodies forming the basis of this paper, only twelve were buried unidentified, leaving out of the account the bodies of new-born infants thrown into the water after premature birth or still-birth.

Sometimes attention to seemingly trifling details in the description of dead bodies and their clothing is repaid by speedy and positive identification. For example, on one occasion, the dead body of a laboring man,

accidentally drowned in the course of a drinking-bout, was recovered after many days in a thoroughly decomposed condition; into the published description of the clothing, I inserted the small matter that one of the shoes was laced with an ordinary shoe-string, while the other was provided with a piece of white cotton twine as a lacing; this peculiarity attracted the notice of the dead man's relatives and led to the prompt recognition of the body. In another instance, a woman's body was brought to the morgue; on her back was a square of belladonna plaster, marked on the outside with the letter and number of a hospital bed and ward; this therapeutic clue served readily to establish the identity. The value of clothing as a means of identification was illustrated, in a negative way, in a case of a man whose body was forced by the tide under one of the wharves which skirt the city's water-front: the body was nude, and though a full description of its characteristics was published, and a sufficient time and opportunity were allowed for its inspection, no one appeared who was able to state the name and home of the unfortunate bather.

But the really important question for our study to-day is the purely medico-legal problem—the *post-mortem* diagnosis of death by drowning. When a dead body is found in the water, the presumption is that the water was the cause of the death and that the person perished by submersion. To verify or refute that presumption by an inspection and autopsy of the body is, under some circumstances, a most responsible and delicate duty. The question is sufficiently easy and simple if the death was recent and the body presents none of the changes due to putrefaction; it is difficult and presently becomes impossible of solution in proportion to the advance of cadaveric decomposition.

Upon a body twenty-four hours after death by drowning, the demonstration of fatal asphyxia by submersion is a satisfactory medico-legal study, with rare exceptions; twice twenty-four hours later, the most valuable and trustworthy signs may have wholly retreated before the skirnish-line of putrefaction. That these fortunately fresh bodies constitute a small fraction of the material offered to the medical examiner for his investigation, the experience of all of us readily attests. Commonly, we are confronted with the hideously inflated, horribly distorted, nauseously infected cadaver, whose stench fills our nostrils and our memories for many days; or we view with any other than the æsthetic sense, the remnant of mortality rescued from the sea, the skull bereft of its natural covering, the eyes long ago gone from their sockets, the nose and the lips likewise departed and exposing a grinning display of teeth, the hands, like the other accessible soft parts, appropriated by the fishes for nutritive purposes; but the clothing and every pocket and fold thereof alive with all manner of skipping and wriggling and slimy marine parasites, rendering a faithful search for the "money and other valuables" mentioned in the law, a critical test of the medical examiner's zeal. Such subjects, vulgarly called "floaters," may well lie under the presumption that they died in and by the water from which they were taken, unless an obvious external lesion, like a pistol-shot wound or a fracture of the skull, is observed upon the body and leads to another course of inquiry and to the demonstration of another cause of death.

What, now, are the *post-mortem* appearances which the examiner may rely upon for a diagnosis of death

<sup>1</sup> Read before the Mass. Medico-Legal Society, June 2, 1885.

by drowning? In the first place, what external indications are of value, assuming that the body under inspection is that of a person who, in drowning, came to the surface at least once before final submersion, that the interval since death is brief, and that the recovery from the water was but a little time before the examination?

The sign which I regard as of the first importance, superior to all others, is the presence of froth at the mouth and nostrils. When it is present in its typical development, it affords, in my belief, sufficient evidence to establish by itself the cause of the death. It is to be distinguished from the coarser gaseous bubbles which putrefaction brings to view at the lips and which the old women who "lay out" corpses note with interest; it is fine, light and delicate, like the foamy lather of the best shaving soap. Sometimes it has a pink tinge, and occasionally a distinctly marked red color, from the blood which has become intimately mixed with it in the course of its formation in the air-passages. It is found after drowning in any kind of fluid and under all circumstances (with the possible exception of cases in which the person drowning sank immediately without once returning to the surface for air, although of this exception some excellent authorities express doubt.) I remember to have seen it very fully developed in the case of a child who was drowned in a privy-vault. It is a very evanescent sign and may not be expected after an interval of four days after death in winter and of sixty hours in summer. Its appearance externally is due to its escape and overflow from the trachea and bronchi where its primary formation occurs.

The color and condition of the skin are of interest. In the recently drowned body, promptly recovered from the water, the condition of the skin so far as lividity is concerned, is not remarkable over regions situated below the clavicles; the face is either deeply injected so that it presents a mottled purplish color, with marked reddening of the conjunctivæ and engorgement of the ears and lips, or there is a dull sodden lividity; or, not uncommonly, there is the same pallor which characterizes the rest of the body. Whatever the hue may be at the outset, it does not persist, but a significant change presently occurs. After an interval varying from a day and a half to four days (or even later in winter), the face, without being swollen, as at a later stage when decomposition is fully in progress, assumes a uniform, dull red or copper color, not mottled or in streaks, but equally distributed. Ogston explains this change as arising from the action of the oxygen in the air or the water, but the precise nature of the process he does not make clear. A little later, but long before the rest of the body, protected by the wet clothing, shows any alteration, the face becomes swollen and distorted, the lips protrude, and the eyelids are distended, in consequence of the advance of decomposition.

*Cutis asserina*, though generally observed upon the bodies of the drowned which have come under my inspection, has, in my belief, very little diagnostic value. Its presence indicates a vital reaction in the skin, but not necessarily caused by contact of cold water with the skin. Casper<sup>2</sup> ascribes its formation to mental shock rather than to the effect of cold on the body, and he states that he has observed it upon those drowned in the heat of summer, and frequently,

also, upon those who have died otherwise than by drowning, though by violence, as by shooting, hanging, stabbing, falls and the like.

The blanching and wrinkling of the skin of the hands and feet and knees, formerly set down as among the signs of death from drowning, are now recognized as simply the physical effect of water upon the cutaneous tissues, whether living or dead.

It has not been my fortune to observe that important sign of drowning—the presence of substances grasped in the hands. Where this evidence exists, it is unquestionably a very valuable aid to diagnosis, providing the matters found in the hands are identical with those growing or floating in the water, and provided, also, the grasp of the hands upon these substances is the grip of cadaveric spasm indicating a vital act. The same rule holds here as in other cases of instantaneous rigidity: that the closure of the hand upon its contents must be more than a mere flexion of the fingers; it must be a true death-grip to give it value as a post-mortem sign.

The situation of the tongue is insisted on by some authors as important, and the examiner is advised to note whether it is engaged and more or less protruded between the teeth, or is in its normal place. In nearly every instance in which I have recorded a note on this point, the tongue has been observed in its normal relation to the teeth; in a few cases, its tip has been found engaged between the teeth, and sometimes it has been swollen and closely apposed to the palate. I have never seen it protruded between the lips.

Let us turn, now, to the appearances which the internal examination reveals. Upon raising the sternum, after the primary longitudinal incision, the increased volume of the lungs at once arrests attention. The organs are fully expanded so as almost to conceal the pericardium. They do not retract when the sternum is lifted, but they bulge forward into, and, to some extent, through the exposed space. This appearance is described by Casper as "truly thanatognomonie," and he explains it as "in part an actual hyperæmia in consequence of very violent inspiratory acts carried on at the momentary emergences of the head of the drowning person above the surface of the water, and partly (and chiefly), in consequence of the inhalation into the lungs of the fluid in which the drowning has occurred." Dr. Ogston has attributed this condition to the presence of water or watery fluid in the pleural cavities; and the protrusion of the lungs is caused, in his opinion, by the buoyant organs floating above this fluid when the controlling pressure of the sternum is removed. This does not seem to me to be an adequate explanation, since in many cases in which I have observed the appearance to a marked degree, the amount of fluid in the pleural cavities was small, wholly insufficient indeed, to float the lungs.

To the touch, as well as to the sight, the lungs present characteristic indications. They feel like edematous tissues, pitting on pressure. They show sometimes, the oblique impress of the ribs.

Careful inspection discovers the air-vesicles to be fully distended at the surface of the organs, and quite extensive areas of ruptured cells are sometimes seen under the pleura, as in emphysema.

The external color of the lungs is not uniform, according to my observation. Sometimes, the organs are of a pale gray color, both anteriorly and posteriorly; more frequently, hypostatic reddening is seen, the an-

<sup>2</sup> *Handbook of Forensic Medicine* (Sydenham Ed.), II, 231.

terior parts remaining pale. In other cases, where the subject is plethoric, the entire pulmonary surface has a red or purplish hue. Much depends on the individual habit, on the interval since death, and on the position of the body in the interval. I remember one case which illustrates the influence of blood-supply. A woman committed suicide by drowning while in a condition of melancholia, induced by the progressive growth of uterine fibroids, which she regarded as incurable; they had caused repeated and profuse hæmorrhages, so that at the time of her death she was very anæmic. The lungs presented, on post-mortem examination, a singularly pale appearance throughout, the amount of blood in the body being insufficient to give to those organs any marked reddening, either superficially or upon the cut surfaces.

In the majority of my cases, I have observed punctate sub-pleural ecchymoses, generally few in number and situated in the lower parts of the lungs, and most frequently, in the fissures between the lobes. They vary in size, the largest scarcely exceeding the size of a millet seed.

Upon section, the lungs almost invariably show clear indications of death by submersion. These indications include a more or less intense reddening of the pulmonary tissue; the abundant saturation of the lung with fluid which escapes, as in œdema, on the slightest pressure, from the entire cut surface; and the presence of froth and fluid in the air-passages from the trachea onward to the smallest bronchioles. In a few instances, I have found sand or mud in the trachea and larger bronchial branches. When the body has been recovered early from the water, I have regarded these evidences of the penetration of water and other foreign matters into the respiratory passages as valuable diagnostic indications; but the interpretation of these appearances as signs of vital acts, should, in my belief, be guarded, since we know experimentally that water may penetrate the ultimate structure of the lungs when a dead body is left sufficiently long and in a favorable position in the fluid. But if, with the water, I have found in the air-passages, the fine, foamy froth previously described, I have not been left in doubt concerning the cause of the death, since it is impossible to explain the formation of this product in any other way than by the violent respiratory acts of the person submerged; it is a sufficient proof that the body, now dead, was alive when it entered the water.

The heart has almost constantly been found in a condition indicating death by asphyxia; its right cavities have been filled with blood, its left ventricle being generally contracted and empty. The condition of the heart in this respect was in harmony with the hyperæmia of the lungs usually present and due to the same cause.

The blood has always been found of a dark color, and generally of fluid consistency. In rare instances, I have observed clots in the right ventricle, but they were small, ragged and soft.

The appearances about the abdominal group of organs I believe to be of slight diagnostic importance. One generally finds the vessels of the peritoneum and mesentery fully injected, and engorgement of the spleen, kidneys and liver, consistent with the asphyxia, which was the predominant factor in the cause of the death.

The presence of water in the stomach has been deemed by some authors a sign of much value in the

determination of death by drowning, indicating that the fluid was swallowed in the course of the submersion. When the stomach contains water or other fluid or material identical with that in which the body was found (a matter sometimes of difficulty to determine), it is clearly a very trustworthy evidence, since we know experimentally and upon good anatomical and physiological grounds that water does not penetrate to the stomach of the dead subject, and, hence, that its presence there is a proof of vital action. Thus, when we find salt water, or dock mud, or bits of sea-weed in the stomach, we recognize a good confirmatory sign of death by drowning. But one is not always fortunate in discovering this sign; in many of my cases, the stomach has been found either empty or containing food with very little fluid. In one case of suicidal drowning, a pint and a half of quite clear water was noted; in another case, twenty fluid ounces of watery fluid, mixed with mud, betokened the act of swallowing in the course of the drowning. Where drowning occurs in clear, fresh water, it would require a very nice discrimination to set aside the possibility that the water contained in the stomach had not been voluntarily taken to satisfy thirst a short time before the submersion.

In about half my cases, I have observed a marked injection of the meningeal vessels and appearances indicative of hyperæmia of the brain; but I have not regarded this as among the more reliable guides to a post-mortem diagnosis, since cerebral congestion may result from so many conditions immediately antecedent to drowning but wholly independent of that act.

Now, if I should summarize the various anatomical proofs of death by submersion which my experience and study have taught me to regard as most trustworthy, I should state them thus. They fall naturally into two groups, namely, those indicating the generic cause of death (asphyxia) and, secondly, those especially showing that the death was by submersion. Of the former class of signs, the distended right cavities of the heart, the engorged lungs, the subpleural punctate ecchymoses, the evidences of hyperæmia in the liver, spleen and kidneys, and to some extent also in the brain and its meninges, the reddening of the tracheal and bronchial mucous membrane, the dark, un-oxygenated color and the fluid condition of the blood readily occur to mind as almost uniformly present. Of the second or specific group of proofs that the asphyxia was the result of submersion, I name the following as the more important: Froth at the lips and nostrils and in the trachea and bronchi; water in the bronchi either with or without mud and other foreign matters; extreme distension of the lungs; superficial pulmonary emphysema; water in the small bronchioles and in the vesicular structure as shown on the free escape of the fluid from the cut surface of the lung; thin, clear fluid in the pleural cavities; water, particularly muddy water, in the stomach. As confirmatory signs I would mention *cutis anserina*; the presence of objects held firmly in the hands and clearly derived from the water in which the body was found; blanching of the skin of the palms and soles; marked lividity of the face, with injection of the conjunctivæ.

Close upon the determination of the cause of the death, follows the scarcely less important medico-legal question, its manner. Was the life destroyed with suicidal purpose, or by homicidal violence, or was it lost accidentally. It must be admitted that the solu-

tion of this problem is in great measure a police rather than a medical matter. The phenomena of drowning do not differ materially whether their subject falls into the water, or jumps in, or is pushed or thrown in; and the anatomical appearances, both internal and external, are not susceptible of differentiation from that point of view. The material circumstances of the death, upon which almost wholly a decision concerning its manner must rest, though falling outside a strictly limited medical examination, may nevertheless come to the medical examiner's knowledge through the statements of eye-witnesses; or they may be inferred with sufficient accuracy from the condition of the body when found. Thus, the discovery of a naked body in the water, in summer, leaves little doubt that accidental drowning occurred while the person was bathing; while suicide is reasonably to be inferred when the examiner's search through the clothing is rewarded with the discovery of stones or other heavy objects in the pockets, or when he finds, as in one of my own cases, a flat-iron tied to one of the ankles. Homicidal violence by drowning is a more difficult matter. It is true that this form of homicide is of the rarest possible occurrence, and that the chances that death in any given case was either by accident or suicide greatly preponderate; yet the examiner should not allow himself to be misled by the doctrine of chances, but he should be on the alert perpetually for evidences of crime. These evidences, so far as the anatomical appearances go, are to be found in the presence of lesions indicating resistance. But there is need of caution even here, as one or two illustrations may serve to show. In one case to which I was summoned, the body of a German brewer was found in a large tank in the basement of a brewery; entrance to this reservoir was possible only through a chute or shaft, about two feet square, leading from an upper story. The body showed unequivocal indications of death by drowning; but in addition, there were contusions upon the face and scalp not easily to be explained by the fall through the shaft. It would have been easy to entertain the theory that the man had become engaged in a quarrel with one of his fellow-workmen and had been thrown down the shaft into the water when disabled by the blows on his head. But investigation demonstrated that the ecchymoses about the head were the result of blows received two days before the death in the course of an altercation in a beer-saloon, and letters were found which indicated that the mortification growing out of the punishment which he had received from his opponent was one of the incentives which led the man to drown himself. In another instance, the body of a man was found floating in Charles River. At the inspection, I found behind the ear a contused wound of the shape of the letter H, the longest part of the wound measuring an inch and three-quarters, and its deepest part penetrating to the skull. It was such a wound as a blow with a rough stone or some similar weapon could have made, and its appearances clearly indicated that it was received before death; the skull was not fractured. The other anatomical appearances were those of death by drowning, and the inference was reasonable that the man might have been assaulted, struck heavily on the head and thrown into the water while incapable of resistance. For a month, the man's identity remained unknown; and thus the facts relating to his death were also hidden. But, at length, the woman with whom he had lodged identified

his clothing and stated that two days before his body was found, he had come home late at night, very drunk, with his head wounded and bleeding and his clothing much stained with blood, appearances which were caused, according to his story, by his falling down some stone steps. It was learned that, in the course of this latest inebriety he was discharged from his usual place of work, and the fair conclusion was that, being out of money and out of employment, he destroyed himself in the despondency resulting from his financial and alcoholic misery.

Thus the signs of violence are not to be hastily interpreted. Moreover, the additional caution is to be borne in mind that under certain circumstances wounds found upon the bodies of the drowned are the results of injuries received by striking upon jutting rocks or upon bridge-timbers; or were produced upon the dead body in the efforts to recover it from the water. On the other hand, it is not to be forgotten that the entire absence of marks of violence upon the body of a person drowned is not inconsistent with the fact, otherwise established, that the death was by homicide: a man overcome suddenly by more than one assailant, and, by garroting, made incapable of self-defence; a woman similarly overpowered by muffling her head in a shawl to stifle her cries; a child without any such preparation for a violent death, all these might easily be tossed into the water and their dead bodies would reveal to the medical examiner the signs of death by drowning only.

Among the cases of accidental or suicidal drowning that have come under my notice, one or two deserve a word on account of their peculiarities. A man, in low spirits as the result of intemperance, tried ineffectually to obtain a supply of laudanum one midnight under false pretences, and in the morning was found dead in his bath-tub, with only his underclothing on his body, and with his head immersed deeply in a pail of water in front of which he was kneeling. A child, two years old, was left alone in a room in which was a large butter-tub containing five inches of water; after five minutes' absence, the mother returned to find her child head downward in the tub and dead by drowning.

Of the one hundred and forty-nine cases which have supplied the basis of this paper, ninety-two were cases of accidental drowning; and of these ninety-two, twenty-one were bathing casualties, chiefly among boys under fifteen years old. The sudden and furious tempest of July 16, 1879, occurring while many pleasure parties were sailing in the harbor, yielded thirteen of these victims of accidental drowning.

A common and natural question addressed to the medical examiner as he stands over a dead body just brought to land, is "How long has this body been in the water?" Certain writers on legal medicine declare their ready ability to determine this problem by means of the phenomena of progressive putrefaction which the body presents. I have studied this point with considerable care and I confess that the practical fruits of my study are unsatisfactory. I cannot answer the question with any degree of precision except within very narrow limits. In a case of death by drowning, the circumstances of which are wholly conjectural at the time of the inspection, one can say with sufficient confidence, this death occurred within twelve hours, or yesterday, or the day before yesterday; but I contend that one is using his guessing privileges unscrupulously when he tells the reporters, with an affectation of em-

dor, that the drowning occurred a month ago, or six weeks ago, or ten days ago; he really does not know and cannot know with the anatomical appearances as his only guide. I offer one or two instances in illustration. Among the victims of the gale above mentioned, were three men, of nearly the same age and physical condition, and, so far as is known, exposed to identical post-mortem influences; two of the bodies were recovered July 27, eleven days after the storm, and the third was brought ashore two days later; in all three of these, the appearances were the same as Devergie describes as proper for dead bodies recovered three and a half months after submersion, the most striking feature being the entire loss of the soft parts from the skull and from the hands. In another instance, a party of young men were sailing May 30, 1883, and two of their number, H. and B., aged twenty and twenty-one, were drowned by the swamping of their yacht; the body of H. was recovered June 21, and that of his comrade came ashore June 22d, or, respectively, twenty-two and twenty-three days after death. In the case of H., all the soft parts of the head and face were cleanly removed, and both hands were gone; while in the case of B., besides the loss of both hands, the head was missing and the cervical vertebrae were as clean as if they had been macerated and artificially articulated; the skin of the abdomen was adipoceros. These examples serve to teach us caution; they recall the fact that the problem is not a simple one and that, if the processes of putrefaction have begun their work upon the body under inspection, a considerable degree of reserve is requisite in its answer. These views are in harmony with Casper's observations touching the conditions "of which, as yet, we know nothing," which modify the advance of decomposition, and the case which he cites to demonstrate this is sufficiently convincing. "On the 20th of March, 1848," he writes,<sup>3</sup> "I examined the bodies of fourteen, almost all of the same age, twenty-four to thirty years, previously occupying the same social position, all lying together in the same part of our dead-house, who had all met the same death, having been shot on the barricades on the 18th of March, and had all died at the same time. Here there certainly existed those identical conditions so necessary for instituting a comparison, and yet I can testify that in no one case did the signs of putrefaction resemble those of another." With such an authority to teach us moderation, it well becomes us to avoid dogmatic assertions about matters of uncertainty.

—Consular reports show that during the week ending November 4, there were 233 deaths from small-pox in Montreal, and 89 in adjacent municipalities. In Toronto one death occurred October 28, the first from the disease in the city. Kingston is free from the disease.

—According to the last United States census there are 563 establishments in this country devoted to the proprietary medicine business, employing 1,015 operatives, with an aggregate investment of capital amounting to 10,620,000 dollars, and the annual product is valued at 14,682,000 dollars.

UNIFORMLY CONTRACTED, NON-RACHITIC PELVIS. THREE SUCCESSIVE PREGNANCIES TERMINATED RESPECTIVELY BY PREMATURE DELIVERY, VERSION AND FORCEPS. FRACTURE OF THE COCCYX.<sup>1</sup>

BY F. H. LOMBARD, M.D.

MARCH 1st, 1885, I was called in consultation by Dr. J. W. Elliot, to see a patient then in labor whose history briefly is as follows:

Mrs. C., age thirty-six, III para. Born in Halifax, N. S., of English parents. Father died of Bright's Disease of the kidneys. Mother living. Was a seven months baby, the fourth of fourteen children. Learned to walk at nine months, had none of the usual diseases of childhood. Catamenia appeared in thirteenth year. After one year she became regular and has continued so ever since. Menstruation every four weeks, four to five days, abundant. Slight dysmenorrhœa. Was married in September 1878, when twenty-nine years old. August 22d, 1879, after a labor lasting ten hours, gave birth to a seven months child that weighed at birth five pounds, and lived twenty-six days.

March 19th, 1881, Dr. A. T. Cabot, with Dr. W. L. Richardson in consultation, delivered her at full term of a male child weighing eight and a half pounds.

The account of this confinement, which was of extreme interest, was published in full by Dr. Cabot in the *Boston Medical and Surgical Journal* of October 5th, 1882, from which I quote the following extracts:

"Waters broke at the outset, and after twelve hours of good pains, the head had not engaged in the pelvis. Version by Dr. Cabot, assisted by Dr. Richardson. Trunk and arms easily delivered, but the head became arrested at the brim. Forceps to the after-coming head, and as strong traction as possible. Delivery at the end of what seemed to be ten minutes. The child, apparently dead, revived after fifteen minutes of artificial respiration, and still lives. The mother's convalescence was uninterrupted good until the thirteenth day, when the appearance of a sudden chill led to the discovery of a peri-nephritic abscess, from which she recovered slowly."

I first saw the patient with Dr. Elliot, on Sunday, March 1st, 1885, and learned the following details. On the Tuesday previous the membranes ruptured suddenly as she was getting out of bed, and quite a gush of water came away. From that time there was occasional dribbling of amniotic fluid and intermittent pains. Active pains began at midnight, February 28th, and continued strong and frequent through the following (Sunday) morning.

The head which was presenting would not, however, engage in the pelvis, and as the os dilated very slowly, and the patient began to show signs of exhaustion, the question of etherizing, dilating the os and turning, was entertained.

Under the effect of chloral, however, pains became less frequent and more effective, and at the time of my visit at 3 P. M. the os was three-fourths dilated and the head in the position O. L. A. was well down in the pelvic cavity and fixed.

The outlet of the pelvis was felt on examination to be narrowed both in the transverse and the antero-posterior diameters, the tubera ischii being abnormally

<sup>1</sup> Read by invitation before the Obstetrical Society of Boston, April 11th, 1885.

<sup>3</sup> Handbook of Forensic Medicine (Sydenham Ed.) I, page 32.

near together, and the finger impinging at once upon the coccyx as soon as it entered the vagina.

It was agreed that ether should be given and the forceps applied at once without awaiting complete dilatation of the os. This was done, and as much traction as possible employed. The head, which was small, advanced slowly until it reached the outlet. At this point, the projecting coccyx could be felt grasping the head like a claw, and indenting the scalp. To drag the head by this without fracturing the coccyx was impossible. It snapped with a dull sort of click that was distinctly felt and heard. The head was then delivered without difficulty, the perineum sustaining a very slight tear to the right of the median line, not enough to require sutures. The child was a girl.

Weight 7½ lbs.	
Length	51 cm. = 20 in.
Largest circ. of head,	37 " = 14½ "
Occipito Frontal diam.,	11 " = 4½ "
Occipito Mental,	13 " = 5 "
Sub-Occipito Bregmatic,	8 " = 3½ "

Placenta was expelled in ten minutes. Vaginal examination, while the patient was still under ether, showed that separation of the coccyx had taken place at its junction with the sacrum. No crepitus could be detected, and although the detached fragment was freely movable, there was little displacement.

Convalescence was perfectly normal and free from pain. I examined the patient yesterday morning and took the following measurements:

	Maximum weight, 164 lbs.	Normal.	Mrs. C.
Height,	161	143 cm. = 4 ft. 8½ in.	
Circ. of Pelvis,	90	77 "	
Iliac Crests,	28	22 "	
Ant. Iliac Spines,	25	19 "	
Trochanters,	33	25 "	
Ext. Conjugate,	18-20	16 "	
Diag. Conjugate,	13	9 "	
True Conjugate,	11	7 "	
(R. Ext. Oblique,	22	20 "	
(L. " " "	22	20 "	
N. B. Tip of Coccyx to			
Pubic Arch,	9.5	6.5 "	
Height of Pubes,	5	5 "	
Post. Sup. Spines,	11	14 "	
Tub. Ischii,	11	6.5 "	

This, then, was a case of uniformly contracted, non-rachitic pelvis. That it was non-rachitic is shown by the fact that the normal relationship between the iliac spines and crests was preserved. Also, there was nothing in the history or the development of the patient pointing to rachitis. That it was a uniformly contracted and not simply a flattened pelvis is shown by the shortening in the transverse as well as the antero-posterior diameters of both inlet and outlet. While the true conjugate of the inlet was reduced from 11 centimeters to 7, and of the outlet, from 9.5 centimeters to 6.5, the distance between the crests, iliac spines and trochanters were reduced from 28, 25 and 33 centimeters to 22, 19 and 25, respectively, and the distance between the tubera-ischii was reduced from 11 centimeters to 6.5.

As to the aetiology. It seems to have been simply a case of incomplete development. She was born at the seventh month. Her form was perfect in every particular, and the pelvis simply kept pace with the rest of the skeleton, which was perfect in every part, but fashioned on a small scale. This pelvis, therefore, was not one of those that preserve their infantile shape in adult life, with straight sacrum, slightly developed alae of the ilia, acute-angled pubic arch, etc. On the contrary, at puberty it broadened out to the best of its ability, and in adult life showed the perfect proportions of an adult pelvis, but of diminutive size.

The chief points of obstetric interest attaching to the third confinement are:

1. Early rupture of the membranes.
2. The question as to the advisability of performing version or delivery with high forceps.
3. Fracture of the coccyx.
4. The fact that adopting the forceps as the method of delivery furnished an opportunity of comparing the results of the three methods—premature delivery, version, and forceps—as exemplified in successive labors in the same pelvis.

The early rupture of the membranes would have added to the difficulties of turning had this been decided upon.

As to the question of preference between high forceps and version, this has been pretty unanimously decided in favor of the latter, the grounds for this preference being too well-known to need mention here.

The fracture of the coccyx was unavoidable, and it would have been as serious an obstacle to the after-coming head as to the head in advance. It was attended by no ill results to the mother, who would not have known of its occurrence had she not been told of it a month after delivery.

On examination yesterday (five weeks after delivery), the coccyx was found to have re-united with the sacrum, though with a slight lateral deviation, which will be favorable rather than otherwise in the event of a subsequent pregnancy.

Should this occur, what method of delivery would be advisable? Nature led the way with a premature delivery at the seventh month. The result for the mother was better than in either of the subsequent confinements. The child was born alive and without injury. It lived twenty-six days; had it had the benefit of two weeks more of intra-uterine life, it might still have been living.

In the second confinement, at term, the head was so large that it refused to enter the pelvis. Version, of course, had to be performed, and the delivery of the after-coming head proved to be exceedingly difficult.

The child, an unusually bright boy of four, still bears the unequivocal signs of the difficulty of the extraction in two deep indentations in the skull, one in the centre of the occipital and the other near the posterior inferior angle of the right parietal bone. There is also a decided droop to the right shoulder due to the atrophy of the trapezius of that side, occasioned undoubtedly by prolonged pressure on the spinal accessory nerve at time of his birth, which Dr. E. H. Bradford, who kindly saw the case with me yesterday, says will probably disappear entirely under treatment.

Would version have been better than low forceps in the last confinement? It seems to me not, and for these reasons:

1. The risk to the mother from septic infection is undoubtedly greater when the cavity of the uterus is entered by the hand.
2. Injury to the soft parts from an after-coming head that hitches at the brim and that meets with obstacles to its progress throughout the whole canal (as is the case in a diminutive pelvis like the present), would be greater than from a head delivered by forceps after it had entered the cavity of the pelvis.
3. The risk to the child would be greater from the danger of prolonged pressure on the cord, owing to the difficulty of delivering the head after the extremities and trunk are born, a danger which is not so prolonged

and not so great where narrowing exists only at the inlet.

In a subsequent pregnancy I should, therefore, advise in the interest of both mother and child, induction of premature delivery at about the thirtieth week. If pregnancy should be allowed to go on to term, I should try to encourage the engaging of the head in the pelvis by bimanual manipulation and not perform version unless the fetal heart or the mother's condition made it imperative.

## REPORT ON PROGRESS IN ORTHOPEDIC SURGERY.

BY E. H. BRADFORD, M.D., AND R. L. BURRELL, M.D.

### LATERAL DEVIATION OF THE SPINE.

F. R. FISHER<sup>1</sup> claims that a distinction should be made between deviations and curvatures of the spinal column, and states that much of the confusion regarding causation and the results of treatment is from lack of this important distinction.

Mr. Fisher figures three cases of so-called curvature of the spine; only one of these, he claims, is a curvature of the spine, the two others are deviations of the spinal column.

In a curvature of the spine he considers that there is rotation of the bodies of the vertebrae, whereas in a deviation of the spinal column there is no rotation.

He suggests the term, lateral bending, for a class of cases which occur in young girls who are overworked and underfed, the servant of the lower classes, girls educated at "cheap establishments for young ladies," those working in the second-rate drapery shops, and such like; it is also met with in those who have suffered from long illness of an exhausting nature, and in those affected with that defective condition of health commonly described as general debility.

Frequently accompanying this deformity is that mental condition which tends to exaggerate any bodily derangements. The hysterical complication generally appears at a late, and not at an early, stage of the affection, which must not be confounded with the so-called "hysterical spine."

### LATERAL CURVATURES.

Fischer<sup>2</sup> recommends in the treatment of scoliosis of a light grade, an attempt at correction by an elastic force. A band is placed around the shoulders like a figure of 8, bandages crossing behind and connected to an elastic strap which passes downward from the right side and forward over the breast and belly to a perineal band passing around the upper part of the left thigh.

In this way the right shoulder will be pulled forward and down, and the left hip up—as is desired in the correction of the ordinary form of lateral curvature. If the curvature is of the opposite type, the straps should be placed pulling from the left instead of from the right shoulder and to the right instead of the left hip, and if the curve is a single instead of a double curve, namely, if the right shoulder is raised and the right hip lowered, the strap should pass around the front of the body and the left side and be connected to a perineal band on the right thigh.

Walslam<sup>3</sup> generalizes from ninety-eight cases of

lateral curvature observed by him for two years. He thinks the following points are to be noted in recording cases: (1) The spinous process which deviates most from the median line. (2) The amount in distance of this variation. (3) Amount of the height of the elevated shoulder. (4) The height of the angle of the scapula. (5) Deviation of this from the vertical. (6) Height of the hips. (7) In what direction the thorax rotates. (8) The circumference of the thorax at the height of the vertebrae deviating from the vertical the most.

The cases were treated in a variety of ways and the following conclusions reached: (1) All lighter cases should be treated by gymnastics. (2) Appliances can be combined with gymnastic treatment. (3) Even in the severer cases gymnastics should be employed, and in event of failure corsets can be employed. (4) Corsets alone, however, never result in cure, rarely in improvement, and sometimes do not prevent an increase of deformity.

### OSTEOTOMY FOR ANCHYLOSIS AFTER HIP DISEASE.

The indications for this operation as given by Dr. Poore<sup>4</sup> are first, to correct all adduction of the limb, and second, to reduce or increase the flexion to an angle of 125° to 135° with the pelvis. This angle he has found by experience is the most useful one for a patient's limb to be fixed in.

He states that out of 132 cases of simple osteotomy through the neck of the femur and between and below the trochanters, twelve patients died, a percentage of 9.19. The fatal cases occurred in the early history of the operation, and of late years he does not know of a single fatal case, and he "would place an osteotomy, so far as danger goes, in the same class as a tenotomy."

### DISPLACED SEMILUNAR CARTILAGE.

Mr. Annandale<sup>5</sup> reports a case of this injury in a miner, when he made an incision along the upper and inner border of the tibia, parallel with the anterior margin of the internal semilunar cartilage, and after having secured a few superficial vessels, opened the joint. He then found that the semilunar cartilage was completely separated from its anterior attachments, and was displaced backwards about half an inch.

The cartilage was drawn forward into its natural position, and held there by three chromicised catgut stitches which passed through it and the fascia and periosteum covering the margin of the tibia.

The wound in the synovial membrane was closed by catgut stitches, a splint and a plaster-of-Paris bandage were applied, so as to keep the joint at rest.

Five months later the movements of the knee-joint were perfect.

### OSTEOTOMY.

Alfred Willett<sup>6</sup> gives the results of one hundred osteotomies. For genu valgum and varum, McEwen's or the supracondyloid operation and Reeve's modification of Ogston's, or the intercondyloid operation were the operations performed; the former by far the oftener, inasmuch as of eighty-two osteotomies upon forty-nine patients, no less than seventy-nine of these operations upon forty-seven patients were performed by McEwen's method, leaving only three oper-

<sup>1</sup> Lancet, February 28, 1885, p. 378.

<sup>2</sup> Centralblatt f. Chirurgie, No. 24, p. 417.

<sup>3</sup> St. Bartholomew's Hospital Reports, 1881. Vol. xx, p. 195.

<sup>4</sup> United States Medical Journal, May 16, 1885.

<sup>5</sup> British Medical Journal, April 18, 1885, p. 479.

<sup>6</sup> Bartholomew's Hospital Reports, Vol. xx, 1884, p. 59, 70.

ations upon two patients as having been submitted to Ogston's operations. Mr. Willett expresses the decided opinion that McEwen's operation fails to give an ideal result in the extreme cases of deformity.

In one case of genu valgum the deformity was so great that the leg formed nearly a right angle in its outward deflection; on this case he did a McEwen's transverse section of the femur, and found that on bringing the limb straight the lower fragment threatened to perforate the integument at the outer aspect of the thigh; he therefore placed the limb in as good a line as possible, lessening the deformity at least two-thirds and in this line allowed it to unite.

This case he believes would have been corrected by Reeve's modification of Ogston's or the intercondyloid method of osteotomy.

In a case of genu varum in which he attempted to divide the femur by McEwen's operations, he failed; he had carried on the operation in the customary way, until he had, as he thought, made a sufficient division of the femur with the chisel, which having been withdrawn, he attempted to fracture the remaining undivided layer on the posterior aspect of the bone, when, to his surprise, the lateral ligament gave way, and the leg at once fell into the desired position. He feels quite sure that he was not using more force than he ordinarily had employed. He has seen the lad recently and the limb is quite straight and useful. He has done eighty McEwen operations under full Listerian precautions. He is zealous in his praise of the safety and effectiveness of this operation. He has had one case where a very thin splinter of bone necrosed and came away; and another where a "considerable-sized piece" of the chisel broke off and was left in the bone—a matter apparently of no moment, for in this, as in another osteotomy, the after-progress gave no indication of anything unusual having occurred.

In one case of genu valgum which he attempted to forcibly straighten by Guérin's plan, shortly after Professor Guérin visited London and explained his method, he was obliged on the fifth day to abandon treatment, as his patient became so ill. Improvement in the patient's general condition quickly followed, but with scarcely any improvement in the position of the limb.

Six weeks later he did McEwen's operation and straightened the limb; the patient recovered without any fever or pain. All of his patients, with a very few exceptions, have perfect use of the limb, but all bear trace of the operation in an outward curve, more or less decided, in the lower fourths of their thighs.

Mr. Willett prefers the section of the neck of the femur by the chisel for the correction of hip-joint ankylosis.

#### BRUISEMENT FORCÉ—SUPPURATION.<sup>7</sup>

Oberst reports a case of ankylosis of several joints without evidence of active disease, ending in acute suppuration and death after forcible straightening. The patient was narcotized, and the ankle, left knee, left elbow and hand, were forcibly straightened. Fever followed and an abscess formed, leading to death by gradual exhaustion. At the autopsy, a fracture of the femur was discovered. In a second case, with old ankylosis of the knee, suppuration followed and amputation was necessary. Two other similar cases were also seen by the writer, and illustrated the point emphasized by the writer, that a slight amount of force will sometimes be sufficient to wake up a long dormant

process, and that this method should be employed with great caution in cases of ankylosis after acute tuberculous affection, excision being probably less dangerous.

Szuman<sup>8</sup> mentions an equally serious result of forcible straightening of the knee of a child in apparent health, death ensuing from general tuberculosis following the brisement forcé. Little force was employed, but an elevation of the temperature followed, and rapid loss of weight, with cough. A diagnosis of general tuberculosis was made, which was confirmed at autopsy. A caseous focus was discovered at the head of the tibia.

#### TUBERCULOUS JOINT DISEASE AND GENERAL TUBERCULOSIS.

In a paper on the above subject,<sup>9</sup> Dr. F. S. Dennis summarizes as follows:

*First.* Scrofulous abscesses are dangerous, because in them bacilli tuberculosis may develop, and from these abscesses, as infective foci, general dissemination may proceed in the form of acute milary tuberculosis.

*Second.* That tuberculous joint disease can produce general infection, or acute milary tuberculosis.

*Third.* That traumatism may act as one of the many exciting causes to develop tuberculous joint disease, provided the conditions are favorable.

*Fourth.* That traumatism alone will not develop tuberculous joint disease, except when certain conditions are present.

#### TUBERCULOSIS OF THE TENDINOUS SHEATH.

Beger<sup>10</sup> distinguishes between primary and secondary form of this affection, which may be suppurative or not, circumscribed or diffuse, distributed over the whole sheath of the tendon. The prognosis is unfavorable. Of the four cases reported, amputation was necessary in two. In the other cases, extirpation of the tuberculous tissue led to a permanent healing. The conservative, non-operative treatment is of no value, and massage is particularly to be avoided.

#### SPINAL ARTHROPATHIES.

Hamilton<sup>11</sup> states that the joints most frequently affected in cerebral or spinal affections are the hip or knee, and usually only one joint is severely involved, though in rare instances, several joints may be attacked, and reports a case of this sort where the ankle, fingers, thumbs, shoulder, hand, and left knee. The local edema in joint affection of nervous origin begins suddenly, and diminishes as the destruction of the joint proceeds.

#### ON THE TREATMENT OF RICKETS BY PHOSPHORUS.

Meyer<sup>12</sup> reports his results in ninety-two cases of rickets treated by phosphorus (0.1 per cent. solution in cod liver oil or in emulsion).

In twenty-seven, were the digestive disturbances greatly improved. In twenty, the general condition was better to a marked degree. In six, the pain in the bones became diminished. Twelve of the cases still remained under treatment; thirty-eight either died of some intercurrent disorder, or passed out of observation. In forty-two, the result gained was quite satisfactory.

#### RESECTION OF THE VERTEBRAL BODIES.

Mayd<sup>13</sup> mentions the case of a man twenty-six

<sup>7</sup> Centralblatt f. Chir., No. 29, 1885, page 517.

<sup>8</sup> New York Medical Journal, Dec. 27, 1884, page 713.

<sup>9</sup> Centralblatt f. Chirurgie, No. 26, 1885, page 451.

<sup>10</sup> New York Medical Journal, 1884, Vol. XLII., page 97.

<sup>11</sup> Inaug. Diss. Kiel, 1885, Centralblatt f. Chir., No. 77, page 175.

<sup>12</sup> Wiener Med. Presse, 1884, No. 42.

<sup>13</sup> Centralblatt f. Chir., No. 21, 1885, page 364.

years old, with vertebral disease following an injury with paraplegia, operated upon by him. After experimental dissections on animals, section of the spinal cord, and suture of the dura, he found that some of the animals survived and recovered from the procedure, and was induced to cut down upon the spinal column of his patient, and chiselled out the ninth, tenth, and eleventh vertebral arches, laying bare the spinal cord, which was found compressed by a piece of bone, which was chiselled out and removed. The patient recovered from the operation without difficulty, but the final result is not reported.

#### WRY NECK.

Volkmaun<sup>14</sup> advocates the open incision of the sterno-mastoid in severe cases of wry neck, followed by correction, by weight and pulley extension.

He has been able to examine microscopically portions of the contracted muscle, and from his observations inferred that there was no evidence of cicatricial tissue indicating a rupture of the muscle, which has by some been supposed to cause the deformity. The change discovered indicated rather an extensive previous inflammatory process of the muscle, the muscle in some cases having been completely transformed into fibrous tissue. No fatty degeneration of the muscle or atrophy was seen.

The advantage claimed for the direct incision of the sterno-mastoid is, that more thorough division of the deeper tissue is possible than by subcutaneous incision.

#### TUBERCULOSIS OF THE KNEE-JOINT.

Willmer<sup>15</sup> has collected the cases of knee-joint tuberculosis in the Göttingen Clinic in seven years, and generalized from the statistics. The treatment varied and is grouped as follows:

Plaster-of-Paris bandage preceded by extension and with or without incision of abscesses, curetting of sinuses, 35 per cent.

Partial resection, typical resection, amputation, 65 per cent.

The mortality in the cases not resected or amputated was 28 per cent., for the cases so operated, 32 per cent., and the mortality directly due to operation, 25 per cent.

The cases are grouped according to the age at which disease began —

49 per cent. were treated without resection or amputation, and 51 per cent. with, where the disease began before ten years of age; 23 per cent. without operative interference, 77 with, in cases where the disease began between ten and twenty years of age; and where the disease began after twenty, 74 per cent. were resected or amputated and 26 per cent. conservatively.

Classing the cases together, 40 per cent. made a good recovery; 20 per cent. made a poor recovery, or the result was uncertain; 30 per cent. died; 10 per cent. underwent amputation and removal. In regard to the shortening following treatment, the writer found that it was often not worse after conservative than after operative treatment (that is, excision). The contraction of the limb, which frequently takes place, appears to exercise an interference in the growth of the tibia, in a few cases a lengthening of the femur took place, but not usually. In regard to the time

necessary for cure in cases operated on and in those not operated on, accurate statistics are with difficulty obtained; the writer classifies his results as follows:

Of those not operated upon in three years 19 per cent. had recovered; 15 per cent. died; 66 were not well. In four years, 26 per cent. had recovered; 17 died; 57 not well. In five years, 24 per cent. had recovered; 21 had died; 55 not well. Taking all the cases (those operated and not operated), at the end of five years, 13 per cent. were well without operation; 37 were resected, with a mortality of 51 per cent.; 11 per cent. had been amputated, with a mortality of 60 per cent.; and 29 per cent. had remained not well.

#### ANCHYLOSIS OF THE JAW. — RESECTION.

Ranke<sup>16</sup> reports two successful cases of resection of the articulations of the jaw, and prefers König's incision along the lower border of the zygoma, to the vertical incision as avoiding the facial nerve. He also in certain cases prefers to leave the coronoid process, except when after removal of the articulating process, the opening of the jaw is interfered with. Kulenkampf also reports a similar case.

#### SPINA BIFIDA.

Langenbeck<sup>17</sup> reports a case of spina bifida lumbalis cured by one hundred iodine injections. The lower extremities remained, however, weaker than normal.

#### CLUB-FOOT.

In a paper on club-foot read to the Medical Society of Pennsylvania, Dr. De Forest Willard<sup>18</sup> reviews the literature of the subject and concludes that —

*First.* Even severe cases of talipes should not be considered incurable by moderate means, simply because they have relapsed after imperfect treatment by either surgeon or patient.

*Second.* In children under ten, even in extreme degrees of deformity, powerful manual force, with subcutaneous division of all the contracted tissues, will restore the foot without section of the bones, and should be first attempted. The degree of force required may be very great, but even if carried to rupture of tarsal ligaments, still leaves the injury subcutaneous. Should the hand fail, screw power is allowed.

*Third.* Fixation by gypsum splints in the straight position for a few weeks, followed by persistent manipulation, and the use of apparatus, will give a better walking foot than is attainable by resection.

*Fourth.* Tarsotomy is a valuable operation in cases which defy ordinary treatment, especially in adults, where the bones are irreducible and the ligaments strong. The operation should always be done antiseptically. The removal of a wedge-shaped piece is preferable to either excision of the astragalus or of the cuboid, the latter giving the poorest results.

#### CLUB-FOOT.

Bessel-Hagen,<sup>19</sup> at the German Surgical Congress, read a paper upon the subject of club-foot. In the congenital form all portions of the foot are altered, and the chief change is not limited to the Chopart

<sup>14</sup> Centralblatt f. Chirurgie, April 1, 1885.

<sup>15</sup> Deutsche Zeitschrift f. Chir., 1885, 21st Bd., Hft. 4.

<sup>16</sup> Centralblatt f. Chirurgie, No. 21, 1886, and No. 24, 1885.

<sup>17</sup> Centralblatt f. Chir., No. 24, 1883, p. 38.

<sup>18</sup> Trans. Soc. of Penn., xvi, 381.

<sup>19</sup> Centralblatt f. Chirurgie, No. 21, 1885.

articulation, but in the shape of the astragalus, especially in the neck of the astragalus.

Excision of the astragalus is to be preferred to a wedge-shaped tarsotomy if the soft parts are spared.

Wolf<sup>19</sup> argued that operative interference was rarely if ever needed, and showed a case of congenital deformity in a patient nineteen years old corrected in nineteen days without tarsotomy.

Hirshberg also opposed the idea that excision was necessary.

#### OPERATIVE TREATMENT OF CLUB-FOOT.

Lorenz<sup>20</sup> has collected one hundred and forty-seven cases operated upon by excision of the tarsus. The methods of operation are classed as: 1. Osteotomy of the scaphoid and tibia. 2. Enucleation of the cuboid and astragalus with and without the removal of the end of the external malleolus. Removal by curette of spongy portion of the astragalus, leaving the cartilaginous surfaces untouched. Enucleation of the astragalus and removal of a vertical wedge of the anterior surface of the os calcis. 3. Enucleation of the astragalus cuboid and scaphoid, or of the astragalus cuboid and scaphoid, or of simply the scaphoid and cuboid. 4. Resection of the head of the astragalus, resection of a portion of bone on the outer side of the neck of the astragalus, resections of wedge-shaped portion of bone at the medio-tarsal articulation.

Of these but two will be likely, according to the reporter, to come into general use—one, removal of the astragalus chiefly in children, and the other, wedge-shaped resection of the tarsus in adults.

Enucleation of the astragalus is sufficient to enable the foot to be brought to a right angle, except in the rare cases where the calcaneus is united to the posterior surface of the tibia. Supination of the calcaneus can be corrected by removal of the astragalus, though in severe cases, the end of the fibula must be removed too. Supination of the whole foot is not directly corrected by removal of the astragalus, though the correction by appliances is made more easy, but in severe adult cases more bones have to be removed. Out of one hundred and sixty cases only two deaths are reported.

The writer believes that resection should be reserved only for cases of deformity remaining after a thorough operative attempt at forcible correction, a treatment which is sufficient in a large number of cases.

#### NON-DEFORMING CLUB-FOOT.

Dr. Shaffer<sup>21</sup> describes a condition of the tarsus, under the name of non-deforming club-foot.

"The state of affairs consists of a shortening of the inner half of the foot. The inner part of the foot contracts, antero-posteriorly principally, with the result of making the plantar arch noticeably hollow just posterior to the junction of the first metatarsal bone with its phalanx. The two inner metatarsal bones assume a position more nearly approximating a vertical line, and the whole of the inner half of the distal part of the foot is thrown out of normal relation to the rest of the foot and the body.

"The flexors of the ankle-joint proper are unable to perform the act of flexion; owing to the plantar resistance of the gastrocnemian resistance, or both.

"All those who have non-deforming club-foot, when

asked to flex the ankle put the toes in extreme extension in the effort to accomplish ankle-joint flexion.

"An awkward gait is apt to occur with gastrocnemian shortening and slight plantar trouble; while pain, 'gouty big-toe joints,' and disability are apt to occur when the plantar troubles are in excess."

If one places the patient in a recumbent, and asks him to flex the ankle keeping the knee straight, he cannot bring the "ball of the foot" into the normal plane of the heel, the former dropping from one-fourth to three-fourths of an inch below the latter.

The resistance cannot be overcome by voluntary muscular effort.

The two extensors come prominently into play, and, in some cases the phalanges assume a position nearly at right angles with the long axis of the first metatarsal bone.

If one tries manual pressure when the foot is in this position, one finds that the resistance formed by the plantar and posterior tibial muscles cannot be overcome, the resisting tissues are simply made more tense.

Dr. Shaffer gives five different causes: *First*, non-deforming club-foot seen after polio-myelitis anterior; *Second*, non-deforming club-foot which follows simple and uncomplicated malpositions, habit, etc. *Third*, non-deforming club-foot produced by traumatism, sprains, etc.; *Fourth*, non-deforming club-foot found after the infectious diseases of childhood, especially diphtheria and scarlet-fever; *Fifth*, the non-deforming club-foot due, as I believe, to some remote trophic disturbance, and seen quite frequently co-existing with true lateral curvature."

#### ASTRAGALOID OSTEOTOMY FOR FLAT-FOOT.

Mr. Stokes<sup>22</sup> renders the parts to be operated on aseptic, and makes an incision, an inch and a half in length along the inner edge of the foot, the centre of this incision being at the prominence formed by the head of the astragalus. At the centre of the incision, another is made at right angles to it, and a little behind the situation of Chopart's joint; and the two triangular flaps of skin are dissected back for about half an inch. A wedge-shaped piece of bone from the enlarged head and neck of the astragalus is then removed with an osteotome, and it is then found that by adducting and supinating the foot, the arch was perfectly restored. Mr. Stokes exhibited casts of the feet thus operated upon, and the results were very satisfactory.

#### CEREBRAL INFANTILE PARALYSIS.

Strumppell<sup>23</sup> states that this affection occurs frequently in the first year of life. It is an acute affection and occurs without apparent cause; it is ushered in with vomiting, fever, general convulsions and unconsciousness. These symptoms quickly disappear, and as a sequence one finds a complete paralysis of one-half of the body, which in its turn quickly disappears, in part. In some cases the paralysis is a monoplegia. There is never any degenerative atrophy of the muscles, though the growth of the limb is retarded. The affected limbs have an exaggerated tendon reflex, and there are frequently slight contractures.

Subsequently these patients suffer from epileptic attacks. Athetosis is a very frequent accompaniment.

The seat of the disease is supposed to be in the gray cortical substance in the motor region.

<sup>19</sup> Wiener Klinik, 1894, Heft 15, p. 26.

<sup>20</sup> New York Medical Record, May 23, 1886, p. 561.

<sup>21</sup> British Medical Journal, April 18, 1885, p. 789.

<sup>22</sup> Centralblatt für Klinische Medicin, January 31, 1885.

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## Reports of Societies.

## THE NEW YORK ACADEMY OF MEDICINE.

STATED MEETING, November 5th, 1885.

## REPORTS OF SECTIONS.

Reports of meetings were made by the President of the Section of Obstetrics and Diseases of Women and Children, Dr. Alexander S. Hunter; the President of the Section of Practice of Medicine, Dr. Alfred L. Loomis, and the President of the Section of Neurology, Dr. Putzel.

Dr. D. B. ST. JOHN ROOSA read a

SKETCH OF THE LIFE OF JAMES LAWRENCE LITTLE, M.D., AND OF THE TWENTY-FIVE YEARS IN WHICH HE PRACTISED SURGERY IN NEW YORK.

Before receiving his diploma at the College of Physicians and Surgeons, in 1860, Dr. Little success-

fully passed a competitive examination and was appointed a junior assistant in Bellevue Hospital. The latter institution was just then coming into some importance as a school of surgery, and chiefly through the clinics of the late Dr. James R. Wood and his prizes for anatomical preparations offered for competition among the medical colleges; but it had much more importance as a school of medicine. As Dr. Little's tastes were especially inclined to surgery, when he graduated he resigned his position at Bellevue, and, after examination, he was appointed junior assistant in one of the surgical divisions of the New York Hospital. A resignation in one hospital to take a similar one in another was something unusual, and it was said at the time, that it caused a little unpleasant feeling among the staff at Bellevue, for Dr. Little was well known to some of them, and to Dr. Wood in particular, as a promising young man whom it was not well to lose. It was while he was in the New York Hospital that he devised his method of making and applying plaster-of-Paris splints, and Dr. Roosa in speaking of this, said: "It is not too much to say that chiefly, if not entirely, through Little's efforts plaster-of-Paris splints became a practical application. Until then, although much recommended, experience had shown that it was not well adapted for a surgical dressing. Little saw in plaster-of-Paris a material which, if properly used, would form that so much to be desired article, an immovable, and yet porous splint. . . . In using plaster-of-Paris as a splint, instead of a bandage, he utilized the material as was never before done; and although it is possible that it will never have a widespread use, just as Dr. Little employed it, he gave an impetus to the subject which was, perhaps, the origin of the famous plaster-of-Paris jackets. His paper upon the subject may be said to be classical."<sup>1</sup>

In regard to his skill as an operator, Dr. Roosa said: "Of Dr. Little's surgical achievements in detail, I am not competent to speak, nor is it necessary that I should do so. They are indelibly recorded in surgical literature—at least in part, for of late years Dr. Little was somewhat loth, from lack of time, perhaps, owing to his large and exacting public and private practice, to write as his friends might have wished. But I may say that he was the first American surgeon to puncture the bladder with the aspirator for the relief of retention of urine. He simultaneously ligated the subclavian and carotid arteries of the right side, for aneurism of the first part of the subclavian. The operation for stone by various methods he had performed seventy-seven times, with a fatal result in but two cases. In hare-lip and strangulated hernia, he also had a large and successful experience."

Dr. PAUL F. MUNDÉ read a paper on

## ELECTRICITY AS A THERAPEUTIC AGENT IN GYNECOLOGY.

The routine use of electricity, he said, was certainly very uncommon in gynecological practice; and yet he himself, although by no means an expert in the use of this agent, had obtained some very excellent results with it during the last ten or twelve years, employing it for various affections with more or less benefit. The range of its applicability was quite large, and no special precautions were required in its use. Indeed, a patient suffering great pain when she came to the physician's

<sup>1</sup> Transactions of the American Medical Association, 1867.

office, was often entirely relieved, at least for the time, by the application. The faradic current was especially indicated in such troubles as malnutrition of the sexual organs, amenorrhœa, irregular menstruation, and subinvolution; and the galvanic in such as pelvic neuralgia, fibroids, and hyperplasia uteri.

There were certain cardinal points to be borne in mind, the enumeration of which was necessary before proceeding to speak in detail of the application of electricity in special forms of disease.

(1) The galvanic current was far more generally useful than the faradic, which, as a rule, has a stimulating effect, while the galvanic acts as a sedative.

(2) A mild, steady current would answer every purpose better than a powerful interrupted one. The faradic current, on the other hand, was useful in proportion to its strength.

(3) Whenever the constant current caused pain, it was doing harm.

(4) Personally, he could never decide which pole should preferably be placed within the body, provided care were taken that the current should not be too strong. There was, however, one marked exception. In cases where there was circumscribed pain, the positive pole was the one to be placed near the painful point. In using the faradic current, it was of no consequence which pole was employed internally. These remarks, however, he wished to be understood as applying exclusively to the use of electricity in connection with the pelvic organs, and not in the other parts of the body.

(5) He had always found it safe to begin with a mild current, and gradually increase its strength.

(6) When internal electrocization was to be employed, it was always best to introduce the internal pole before closing the connection, on account of the sensitiveness of the external parts.

(7) To be of any service, it was necessary that the treatment should be frequently repeated and should be continued for a long time. As a rule, it was quite useless to make applications less frequently than twice a week, and the course of treatment should last from three to six months.

(8) The results of faradization in chronic affections were less favorable than those of galvanism; but, while relief from pain and an amelioration of the general condition was very often obtained by this means, a complete cure was usually not to be looked for.

He then called attention to a number of pathological conditions in which treatment of electricity was advisable. In deficient development of the uterus and ovaries, if the organs were merely rudimentary, nothing was to be hoped for from any kind of treatment; but if the uterus were of the normal shape, though small, and any tendency to a molimen were evinced, there was a fair prospect of good results from the persevering use of the faradic current, aided by spongetents and appropriate constitutional measures. The application was to be made every other day, and for a week before the expected period, the current was to be employed in increased strength and for a long time at each sitting. The galvanic stem sometimes used, he thought was of service simply as a foreign body in the uterine cavity. Chlorosis and amenorrhœa (including depressed and irregular menstruation), were often relieved by electricity, combined with other local, as well as constitutional treatment. In married women, electricity was called for in amenorrhœa oftener than in the un-

married, and it was frequently of great service when the circulation was sluggish, and the energies of the system were directed rather to the formation of adipose tissue than towards the pelvic organs. The same was true as regards some unmarried women, and it was not seldom found that when the flesh had been reduced, the amenorrhœa disappeared. No reliance, Dr. Mundé thought, was to be placed on emmenagogues of the books. Better results can be obtained, however, with permanganate of potassium, though no other agent was to be compared with electricity in value.

In cases of subinvolution and menorrhagia, when of recent date, the faradic current was indicated. In others, the constant current was of most service, though it was not advisable to introduce the electrode within the uterus. In hyperplasia uteri, galvanization was often of very great benefit, both for the relief of reflex neurosis which it afforded, and for its utility in the removal of abnormal tissue. In this condition, the long and frequent application of the current was called for, and intra-uterine medication was to be employed in addition. In chronic oöphoritis and pachysalpingitis, which were extremely painful and annoying conditions, Dr. Mundé thought that the condition of the ovaries was analogous to that of the tonsils after repeated attacks of inflammation, in which there was no cure but removal. The same was true with regard to chronic catarrh of the Fallopian tubes, and on account of the hyperplasia of the walls of the latter he had ventured to apply the term pachy-meningitis. In connection with this trouble, there was also periöphoritis, and the sufferings incident to the whole condition usually rendered life a burden. The only cure was salpingo-oöphorectomy, and in Tait's hands, it had proved an operation comparatively free from risk; but no other operator had met with the same extraordinary success. In addition to the danger under ordinary circumstances, there was a grave objection to subjecting young married women to an operation which deprives them of all hope of offspring, especially as there was a possibility of pregnancy occurring in women in this condition. The radical operation should be deferred, therefore, until all other measures had failed to give relief, except in those instances where imminent danger to the patient called for its prompt performance.

He had seen very great benefit derived from palliative treatment, and the use of electricity was often of great service in supplementing other local measures. It relieved pain for hours, and even days, at a time, and by its anæsthetic influence rendered the diffuse thickening in the broad ligaments less tender to the touch. While it was true that the relief was only temporary, there was in many cases a chance that pregnancy might occur, and in others that the menopause would soon intervene.

In chronic pelvic cellulitis, peritonitis and lymphangitis, the ordinary treatment afforded very little relief, and there was nothing by any means equal to a mild constant current, he said, for this purpose. In acute and subacute exudations, however, electricity was to be avoided, on account of the danger of setting up new trouble. In obstructive and neuralgic dysmenorrhœa when other means had failed to give relief, galvanic electricity would often be found of very great service; the negative pole being carried up into the uterus, and not more than ten cells being used. In the treatment of uterine fibroids, Dr. Mundé thought electricity had a future. Apostoli, of Paris, had reported quite

remarkable results at the International Medical Congress at Copenhagen; and Everett, of Ohio, had also met with success in this field. The methods at present in use are, at all events, safe; which was more than could be said of the electro-puncture of Kimball and Cutler, which in more than one instance had resulted fatally. He then referred to a case which he had seen in consultation with Dr. Freeman, of Brooklyn, who afterwards produced a cure by electrolysis, and reported it in a paper read before the Kings County Medical Society. It was one of subperitoneal fibroid, and the galvanic current was applied by means of an insulated steel needle thrust into the tumor.

Dr. Mundé gave the following

#### CONCLUSIONS.

(1) Electricity is a valuable agent in gynaecology, and one which deserves to be much more frequently resorted to than is now the case.

(2) Its application in gynaecological practice does not require special skill in the use of electricity.

(3) The remedy, if properly used, cannot do harm.

(4) It is of especial service in chronic conditions, and no pain is caused if the galvanic current is employed.

(5) The faradic current is indicated in deficient development and want of tone in the pelvic organs.

(6) The galvanic current is to be used to promote absorption of adventitious products and allay pain.

(7) This method of treatment requires much perseverance.

(8) It is contra-indicated in acute and sub-acute inflammatory conditions.

(9) The pathological conditions in which electricity proves useful are those in which other treatment often fails, or cannot be borne by the patient.

(10) In organic disease a permanent cure or a restoration of the diseased organs to perfect health cannot be expected; but very marked relief, and that without danger, may often be afforded by means of electricity.

Dr. FREEMAN, of Brooklyn, in opening the discussion of the paper, said that he coincided with Dr. Mundé in almost every particular. In his own practice he had now almost entirely given up the use of the faradic current for the galvanic, except for the purpose of exciting muscular contraction, and this could also be accomplished by the interrupted galvanic. There was another form of electricity, which was not mentioned in the paper, namely, the static; and during the last four years he had employed this forty times as often as either of the others. It possessed a great advantage in that it could be used so easily and so pleasantly to the patient, and the removal of the clothing was not required. One of the most useful purposes which electricity served was the relief of pain, and on this account it had proved a great boon, as it enabled us to a large extent to avoid the use of opiates. Under the application of the static current pain often disappeared as if by magic, and the patient felt a pleasant exhilaration not unlike that caused by champagne, though not attended with any disagreeable consequences. He then described in detail the case referred to by Dr. Mundé in the paper, and also two others which had been cured of uterine fibroids by means of electrolysis. In none of them was any rise of temperature caused by this treatment.

Dr. A. D. ROCKWELL said that he had been very

much pleased with the paper, as he had held for a long time that electricity should hold a higher position in gynaecology, as well as in general practice than it has hitherto done. He had seen it employed in various conditions to which Dr. Mundé had referred, and could testify to the correctness of his statements. In subinvolution, however, he should expect that the galvanic current would be of more service than the faradic. The thing that interested him most, because it was a new application of the remedy, was the use of galvanism in pelvic cellulitis.

Dr. GARRIGUES said that he had used electricity in gynaecological practice to some extent for about thirteen years, and the chief cause why he had not used it more was because it took up too much time. Another reason was, that he had found that he could get as good results with other remedies which did not occupy so much time. The condition in which he had most frequently employed it was amenorrhœa, and in this it had not always answered the desired purpose. The simple introduction of the sound had proved almost as useful here as any other method of treatment. Internal remedies, especially iron and permanganate of potassium had also given satisfaction in his hands. One difficulty which he had met with in the use of galvanism was that, even with a weak current, the electrode introduced within the vagina produced an escharotic effect.

Dr. BIRDSALL said that the literature of the subject was rather mystifying and unsatisfactory, and one great difficulty was to find out what the observers who reported cases had really used. One point very hard to get at was the strength of the current applied in any given instance. The number of cells reported as used, while (provided the battery was in good working order), it might act as a guide to those who are familiar with exactly the same apparatus, conveyed no idea of the power employed to others reading the accounts.

The only real test was the galvanometer, and notwithstanding the difficulties in the way of using it, he trusted that it would be generally adopted at no distant date. As to the matter of subinvolution, he thought that galvanism was much more serviceable than the faradic; which was indicated in all cases where he wished to excite muscular contraction or cutaneous irritation. The most important, perhaps, of the conclusions enumerated by the author of the paper was the one in which the caution was given about using electricity in acute and subacute cases.

Drs. McLEAN and BURKE also spoke, and the discussion was closed by Dr. Mundé. In speaking of subinvolution the latter said that he recommended the faradic current only in the early stages with menorrhagia. Afterwards the condition was very much the same as in hyperplasia of the uterus, and the galvanic current was chiefly to be used. He had never had any experience with static electricity, and should be glad to give it a trial.

The president stated that Dr. James, who had been appointed to deliver the

#### ANNIVERSARY DISCOURSE.

was unable to do so on account of ill health, and that Dr. Henry D. Noyes, although the notice was a very short one, had kindly consented to take his place. The address would be given at the next stated meeting of the Academy, November 19.

## NEW YORK NEUROLOGICAL SOCIETY.

STATED Meeting, October 6, 1885.

The president, W. R. BIRDSALL, M.D., in the chair.  
Dr. E. C. SEGUIN read a paper entitled

A CONTRIBUTION TO THE PATHOLOGY OF HEMIANOPSIA OF CENTRAL ORIGIN.—CASE WITH SPECIMEN.

The writer first gave a brief synopsis of views, anatomical and pathological, of hemianopsia of basal or peripheral origin; recognizing the following types: 1. Horizontal H., superior or inferior, usually due to lesions within the eye, and hence of less interest to the neurologist. 2. Vertical H., always caused by a lesion of the basal visual apparatus or by disease in a certain limited part of the cerebrum. Varieties of 2; (a) Temporal hemianopsia, in which the temporal half of both visual fields is dark. (b) Nasal H., in which the nasal half of both visual fields is obscured. (c) Lateral H. This is often designated homonymous H. In this variety the nasal half of one visual field and the temporal half of the other are dark, so that with one or both eyes open the patient sees the same half of any object placed in front of him. This variety is the one which results from a truly central lesion, and forms the object of study in the paper.

Varieties *a* and *b* are caused by lesions variously placed in or around the chiasm of the optic nerves.

The author proceeded to analyze the recorded observations of hemianopsia due to cerebral lesion, forty-two in number, including the author's own case. Of these, thirty-seven were medical, and accompanied by aopsies; five surgical, followed by survival of the patient. These relatively numerous observations were classified as follows:

(a) Cases of lateral hemianopsia, indefinite or irrelevant, and useless for localization study, four in number: observed by Charcot, Pitres, Linnell, Wiethe and Petrina. (b) Cases of lateral H., from lesions of parts of brain not directly related to the optic apparatus; (three cases) by Hirschberg, Huguenin (observers of 1876) and Pfleger. (c) Cases of lateral H., from lesions involving chiefly the thalamus opticus or corpus geniculatum laterale: six in number; by Jackson and Gowers, Pooley, Dreschfeld (two cases) and Rosenbach. (d) Cases of lateral H., from lesions chiefly or exclusively involving the white substance of the occipital lobe (eleven cases), by Levick, Hirsch, Baumgarten, Dmitrowsky and Lebedev, Westphal (1881), Senators, Stenger (case seven), Wernicke, and Hahn, Jany, Richter, and Schmalz. (e) Cases of lateral H., of external or traumatic origin: five cases; by Keen and Thomson (re-examined by Dr. Seguin), Hughes, Schmidt, R. Kimpler, Heuse and Nieden. (f) Cases of lateral H., due to lesions involving the cortex of the brain and subjacent white substance; thirteen cases; by Westphal (1882), Stenger (case eight), Förster and Wernicke, Jastrowitz (two cases), Curschmann, Nothnagel, Marchand, Chaillon, Haab, Huguenin (1882), Féré and the author's case.

This last category being by far the most important for the study of the localization of the visual centre in man, Dr. Seguin gave full abstracts of all these cases. The lesions in all were so placed as to cumulate toward the mesal aspect of the occipital lobe. This result was shown by means of a shaded chart, consisting of a diagram of the mesal and lateral views of the brain,

upon which the lesions of the thirteen cases were reproduced with one layer of india ink. The result was striking, visible in the greatest blackness of an area upon the mesal aspect of the cerebrum, including the lower part of the cuneus and the fifth temporal gyrus (Ecker). To this locality also was limited the lesion found in the following cases; Haab's, Huguenin's Féré's, and Seguin's. These were single lesions, and only hemianopsia with no paralysis or anaesthesia had been observed during the patient's life.

Dr. Seguin's own case was as follows: a man aged forty-six, affected with malignant endocarditis (initial vegetations) which proved fatal in sixteen months from first observation in January, 1884, through repeated visceral embolisms. This case also exhibited for many weeks a typical intermittent form of fever, closely imitating malarial intermittents.

About December 5, 1884, Mr. D. suddenly complained of "blindness of the left eye," and slight numbness through the whole left side of the body. He strongly insisted then, and frequently thereafter, that his left eye was alone affected, because he could not see to his left. Examination showed well-defined left lateral hemianopsia, the vertical line passing a little to the left of the point of fixation. In a short time the numbness passed away, but the hemianopsia persisted until death. For many months before death, Mr. D. was able to read and write easily and attend to outside business, in spite of the hemianopsia.

The lesion found at the autopsy was a large old patch of yellow softening, involving the greater part of the right cuneus (almost reaching the apex of the occipital lobe), and the fifth and fourth temporal gyri, extending also frontal into the gyrus hippocampi. This lesion was found to be due to blockade of the occipital artery branch of the posterior cerebral. The white matter was involved to a depth of several millimeters.

No sections were made in the fresh state of the specimen, in order to prepare it for more careful examination when hardened. Unfortunately this process was unsuccessful in part, and only the occipital end of the brain became hard. The absence of decided motor and sensory symptoms during life, however, makes it quite certain that there was no other gross lesions in the brain.

From these four cases, supported by the cumulative evidence of all the others, Dr. Seguin considered it as well proven that the visual centre (receiving impressions from one corresponding half of each retina), in man, is in the cuneus and adjacent gray matter below it. A destruction of this part of the hemisphere inevitably produces hemianopsia of the field on the opposite side of the body.

As regards those few cases in which the lesion causing lateral hemianopsia was situated upon the lateral aspect of the hemisphere, in the inferior parietal lobule and the gyrus angularis, Dr. Seguin called attention to the fact that the optic fasciculus of Gratiolet and Wernicke on its way from the primary optic centres, lateral of the posterior horn of the lateral ventricle, to the cuneus, passes close under these gyri, and a lesion which penetrates at all beneath the gray matter of their cortex must intercept, by pressure or by destruction, the optic fibres. These are lesions intercepting communication between the eyes and the visual centre, while lesions of the mesal aspect of the occipital lobe destroy the centre itself.

## DISCUSSION.

DR. T. R. POOLEY. — Mr. President: without knowing at all the direction which Dr. Seguin's paper would take, I hastily looked over my records this evening and briefly abstracted five cases of hemianopsia of which I have notes. One of these cases has been referred to by Dr. Seguin in his paper. I feel quite incompetent to discuss the physiological and theoretical question as to the location of the lesion, and the importance of different symptoms in helping us to exactly locate the lesion in the brain. Nor will I at this late hour refer to all the cases of which I had intended to relate somewhat in detail the clinical histories. I shall content myself with speaking only of one case which has recently come under my observation and which is now under treatment. It is a case which I saw a week ago, that of a gentleman, aged thirty-five years, who came under my care in 1879 for comparative blindness of his left eye, which I found to be due to circumscribed choroidal exudation situated near the macula lutea. In my former experience with such cases I always believed them to be due to syphilitic infection, and careful inquiry into the history of this case showed it also to be due to this poison. The patient remained for a time under treatment for this inflammatory exudation, from which he recovered with a scotoma, and enjoyed comparatively good health and freedom from all further syphilitic manifestations until a week ago, when he consulted me again. On this occasion he was driving with his wife in the country, when he suddenly became completely blind. This blindness lasted only a few moments. Upon recovering, he ascertained that there was dimness of vision upon the left side, which continued when he came to see me. Examination showed left homonymous hemianopsia. The blind area extending almost to the point of fixation in each eye. Examination of acuteness of vision showed in the left eye — and this is interesting because of the previous condition of that eye — twenty-two hundredths; the right eye twenty-twentieths, or perfect. The optic discs were quite normal, the bloodvessels were of full size, there was no indication of atrophy of the optic nerve by neuritis. The interesting and remarkable fact in this case is the improvement which took place within a week from the commencement of treatment. On account of the previous history of the case the patient was placed upon large doses of iodide of potassium. Former experience with the use of the drug, however, led me at first to give comparatively small doses, only fifteen grains. But I found that he tolerated large doses much better than small ones, and I immediately began pushing the remedy so that I gave him one drachm three times a day on the third day. Already, upon the first day after treatment had been begun, the visual fields had increased in extent, and this increase has steadily continued until the present date. Unfortunately I have not had opportunity to make measurements with the perimeter, the patient being treated at his home, but I may estimate that the field of vision has extended from near the point of fixation to one-third the normal limits, the increase being apparently symmetrical. I should like very much to have Dr. Seguin's opinion as to whether in a case of this kind, in which there has been such marked improvement within a week, we may hope for permanent benefit.

DR. M. A. STARR. — At this late hour I will not

detain the Society but a moment. I think the list Dr. Seguin has presented is a complete one, with perhaps a single exception, that of a case reported by Demange in the *Révue de Médecine* for May, 1883. That case is referred to by Dr. Gowers in his last work on diseases of the brain, in a way to lead one to suppose that it supported the assertion of Ferrier, that the angular gyrus is the centre for vision. I found, however, on looking up the case, that the lesion was one which coincided very largely with that of the first case of Westphal, and is very well represented by the diagram shown by Dr. Seguin of that case. It was a very large lesion, involving both parietal lobules and the occipital lobe. Gowers refers to that case as proving that a lesion upon one side of the brain may produce blindness of the opposite eye, and says it supports Ferrier's assertion of amblyopia being due to lesion of one angular gyrus. In the original report, however, it is only stated that the patient could not see well with the left eye, and it does not state that there had been any careful measurement of the field of vision. Therefore, in all probability the patient had hemianopsia, and as in a number of cases reported by Dr. Seguin, and in a number which I collected, lack of careful observation on the part of the examining physician failed to elicit the symptom which was undoubtedly present. The necessity for careful examination in all of these cases has been dwelt upon by Dr. Seguin, and I think it ought to be emphasized, because it is evident from the history of these cases that a patient with hemianopsia does not notice the exact field of vision, but only notices that he is blind in one eye, and refers it to the eye whose field of vision is most largely implicated. The necessity for such an examination is shown in the fact that Dr. Seguin has been able to collect eight cases in addition to those which I had collected, that is to say, eight new cases have occurred since January, 1884. This great increase in the number of cases of hemianopsia is only apparent, few cases having been recorded previously, because of imperfect examinations of the visual field.

I would not anticipate Dr. Seguin in answering the question asked by Dr. Pooley, but I have in my hand a case published by Baer in Volkmann's "Sammlung Klinischer Vorträge," which is almost identical with that related by Dr. Pooley this evening; a case of hemianopsia coming on suddenly in a syphilitic individual. A series of diagrams are given, showing the progressive improvement of the patient and final complete recovery.

My attention was first called to the subject three years ago, by seeing a case of hemianopsia in Charcot's wards, and in his lecture on that case Charcot virtually retraced his own diagram and adopted one like that shown by Dr. Seguin. So that I think we should cease to copy the old diagram made by Charcot, and it has been abandoned in France and Germany.

The absolute necessity for such a collection of cases as Dr. Seguin has made for settling any disputed question of localization is perfectly evident to you all. It is the only way in which this question of localization can be really determined. To make conclusions from physiological experiments I think is no longer warranted. We must go to carefully making autopsies.

It may be interesting to know that in October, 1858, the Pathological Society of Philadelphia dis-

cussed the subject of abscess of the brain, and at that meeting Dr. Weir Mitchell presented a case with the records in which a large abscess at the posterior part of the brain, involving both occipital lobes, was attended with blindness, and the blindness seemed to be the chief local symptom—as we should say now—of the disease. The Pathological Society were at a loss to explain the occurrence of blindness with this lesion in the occipital lobes.

I think it is encouraging to the general cause of clinical diagnosis that now, after the lapse of these years, we are able to explain perfectly that case which then so puzzled the Pathological Society of Philadelphia.

Dr. Seguin closed the discussion, and apologized for having detained the Society with so long a paper. With reference to Dr. Pooley's question, he would have declined to answer it for want of experience. He had never seen a case of hemianopsia which was not embolic or possibly due to a tumor, and in which there was no indication for treatment.

### Recent Literature.

*A System of Practical Medicine* by American Authors. Edited by WILLIAM PEPPER, M.D., LL.D., and LOUIS STARR, M.D. Volume II. General Diseases (continued), and Diseases of the Digestive System. Volume III. Diseases of the Respiratory, Circulatory, and Hematopoietic Systems. Philadelphia: Lea Brothers & Co. 1885.

The second and third volumes of this System of Practical Medicine, edited by Professors William Pepper and Louis Starr, and published by Lea Brothers & Co. of Philadelphia, are quite up to the high standard of the first volume. When we state that Volume II consists of over thirteen hundred royal octavo pages contributed by twenty-two different writers on thirty-eight separate subjects, with an index; and that Volume III consists of more than one thousand such pages contributed by twenty-seven different writers on forty-five separate subjects, with an index, we have given some indication of the scope of the work and said enough to show the impossibility of a serious review in the columns of a weekly journal.

Volume II begins with an article on Rheumatism, by Dr. R. P. Howard, the efficient Dean of McGill University, Montreal. In about ninety pages he discusses this interesting and important subject in a manner which shows his acquaintance with its practical problems as well as with its recent literature, and leaves little to be desired.

We notice the statement that in Montreal, the largest number of cases of acute rheumatism admitted to the General Hospital occurred in the spring months, from March to June inclusive, as in accordance with the experience of other cities in the northern United States.

An article on Gout, of twenty-six pages, by Dr. W. H. Draper, of New York, follows. The difference in length of the two articles fairly indicating the difference in importance and frequency of the two diseases on this continent. Rachitis is dealt with by Dr. A. Jacob, of New York, and Scurvy by Dr. P. S. Wales, ex-surgeon-general of the U. S. Navy. Dr. James Tyson, of Philadelphia, contributes a careful article on Dia-

betes Mellitus. An article by Dr. J. William White, of Philadelphia, on Hereditary Syphilis, presents this extremely important subject in the space of seventy odd pages in an altogether admirable manner. Any one wishing to consult the latest data on heredity in syphilis and the provisions requisite to guard against the propagation of this disease by inheritance will find them nowhere more logically worked out or more clearly stated. Dr. J. Edmonson Atkinson writes on Purpura, and Dr. John S. Lynch on Scrofula. This completes the list of subjects under the head of General Diseases.

The Diseases of the Digestive System are done justice to by a number of different writers. The large part of the writing on these diseases, however, comes from the pens of Dr. J. Solis Cohen, of Philadelphia, who treats of diseases of the Mouth and Tongue, of the Tonsils, of the Pharynx, and of the Esophagus; of Dr. W. H. Welch, of the Johns Hopkins University, who deals with Simple Ulcer, Cancer, Dilatation of the Stomach, Hemorrhage from the Stomach, and Minor organic Affections of the Stomach; W. W. Johnstone, of Washington, who elucidates Intestinal Indigestion, Constipation, Enteralgia, Acute and Chronic Intestinal Catarrh, and Cholera Morbus; and James T. Whittaker, of Cincinnati, who presents Dysentery, Typhilitis, Perityphilitis and Paratyphilitis, Intestinal Ulcer, and Hemorrhage of the Bowels.

Of single articles, that on Intestinal Affections of Children in Hot Weather, is by Dr. Lewis Smith, of New York; on Peritonitis, by Dr. Alonzo Clark; on Diseases of the Abdominal Glands, by Dr. S. C. Busey, of Washington; of the Liver, a long article of nearly fifty pages, by Dr. Roberts Bartholow; of the Pancreas, by Dr. Louis Starr, the assistant editor of this System.

Dr. Joseph Leidy, than whom there is no higher authority, contributes an article on Intestinal Worms. Dr. Hunter McGuire, of Richmond, occupies fifty pages with Intestinal Obstruction; and Diseases of the Rectum and Anus are considered by Drs. T. G. Morton and H. M. Wetherill, jointly.

Volume III, devoted to the diseases of the Respiratory, Circulatory and Hematopoietic Systems, discusses some of the most usual and serious affections which the medical practitioner is called upon to contend with. Some of these subjects are treated by writers whose names appear in the previous volume, to others new names are attached; all the writers are competent and carefully chosen, while some are among the most distinguished in the profession. Croupous Pneumonia has been confided to Dr. Alfred L. Loomis of New York, whilst the Editor has taken Catarrhal Pneumonia himself. Dr. Loomis also discusses Endocarditis and Chronic Valvular Diseases under the diseases of the circulatory system. Dr. Austin Flint writes on Pulmonary Phthisis and Neuroses of the Heart; Dr. J. M. DaCosta on Diseases of the Pericardium.

We notice with surprise that Dr. N. S. Davis, in his article on Bronchitis, under the head of Rheumatic Bronchitis makes no mention of Dr. F. H. Buckler, of Baltimore, an omission atoned for by Dr. Frank Donaldson in speaking of rheumatic pleurisy in his excellent article on Diseases of the Pleura.

Among the younger contributors, whose names are guarantees of good work and of an eager acquaintance with recent advances, are Drs. William Osler, J. B. Roberts, and Morris Longstreth, of Philadelphia, G.

M. Garland and E. G. Cutler, of Boston, Beverly Robinson and Heermance Smith, of New York. Dr. Osler's article, covering nearly seventy pages, on Diseases of the Blood and Blood-Glandular System is a very excellent one.

Drs. S. C. Chew, of Baltimore, Edward T. Bruen, of Philadelphia, and William Carson, of Cincinnati, each deal with several topics under Diseases of the Respiratory System: Laryngoscopy and Rhinoscopy, and Diseases of the Nasal Passages, of the Larynx and Trachea are handled by Drs. Carl Seiler, Harrison Allen, Hosmer Johnson, A. Jacobi, Louis Elsberg, and George M. Lefferts. Dr. W. N. Geddings, of South Carolina, who spends his summers at Bethlehem, N. H., writes about Asthma and Hay Asthma.

Recognizing, as we have said, the impossibility of giving a careful analysis of each of the numerous papers on divers subjects in these two large volumes in any space at our command, we have thought the interest of our readers was best subserved by a sketch of their general scope and a knowledge of who the contributors are. Such a work is only purchased after careful reflection and with a view to its general excellence. Exceptionally good as some of the articles in these volumes certainly are, the general standard is nevertheless very high, and we do not hesitate to say that if this standard is reached in the volumes to come, this will be easily the best System of Medicine yet published in the English language.

*Tracheotomy in Laryngeal Diphtheria.* By ROBERT WILLIAM PARKER. Second Edition. London, 1885.

This is a very practical treatise upon the subject of the local treatment of diphtheria of the larynx and trachea. The author advises vigorous antiseptic measures, as he believes the disease to be at first local, and to finally become general by the absorption of the septic products from the local lesions.

Tracheotomy is simply a mechanical method of prolonging life while the local treatment may have time to overcome the disease. Mr. Parker considers at some length the injurious effects which an ill-fitting tube may work on the walls of the trachea, and with the object of avoiding this, he recommends the use of a tube which, instead of being bent into the segment of a circle, is shaped to an obtuse angle of which the lower limb shall coincide with the direction of the trachea.

It is difficult to understand how, with this bend in the tube, the inner tube can be taken out to cleanse it. The book is well printed, on good paper, and the cuts of instruments and apparatus add to its value.

*Post-Mortem Examinations, with Especial Reference to Medico-Legal Practice.* By PROF. R. VIREHOW. Translated by T. P. SMITH, M.D. Philadelphia: P. Blakiston, Son & Co. 1885. 138 pp.

This excellent little book, which is really the foundation of the modern method of performing autopsies, is now translated into English. The general principles and the various steps of the process have already become so well known and incorporated in the text-books, that it is not, perhaps, so much needed as some years ago. But its rank as the standard authority will always give it value, and it should certainly be the *code mecum* of every medico-legal examiner.

## Medical and Surgical Journal.

THURSDAY, NOVEMBER 19, 1885.

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### PASTEUR AND HYDROPHOBIA.

It is now four or five years since Pasteur's name began to be associated with hydrophobia. At that time before his enthusiasms and those of his fellow-workers in his laboratory had been chilled by the attacks of Koch, he and they allowed themselves to believe that they had discovered in the saliva of rabid dogs and of human beings suffering from the disease the specific micro-organism of hydrophobia. This discovery was prematurely brought forth and did not long stand the test of more careful and thorough research. It was soon shown beyond question that a micro-organism identical in appearance was not unusually present in the saliva of children afflicted with other diseases, and even in the saliva of the healthy.

The announcement of this pseudo-discovery, together with Koch's demonstration that Pasteur's methods of obtaining "pure cultures" of various microbes were very liable to errors, and the unsuccessful issue of the French Cholera Commission in Egypt which was under Pasteur's direction, had no little influence in diminishing the prestige which he had hitherto enjoyed as a micro-biologist. At the Copenhagen meeting of the International Medical Congress, Pasteur announced not that he had rediscovered the microbe of hydrophobia, but that he had discovered a cure for the disease by inoculation. In previous more or less successful efforts to secure protection against diseases by inoculation, as with anthrax, chicken cholera, etc., the specific micro-organism had been eliminated first and an attenuated virus then sought by successive attenuated cultures. From what could be learned of this latest discovery it seemed that the preliminary step had been dispensed with, and the grand result obtained at one stride. Further reports confirm this impression.

Of late the daily press has contained frequent accounts of the success of Pasteur's operations. Previous experience of this sort of enterprise among our esteemed daily contemporaries, fortified by the collapse of the cholera inoculations of Ferran, has hitherto induced us to await further confirmatory evidence.

The latest information we have, comes in the form

of cable reports to the New York *Herald* of a meeting of the French Academy of Sciences in Paris, at which Pasteur explained his process of inoculation and exhibited a lad who had been brought to him from Alsace sixty hours after having been bitten fourteen times by a dog, proved by an autopsy to have been rabid! A celebrated surgeon and a celebrated veterinarian pronounced the boy doomed to a painful death! During thirteen days Pasteur inoculated the boy frequently with virus of constantly increasing strength. When shown to the Academy the boy was free from hydrophobia, and one hundred days had elapsed since he was bitten by the dog. Another boy, bitten a fortnight before, had been a week under treatment, and his cure was confidently anticipated. These are the simple facts, as reported, of Pasteur's present position as a discoverer of a cure for hydrophobia. The report may do him too much or too little justice, and should be received as medical gossip rather than as scientific facts. The same enterprising daily lately reported the death of a well-known actor as imminent, on account of the appearance of "Steynstokes" (Cheyne-Stokes) respiration, a peculiar breathing, the reporter went on to explain, named after the discoverer Mr. Steynstokes. The official report of the Academy of Sciences will soon be at hand, and Pasteur's exact claims may then be better judged.

The method pursued seems to consist in inoculating a rabbit with bits of the spinal cord of a rabid dog, and then inoculating a succession of rabbits from each other. With each successive inoculation the virus is said to increase in potency! The period of incubation of the disease in the case of the sixty-first rabbit in a series, being reported as only seven days. Portions of spinal cord are suspended in bottles containing dried air for various periods of time, the oldest being the least active. A protective inoculation is sought by inoculating in a descending scale with bits of spinal cord of different disease-generations and of different ages, in other words, of increasing potencies. Pasteur is reported as claiming that the protection is operative after a bite from a rabid animal, but how long after, and whether after symptoms of hydrophobia have been developed, we have not learned. Pasteur is said to recommend that the government keep constantly on hand a supply of rabid spinal cords of different degrees of potency.

It would be idle at present to criticize these reported methods and claims. We should have preferred to await further details, and have referred to them mainly that our readers may not accuse us of neglecting the events of the day. A few observations, however, are in place.

The most careful microscopical examinations hitherto made by the most competent observers have shown that the changes attendant upon hydrophobia were to be found in the medulla, and but little or not at all in the cord. There is no pretence even, apparently, at this time, that the active principle of the hydrophobic poison has been discovered, and in comparison

with previous methods of inoculating with attenuated virus this seems to be a very crude and gross one. If the Alsacian lad is unaffected by inoculations which produce rabies in a few days in dogs and rabbits, Pasteur's alleged announcements are certainly worthy of very serious examination and consideration, but otherwise they do not inspire confidence. The period of inoculation of hydrophobia is a very variable one; it may be a few weeks, it may be several years. Individuals are not equally susceptible to the virus of rabies. A dog may be regarded as rabid who is not. It is not the first-come who is competent to decide by a post-mortem that an animal died rabid. The investigation of the microscopical changes necessary for such a decision takes time. No one is competent to declare after a bite from a dog that an individual is doomed to a painful death. It may be that a great boon has just been conferred upon suffering humanity, but the whole subject, as thus far presented, is enveloped in a sensational and theatrical atmosphere ill suited to sober science.

#### THE AMERICAN PUBLIC HEALTH ASSOCIATION.

THE American Public Health Association will hold its thirteenth annual meeting at Washington, D. C., December 8, 9, 10, 11, at the Hall of Willard's Hotel. Three very important topics have been selected by the executive committee for consideration and discussion at this meeting, namely:

I. The best form in which the results of registration of diseases and deaths can be given to the public in weekly, monthly, and annual reports.

II. The proper organization of Health Boards and local Sanitary Service.

III. Recent Sanitary experiences in connection with the exclusion and suppression of epidemic disease.

These three topics may legitimately be made to cover a wide range of sanitary science. Views will undoubtedly be freely exchanged as to the composition and work of a national health organization, as to the exclusion of cholera coming from Europe and of small-pox from Canada by "quarantine," by "inspection," or by the "quarantine of inspection;" as to the registration of vital statistics, and the "estimation" of death-rates.

On all these subjects the central government authorities, the medical profession, and the public at large should be glad to hear and heed the opinions and conclusions of sanitarians, some of whom have established and extended reputations, and who represent in the aggregate the different sections and varying interests of this vast but united country. It is well that at least once a year representatives of the yellow fever threatened Gulf States should meet in counsel with those of the small-pox or otherwise threatened States of the Northern Boundary, and that representatives of the interior States should confer with those of the seaboard. Each will find the other impressed with peculiar dangers and peculiar difficulties arising from the

peculiarities of his own surroundings, and a wider and clearer idea of what should be demanded and what may reasonably be expected from Sanitary Science and State Sanitation should result.

Dr. J. S. Billings, of Washington, will read a paper on Forms of Tables for Vital Statistics, which is sure to serve as a suggestive introduction to the first subject of discussion proposed by the executive committee. A paper, by Dr. P. H. Bryce, Secretary of the Ontario Provincial Board of Health, will doubtless perform the same office for the third subject selected; and the second subject need no introduction as, like the poor, we have it always with us and always unsatisfied.

The secretary of the Association announces eighteen other papers besides the two above mentioned.

The Committee on Disinfectants, which had already published and widely distributed a preliminary report, will present at this meeting a voluminous printed report embodying in full their investigations and conclusions on the subject of disinfection and disinfectants.

The sum of two thousand eight hundred dollars, offered by Mr. Henry Lomb, of Rochester, N. Y., will be awarded in first and second prizes for the most meritorious papers on four subjects as previously announced. Fifty-nine essays have been presented in competition on the following four subjects: "Healthy Homes and Foods for the Working Classes;" "The Sanitary Conditions and Necessities of School-Houses and School Life;" "Disinfection and Individual Prophylaxis against Infectious Disease;" "The Preventable Causes of Disease, Injury, and Death in American Manufactories and Workshops, and the best Means and Appliances for Preventing and Avoiding them." The successful essays will be presented to the Association, Thursday, December 10.

Such a body is wise in holding its meetings at Washington, and this thirteenth meeting is likely to be an unusually interesting and important one. The committee of arrangements have made liberal terms with the railroads, etc., and will send particulars to those desirous of profiting by them; the Secretary's address is 503 D Street, N. W., Washington, D. C.

### THE ANTIQUITY OF SYPHILIS.

ALTHOUGH historians have generally assigned the first appearance of syphilis in Europe to about the year 1495, when the disease was introduced into France at the end of the French expedition against the Neapolitans, it nevertheless has been demonstrated that venereal diseases have existed from the earliest period of the Indo-European race. Rosenbaum, in his "History of Syphilis in Antiquity," has shown that this malady took its origin in India, and was propagated in the line of the order of the succession of Oriental civilizations; that it had for its characters mucopurulent discharges, mentioned by Galen, Coelius, Aurdianus, Celsus, Aretaeus, Paulus of Aegina; inflammation of the testicles, or orchitis, induration of the testicles, and an aphthous affection of these glands, and ulcers of

the sexual organs, designated under the names *phagedena*, *anthrax*, *pustule* or *phyma*.<sup>1</sup>

Ulcers and vegetations about the anus and genitals (ficus, mariscus, ulcus), pustules on the face and scalp, various skin diseases such as *mentagra*, *lepra*, and *psora*, are mentioned by Martial and Juvenal as the results of impure intercourse.

Inflammations of the throat, soft palate and tonsils, malignant ulcers of the throat are also alluded to by these writers and by Aretaeus, in connection with sexual vice, being sometimes secondary (as Rosenbaum shows) and sometimes primary, the effect of an abominable practice for which we have no modern name.

It is hard at the present day to imagine as possible among sane human beings certain revolting vices which were prevalent in the later periods of the Roman empire. The subject of sexual perversities constitutes a curious chapter in the annals of mankind, and might properly be considered under the head of the *Insane Neuroses*; certainly such depraved natures as those of Julia, Messalina, and Agrippina must be regarded as *morbid* as well as wicked. Certainly too, such practices as those indicated by the name *fellator*, *cunnilingus*, *cinædus*, belong to the domain of mental pathology as well as to that of ethics.<sup>2</sup>

Rosenbaum has demonstrated the connection between these outrageous vices and the development of mucous patches of the utmost malignancy, as well as certain cutaneous diseases clearly of *syphilitic* character (especially associated with that form of pollution known as *paderasty*) and he has pointed out in the most striking manner the numerous references in the later Roman writers to every form of venereal disease.

It is to the pages of French authors that we naturally look for a thorough examination of such unclean subjects, and both Rosenbaum and Dupouy, in raking over the obscenities of past ages have done full justice to their task; the former in his "History of Syphilis in Antiquity," the latter in his work on the "Medicine and Manners of Ancient Rome."

### DR. WM. B. CARPENTER.

DR. WM. BENJAMIN CARPENTER, whose melancholy death by accident was announced by a cable dispatch last week, was born at Exeter, England, October 29, 1813. His early education was received in Bristol under the instruction of his father, the Rev. Launt Carpenter, a Unitarian minister. Devoting himself to medicine, he attended lectures at the Bristol Medical School, and hospital practice at the Bristol Infirmary. In 1834, he went to London and studied at University College and Middlesex Hospital. Here, while attending Dr. Grant's lectures on Comparative Anatomy, he imbibed that love for the subject which resulted in the production of his works on Physiology. In 1835, he pursued a course of studies in Edinburgh,

<sup>1</sup> See Edmund Dupouy, "Medicine et Mœurs de l'Antiquité Romaine," p. 338.

<sup>2</sup> The Riot on the Brain, W. W. Ireland, M.D.

at the Edinburgh University, and was elected President of the Royal Medical Society. Having spent two sessions in Edinburgh, he accepted the lectureship on Medical Jurisprudence in the Bristol Medical School, and commenced general practice in Bristol. The practice of medicine, however, was not after his liking, and he soon abandoned it, giving his time wholly to scientific studies. He wrote numerous scientific papers. His memoir on the Australian and Phillipian Foraminifera is valuable for the original matter which it contains. He published a "Manual of Zoology," of more than a thousand pages. In 1837, he began his "General and Comparative Physiology," the first edition of which appeared in 1838. This work, though long out of print, can hardly be said, even now, to be much behind the times; in fact, many of its masterly generalizations have become the current scientific coin of the day. Dr. Carpenter was appointed "Fullerian Professor of Physiology" in the Royal Institution, afterwards, Examiner in Physiology in the University of London. The first edition of his "Principles of Human Physiology" appeared in 1844. Eight editions of this work have been published. Very many now in practice remember well this work as being the leading text-book on physiology when they studied medicine. Dr. Carpenter, the last few years of his life, was hardly able to keep it abreast of the advancement of physiological science, and other more recent manuals of physiology are rapidly superseding the work of Dr. Carpenter. Dr. Carpenter became F.R.S. in 1844, and lecturer at the London Hospital; Lecturer on Geology at the British Museum in 1847, and in 1849, Professor of Medical Jurisprudence at the University College. He was for a while editor of the *British and Foreign Medico-Chirurgical Review*.

His treatise on the "Microscope and its Revelations," published in 1856, has gone through several editions. In 1850, he wrote his memoir to prove the "Correlation of the Vital with the Physical Forces." The substance of this view is "that the vital force, like the so-called physical force, has its origin in solar light and heat, and is not, as is commonly believed, a power inherent in the germ." Dr. Carpenter has ever been an earnest advocate of the doctrine of evolution, development by natural causes being clearly set forth in his "Principles of General and Comparative Physiology," and the genetic unity of all organic beings being a fundamental data of many of his later writings. He has always insisted that evolution is not only compatible with theism, but gives a powerful stimulus to the religious emotions, and an enduring sanction to ethical principles.

Dr. Carpenter's "Principles of Mental Physiology" is one of the most original of his works, giving the best exposition yet published of many psychological problems in their relation to nervous function, and it is used as a text-book by many of our higher institutions of learning. His more recent "Lowell" lectures on "Human Automatism" are in the same general line of exposition. His little work on the "Physiological Effects of

Excessive Indulgence in Alcoholic Liquors" has passed through a great many editions, and been translated into all the languages of Europe.

Dr. Carpenter will long be remembered for his writings in explanation of the phenomena of mesmerism or hypnotism, and spiritualism, in which he endeavors to account for these phenomena by the automatic action of the mind under the influence of suggestions, the will being in abeyance.

Dr. Carpenter was elected to the British Association of Science in 1872, and was subsequently occupied with investigations connected with deep sea-dredging expeditions, carried on in one of her Majesty's ships, and conducted by him in conjunction with T. Gwynn Jeffries, and Prof. Wyville Thomson. In 1882, Dr. Carpenter gave a series of lectures in this country in which he detailed the results of these investigations.

On the whole, Dr. Carpenter's life was an extremely industrious and useful one; as a lecturer and teacher he was eminently successful, and among his pupils have been the thinkers and the students of all lands where the English language is read; of unblemished character, and high ethical and spiritual convictions, his influence has been uplifting to humanity, and multitudes will mourn the loss which the world has sustained in his demise.

#### MEDICAL NOTES.

— Dr. William A. Guy of London, died recently, in his seventy-sixth year.

The death is also announced of Ernest Dubrueil, founder and publisher of the *Revue des Sciences Naturelles*, at Montpellier, in his fifty-sixth year.

— The Paris Municipal Laboratory has received a report concerning an epidemic of lead-poisoning which recently happened on a Norwegian vessel coming from Cadiz. Several of the crew exhibited symptoms of lead-poisoning, and the vessel was put into port in New York. The captain and several of his men were sent to the hospital at Coney Island. Two men died; the others recovered, after suffering severely. The affair was investigated, and it was ascertained that impure drinking-water was the cause of the catastrophe. The ship's tank was painted inside with red lead; the water became of a yellowish color. The Municipal Laboratory has issued a recommendation to landlords and all persons who have cisterns or water-reservoirs that resin or tar, dissolved in turpentine or benzine, should be used for painting them. It appears that, in Paris and its suburbs, a great many cisterns are painted with pigment containing lead.

— The municipal authorities of at least one city, Atlanta, Ga., have passed an ordinance which is deserving of general adoption. It prohibits hotel and boarding-house proprietors from turning off the gas at the meter during the night. One-half the deaths from asphyxia are believed to be due to the carelessness of the hotel men. A large number of travellers leave the gas burning dimly when they retire. Then

at a late hour of the night, the hotel man cuts the gas off in order to save his gas bill. The next morning when the early trains are arriving and departing, the landlord turns his gas on again. The burners are open in the rooms where men went to sleep with gas burning dimly. They are then asleep, and in a short time the gas overcomes them, and the next morning they are found dead in bed, and a coroner's jury says that they blew out the gas.

— It was determined by the Heidelberg Ophthalmological Society, soon after the death of Albrecht Von Graefe, to found, in honor of his memory, a gold medal to be awarded every ten years, for the most distinguished work done in ophthalmology. The first medal has just been unanimously decreed by the Society to Professor Helmholtz, of the Berlin University. After Graefe's death, a prize was also founded by the late Professor Welz, of Würzburg, to be awarded every third year for articles appearing in the *Archiv für Ophthalmologie*, founded by Graefe, which the Ophthalmological Society deemed most deserving of it. The fifth award has been made to Dr. Samuelson, of Cologne, the former prizes having been presented to Professor Leber, of Göttingen, to Dr. R. Weber, of Darmstadt, to Dr. Knies, of Zurich, and to Dr. Von Gülden, of Munich.

## NEW YORK.

— It is to be hoped that the meeting in reference to the abuses and misapplications of medical charity, to be held on the 20th, to which attention was recently called in the JOURNAL by Mr. Kellogg, organizing Secretary of the Charity Organization, will be productive of some good. More flagrant encouragement to these abuses is given by the wealthy New York Hospital than by any other institution in the city.

— The annual meeting of St. John's Guild was held November 9th. The Secretary's report showed that the summer work of the Guild began this year July 7th, and closed September 8th. During this period, the Floating Hospital made 35 trips from the city to the Seaside Nursery, on Staten Island, and carried in all — sick children and mothers — 26,280 persons, or about 4,000 more than during the previous season. At the Seaside Nursery, the inmates during the summer numbered 347 — 217 children and 130 mothers, and there were four deaths.

— The Annual Reception at the Mount Sinai Hospital occurred November 8th. — In the buildings are accommodations for 170 patients, and about that number are constantly in the wards. An average of 150 out-patients a day are treated in the dispensary connected with the hospital. For in-patients, the daily cost is a little less than one dollar a head, and 97 per cent. of the hospital service is gratuitous. The flowers and plants which were sent by the ladies to decorate the main entrance and corridors for the reception, were afterwards distributed among the patients in the wards.

— The attention of the Board of Health having been called to the fact that it had recently been ascertained

that some milk in Philadelphia was contaminated with boracic acid, for the purpose of keeping it sweet for a long time, Dr. Elson has reported that the milk inspectors were aware of the occasional use of the acid in this way. He stated that it was first employed in Boston, and that the practice was first introduced into New York about two years ago. The adulteration, however, was soon detected, and the offenders were prosecuted; and, as far as known, there has been no resort to it since. Between 4,000 and 5,000 inspections of milk have been made this year, and 7,000 samples of milk have been analyzed without finding a trace of boracic acid. The use of the acid is regarded as highly pernicious, as it is said to be liable to result in Bright's disease.

— At a meeting of the Society of Medical Jurisprudence and State Medicine, held November 12th, Dr. E. C. Harwood on behalf of a committee previously appointed to consider the subject, made a preliminary report in favor of cremation, stating that for sanitary and other reasons the disposal of dead bodies by cremation is much to be preferred to burial, and should be recommended in all cases. The report further recommended the passage of a law by the Legislature requiring that the bodies of all persons dying of contagious or infectious diseases, and also of all whose remains are disposed of at public expense in cities, should be cremated. As all the members of the Committee had not been present at all its meetings, it was voted that the report should be referred back to the Committee for further consideration, and that it should be submitted again at the next meeting of the Society.

— At the same meeting, Dr. J. F. Fruitnight read a paper on "Compulsory Vaccination," in which he referred to the opposition which is manifested in Montreal, and even in New York, in some quarters, to vaccination, and urged the medical profession of the city to adopt such means as will counteract the effects of the hostile movement. As vaccination provides the only effectual protection against small-pox, the sooner this was understood, the better it would be for the health of the entire community. Dr. Fruitnight related the history of the attempts of the European Governments to control the disease of vaccination, and argued that the results obtained by such measures abroad favor the adoption of some plan of compulsory vaccination in this country. While much good had undoubtedly been achieved through the exertions of the health authorities in many of our cities in the direction of protecting the people against the ravages of small-pox, he thought that the matter should not be left to individual inclination, and that these efforts should be seconded by the strong hand of the law. In the discussion which followed the reading of the paper, Dr. J. B. Taylor, of the Health Department, spoke in favor of the plan of compulsory vaccination, and gave statistics concerning vaccination in the city of New York, which showed that the opposition to the measure among people living in the poorer districts is at present, very much less than it formerly was.

## Miscellany.

### PROFESSORSHIP OF THEORY AND PRACTICE, LONG ISLAND COLLEGE HOSPITAL.

THE Chair of Practice in the Long Island College Hospital, made vacant by the death of Prof. S. G. Armbrister, is to be filled, and suitable candidates are desired to present themselves. According to the Charter, all appointments, to either faculty or vacancies therein to be filled, shall be thrown open to the whole medical profession, as recognized by the American Medical Association; and it shall be the duty of the Council, with the faculty of the department in which such vacancy exists, or such addition is to be made, to institute such a comparison of the relative claims and merits of all applicants as shall secure the most available and suitable persons for such positions. All nominations for such appointments shall be made in joint meeting by the Council and faculty of the department to which such appointments are to be made, and shall be laid before the Board of Regents at a regular meeting, whose approval, by a majority of the members present, shall be necessary to a final appointment; and no appointment to either faculty shall be made except in the manner herein provided. All medical and surgical assistants shall be selected and appointed in the same manner, and, together with the members of both faculties, shall hold their appointments subject to the annual election by the Regents.

All communications should be addressed to Dr. A. J. C. Skene, Chairman of Committee on Appointments.

### PHYSIOLOGY BY ROTE.

In an educational paper in a recent number of *Science*, the writer gives an example taken from a composition written by a boy in a New England grammar school, which illustrates the amount of benefit to be derived from anatomical, or indeed, any other sort of scientific instruction from a teacher who knows the subject only from a text-book, and therefore imparts it only from that source. From the nature of the subject, this sort of teaching is more apt to be given in physiology in the public schools than in the other natural sciences. We make room for this essay, which is upon "Bones." Fortunately, there is enough nature left in the boy to keep him from being priggish.

"Bones are the frame-work of the human body. If I had no more bones in me, I should not have so much shape as I have now. If I had no bones in me, I should not have so much motion, and grandma would be glad; but I like motion. Bones give me motion, because they are something hard for motion to cling to. If I had no bones, my brains, heart, lungs, and larger blood-vessels would be lying round in me sort of loose-like, and might get hurt; but not much, lest it is hard hit.

"If my bones were burned, I should be all brittle, and you could crumble me up, because all the animal would be out of me. If I was soaked in a kind of acid, I should be flunder. Teacher showed some bones that had been soaked. I could tie a knot in one. I had rather be soaked than burned.

"Some of my bones don't grow snug, and close to my other bones, like the branches to a trunk of a tree do; and I am glad they don't; for if they did, I could not play leap-frog, and other good games, I know. The reason they don't grow that way is because they have

joints. Joints is good things to have in bones. There are two or three kinds. The ball-and-socket joint, like my shoulder, is the best. Teacher showed it to us, only it was the thigh-joint of a cow. One end was round, smooth, and whitish; that was the ball end. The other end was saucer-like: that is the socket, and it oils itself.

"Another joint is the hinge-joint, like my elbow. It swings back and forth oiling itself, and never creaks like the school-room door does. The other joint ain't much of a joint. That is in the skull, and it don't have no motion.

"All of my bones put together in their right places makes a skeleton. If I leave out any, or put some in the wrong place, it ain't no skeleton. Cripples and deformed people do not have no skeletons.

"Some animals have their skeletons on the outside. I'm glad I ain't them animals; for my skeleton, like it is on the chart, would not look well on my outside."

## Correspondence.

### COCAINE IN DENTITION.

Boston, Nov. 17, 1885.

MR. EDITOR.—In answer to the query of Dr. Wigglesworth in your last issue as to the use of cocaine in teething, I would state that while I have not used it in primary dentition, in second dentition I have with marked alleviation of the pain and tenderness.

Yours very truly,

EDWARD J. FORSTER, M.D.

### A NOTE FROM THE BOSTON BOARD OF HEALTH CONCERNING CONTAGIOUS DIS- EASES.

Boston, November 14, 1885.

MR. EDITOR.—The Boston Board of Health respectfully begs to call the attention of physicians to the subjoined Statute Law relating to contagious diseases and to say that the non-compliance with this law by so many, either by total neglect to report or tardily reporting their cases, has served largely to defeat the object of the law which is to prevent the spread of contagious diseases, especially through the public schools.

Under the following law the Board of Health especially includes small-pox, scarlet fever, diphtheria, measles, typhus fever, typhoid fever and cholera, and although we are aware of the difficulty in some cases of making an early diagnosis, yet we should reasonably expect the cases to be reported as soon as they are determined.

It is hoped that all physicians will at once see the importance of a ready compliance with this law. By such compliance they will aid the Board of Health and the School Committee in their efforts to prevent the spread of these diseases and render prosecution for non-compliance unnecessary.

THE BOARD OF HEALTH,

By S. H. DUGGIN, M.D., Chairman.

[CHAP. 98.]

AN ACT concerning Contagious Diseases.

Be it enacted, etc., as follows:

SECT. 1. When a householder knows that a person within his family is sick of small-pox, diphtheria, scarlet fever or any other disease dangerous to the public health, he shall immediately give notice thereof to the selectmen or board of health of the town in which he dwells, and upon the death, recovery or removal of such persons, the rooms occupied and the articles used by him shall be disinfected by such householder, in a manner approved by the board of health. Any person neglecting or refusing to comply with either of the above provisions shall forfeit a sum not exceeding one hundred dollars.

SECT. 2. When a physician knows that a person whom he is called to visit is infected with small-pox, diphtheria, scarlet

fever or any other disease dangerous to public health, he shall immediately give notice thereof to the selectmen or board of health of the town; and if he refuses or neglects to give such notice he shall forfeit for each offence not less than fifty nor more than two hundred dollars.

SECT. 3. The boards of health in the several cities and towns shall cause a record to be kept of all reports received in pursuance of the preceding sections and such record shall contain the names of all persons who are sick, the localities in which they live, the diseases with which they are affected, together with

the date and the names of the persons reporting any such cases. The boards of health shall give the school committee immediate information of all cases of contagious diseases reported to them according to the provisions of this act.

SECT. 4. The secretary of the Commonwealth shall furnish the boards of health with blank-books for the record of cases of contagious diseases as above provided.

SECT. 5. Sections seventy-eight and seventy-nine of chapter eighty of the Public Statutes are hereby repealed. [Approved March 21, 1884.]

## REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 7, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	504	190	17.86	15.58	2.66	1.33	8.55
Philadelphia . . . . .	927,935	334	103	16.53	16.24	1.45	2.61	10.73
Brooklyn . . . . .	644,526	248	96	20.00	17.60	2.80	2.40	8.00
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	630,406	169	60	12.98	26.55	2.96	1.77	6.49
Baltimore . . . . .	408,520	141	52	25.27	12.78	3.75	2.84	12.07
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	224,000	115	31	19.14	10.44	6.96	.87	4.35
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,310	—	—	—	—	—	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	33	7	6.06	15.15	—	3.03	3.03
New Haven . . . . .	62,882	—	—	—	—	—	—	—
Nashville . . . . .	54,400	25	7	28.00	12.00	12.00	4.00	8.00
Charleston . . . . .	52,286	36	13	11.12	13.90	8.37	—	—
Lowell . . . . .	64,051	28	8	21.42	21.42	10.71	—	10.71
Worcester . . . . .	68,383	16	7	25.00	18.75	—	—	25.00
Fall River . . . . .	56,865	16	6	25.00	2.50	—	—	12.50
Cambridge . . . . .	59,640	18	5	16.66	16.66	5.55	—	11.11
Lawrence . . . . .	38,825	99	—	11.11	—	—	—	11.11
Lynn . . . . .	45,861	14	2	7.14	14.28	—	—	7.14
Springfield . . . . .	37,577	9	4	33.33	11.11	—	11.11	—
Somerville . . . . .	29,992	3	—	33.33	—	—	33.33	—
Holyoke . . . . .	27,894	12	2	8.33	41.66	—	—	8.33
New Bedford . . . . .	33,313	—	—	—	—	—	—	—
Salem . . . . .	28,084	13	5	15.38	7.69	—	7.69	7.69
Chelsea . . . . .	25,709	8	2	12.50	—	—	—	12.50
Taunton . . . . .	23,674	4	—	25.00	—	—	—	—
Gloicester . . . . .	21,713	11	5	27.27	18.18	—	—	9.09
Haverhill . . . . .	21,795	8	3	12.50	25.00	—	—	12.50
Newton . . . . .	19,759	2	—	50.00	—	—	—	—
Brookton . . . . .	20,783	3	—	33.33	—	—	—	—
Malden . . . . .	16,407	6	3	—	—	—	—	—
Newburyport . . . . .	13,716	3	—	—	66.66	—	—	—
Waltham . . . . .	14,609	2	—	—	—	—	—	—
Fitchburg . . . . .	15,375	3	2	—	66.66	—	—	—
Northampton . . . . .	12,896	—	—	—	—	—	—	—
86 Massachusetts Towns . . . . .	—	55	16	16.36	25.45	5.45	5.45	5.45

## Population by State Census, of May 1st, 1885.

Deaths reported 1,848: under five years of age 619; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 336; consumption 343; lung diseases 198; diphtheria and croup 139; diarrheal diseases 55; typhoid fever 38; scarlet fever 22; malarial fever 31; whooping-cough 13; cerebro-spinal meningitis eight; erysipelas four; small-pox one; puerperal fever one; typhus fever one. From malarial fever, Brooklyn nine, New Orleans eight, Baltimore seven, New York five, Philadelphia and Nashville one each. From scarlet fever, New York six, Philadelphia five, Brooklyn, Boston and Baltimore two each, Charleston, Fall River, Springfield, Gloucester and Trenton one each. From whooping-cough, New York seven, Brooklyn four, Baltimore two, Taunton one. From cerebro-spinal meningitis, New York four, Boston, Fall River, Taunton and Brockton one each. From measles, New York, Brooklyn and Boston one each. From erysipelas, New York two, Brooklyn and Springfield one each. From small-pox, New York one. From typhus fever, New York one. From puerperal fever, New York one.

In 108 cities and towns of Massachusetts, with a population of 1,336,791 (population of the State 1,941,955), the total death-rate for the week was 16.25 against 15.08 and 14.38 for the previous two weeks.

For the week ending October 17th, in the Swiss towns, there were 22 deaths from consumption, lung diseases 19, diarrheal diseases 10, whooping-cough three, diphtheria and croup two.

The death-rates were: at Geneva 16.2; Zurich 9.7; Basle 23.4; Berne 16.1.

For the week ending October 24th, in the Swiss towns, there were 22 deaths from consumption, lung diseases 13, diarrheal diseases 13, small-pox three, scarlet fever one.

The death-rates were: at Geneva 15.2; Zurich 5.8; Basle 11.3; Berne 16.4.

In the 28 greater towns of England and Wales, with an estimated population of 8,206,446, for the week ending October 17th, the death-rate was 17.5. Deaths reported 3,025: infants under one year of age 801, acute diseases of the respiratory organs (London) 201, diarrhoea 78, measles 66, whooping-cough 59, scarlet fever 58, diphtheria 39, fever 38, small-pox (Nottingham and Manchester one each) 2.

The death-rates ranged from 9.0 in Huddersfield to 27.0 in Preston; Birkenhead 19.1; Birmingham 17.1, Hull 14.0; Leeds 18.8; Leicester 11.1; Liverpool 19.9; London 17.2; Manchester 24.0; Nottingham 11.3; Sheffield 16.7.

In Edinburgh 17.3; Glasgow 20.5; Dublin 21.4.

In the 28 greater towns of England and Wales with an estimated population of 8,206,446, for the week ending October 24th, the death-rate was 18.5. Deaths reported 3,157: infants under one year of age 887, acute diseases of the respiratory organs (London) 156, measles 62, scarlet fever 57, whooping-cough 57, diarrheal diseases 52, fever 40, small-pox (Liverpool three, Sunderland one) four.

The death-rates ranged from 11.1 in Norwich to 28.2 in Bolton; Birmingham 15.7; Bradford 11.6; Hull 11.0; Leeds 17.1; Leicester 11.0; Liverpool 22.1; London 18.6; Nottingham 14.8; Sheffield 18.1.

In Edinburgh 17.7; Glasgow 20.6; Dublin 23.8.

The meteorological record for week ending November 7th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending Saturday, Nov. 7, 1885.	Barom- eter.	Thermometer.				Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration Hrs. & Min.	Amount in Inches.
Sunday, ... 1	30.310	37.2	43.9	26.3	68.0	71.0	77.0	72.0	N.	S.E.	S.E.	11	12	15	C.	O.	O.	—	—
Monday, ... 2	29.963	50.1	58.1	42.8	93.0	81.0	74.0	82.7	S.E.	S.W.	W.	53	16	15	R.	O.	C.	—	—
Tuesday, ... 3	29.736	42.7	50.1	37.2	79.0	57.0	74.0	70.0	W.	N.W.	W.	12	20	15	C.	C.	C.	—	—
Wednesday, ... 4	29.984	44.0	49.0	38.8	71.0	62.0	72.0	68.3	W.	W.	S.W.	14	16	16	C.	C.	O.	—	—
Thursday, ... 5	30.038	56.3	66.6	41.6	73.0	63.0	66.0	74.0	S.W.	S.W.	S.W.	12	11	9	O.	O.	O.	—	—
Friday, ... 6	30.169	51.9	60.1	49.0	90.0	95.0	100.0	95.0	W.	E.	N.E.	4	10	12	O.	O.	R.	—	—
Saturday, ... 7	30.073	54.5	63.1	48.8	100.0	100.0	92.0	97.3	N.E.	E.	S.W.	4	3	9	G.	G.	O.	19.96	1.23
Mean, the Week.	29.947	47.1	55.8	40.7				79.9											

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

# OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 7, 1885, TO NOVEMBER 13, 1885.

BAILLY, E. L., surgeon and colonel. Relieved from duty as attending surgeon, San Francisco, Cal., and ordered for duty as medical director, Division of the Pacific and Department of California.

NOREIS, BASIL, surgeon and lieutenant colonel. Ordered for duty as medical director, Department of the Columbia.

McKEE, J. C., surgeon and major. Ordered for duty as attending surgeon and examiner of recruits, Boston, Mass.

VOLLUM, E. P., surgeon and lieutenant colonel. Ordered for duty as medical director, Department of Texas.

SMITH, J. R., surgeon and lieutenant colonel. Ordered for duty as attending surgeon, New York City, N. Y.

ALEXANDER, R. H., surgeon and lieutenant colonel. Ordered for duty as medical director, Department of Arizona. S. O. 250, A. G. O., November 11, 1885.

KANE, JOHN J., assistant surgeon and captain. Ordered for duty as post-surgeon, Fort Ringgold, Texas. S. O. 141, Department of Texas, November 4, 1885.

ERRET, R. G., assistant surgeon and captain. Ordered from Camp Grant, Riverside Park, New York City, to Fort Hamilton, New York Harbor, for duty. S. O. 237, Department East, November 5, 1885.

BUSHNELL, G. E., assistant surgeon and first lieutenant. Assigned to duty at Camp Grant, Riverside Park, New York City. S. O. 237, Department East, November 5, 1885.

# OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDED NOVEMBER 14, 1885.

SAVRE, J. S., assistant surgeon. Detached from Naval Hospital, Mare Island, and ordered to the "Onahia."

DIXON, W. S., surgeon. Detached from coast survey steamer "Hassler," upon reporting of his relief, Past Assistant Surgeon D. O. Lewis, and with orders.

LEWIS, D. O., past assistant surgeon. Detached from naval rendezvous, San Francisco, and ordered to relieve W. S. Dixon, steamer "Hassler."

DENIGAN, J. S., medical director. Ordered to naval rendezvous, San Francisco, to relieve Passed Assistant Surgeon D. O. Lewis.

# OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDED NOVEMBER 7, 1885.

CHOT HART, F. M., passed assistant surgeon. Upon the closure of the Cape Charles Quarantine Station to proceed to Norfolk, Va., for duty, November 5, 1885.

BATTLE, K. P., assistant surgeon. Resignation accepted, as tendered, by the Secretary of the Treasury, to take effect November 25, 1885, November 3, 1885.

## SOCIETY NOTICE.

NORFOLK DISTRICT MEDICAL SOCIETY. A meeting for Scientific Improvement will be held at Room 7, Palladium Hall Building, corner of Warren and Dudley Streets, Roxbury, on

Tuesday, November 24th, at 7.45 P. M. Communications: I. Exhibition of a New Dressing for Fracture of the Clavicle, Edw. T. Williams, M.D. II. Arsenical Poisoning, Joseph Steadman, M.D. III. Multiple Neuritis, Robert Bell, M.D. Particular attention is called to the new place and time. A cordial invitation is extended to members of other Districts to be present at the meetings of the Norfolk District, and participate in its discussions. S. ALLEN PUTTER, M.D., Secretary.

## RESOLUTIONS ON THE DEATH OF DR. JOSEPH R. DRAPER.

At a meeting of the South Boston Medical Club the following preamble and resolutions were adopted:

Whereas, Death has removed from our midst our much esteemed friend and colleague, Dr. Joseph R. Draper, and whereas it is fitting that this Society, of which he was one of the founders and a former president, should express their feeling of sorrow at this great loss, therefore:

Resolved, that we gladly testify to our appreciation of his great professional skill, his readiness to advise when called upon by any of us, his honesty of principle toward his medical brethren and toward his patients, his affability at our social gatherings, all of which we shall ever hold in grateful remembrance.

Resolved, that the death of Dr. Draper is a loss to the community in which he lived and for which he worked so many years; but that his loss will be felt more directly by his professional associates.

Resolved, that a copy of these resolutions be put upon the records of this Society, a copy be forwarded to his afflicted family, a copy be published in the *South Boston Inquirer* and in the *Boston Medical and Surgical Journal*.

F. G. REED, Secretary.

## DEATH.

Died in Leicester, Mass., November 12, 1885, George Otis Warner, M.D., M.M.S.S.

## BOOKS AND PAMPHLETS RECEIVED.

Transactions of the South Carolina Medical Association. Thirty-Fifth Annual Session, held in Charleston, N. C., April 21-25, 1885.

Letters from a Mother to a Mother on the Formation, Growth and Care of the Teeth. By the Wife of a Dentist, "Mrs. M. W. J." Philadelphia: Welch Dental Co. 1885.

The Podagra of Disease: being Six Lectures on Temperament, Mucous-membrane and Diathesis. Delivered in the Theatre of the Royal College of Surgeons in the Session of 1881, by Jonathan Hutchinson, F.R.S. New York: Wm. Wood & Co. 1885.

A Text-Book of Nursing. For the Use of Training Schools, Families and Private Students. Compiled by Clara S. Weeks. New York: D. Appleton & Co. 1885.

A Practical Treatise on Diseases of the Kidneys and Urinary Derangements. By Charles Henry Raffle, M.A.M.D. (Camb.) With Illustrations. Philadelphia: P. Blakiston, Son & Co.

A Reference Handbook of the Medical Sciences, Embracing the Entire Range of Scientific and Practical Medicine and Allied Science. By Various Authors. Illustrated by Chromo-Lithographs and Fine Wood Engravings. Edited by Albert H. Buck, M.D., New York. Vol. I. New York: Wm. Wood & Co. 1885.

The Report of the Board of Health of the State of Alabama for the Years 1883-84. Montgomery, Ala.

## Original Articles.

## A CASE OF STRICTURE OF BOTH URETERS, DOUBLE HYDRONEPHROSIS, LEFT LUMBAR NEPHROTOMY. — DEATH FROM URÆMIA FORTY-EIGHT HOURS AFTER OPERATION.

BY F. S. WATSON, M.D.,

*Surgeon to Out-patients, Boston City Hospital.*

EARLY in May of this year, I was called in consultation to a young man of twenty-two years of age, whose case was one of such unusual character, that it seems desirable to report it somewhat in detail.

The history of the illness is briefly as follows: A year previous, the patient had an attack of renal colic on the *right* side; passed soon afterwards two small calculi, and the urine contained sand for a few weeks following. About this time he acquired a gonorrhœa; cystitis resulted, but all symptoms left the patient at the end of six months, and he considered himself perfectly well, and for the last six months has not been conscious of any trouble. During this time he was actively engaged in study and athletic sports.

Five days before I saw him he went to a boat race, became chilled while there; on coming home had a severe chill, accompanied by renal colic of the *left* side, nausea, and a sudden diminution in the quantity of urine. During the next day, a swelling made its appearance in the left lumbar region, extending forward into the left hypochondrium. This slowly increased in size, and on the fourth day, was a large, tense tumor, of the size of a fetus' head at term. It was then aspirated, and about six ounces of urine were withdrawn from it. It rapidly refilled, however, and on the following morning, when I first saw the patient, had regained the size already mentioned. In the meantime, the quantity of urine passed into the bladder continued to be from three to six ounces only, in each twenty-four hours. The patient sank rapidly, with hiccough, vomiting of dark matter, as prominent symptoms, and became unconscious during the fourth day. Constipation had existed from the first. On the morning of the fifth day, he could, however, be aroused sufficiently to answer questions. Pulse, 138, regular, and fairly strong; temperature, 97° F.; tongue furred; persistent hiccough and vomiting, and slight twitchings of the muscles of the face and forearms. Bladder empty; no obstruction in the course of the urethra. The tumor as already described, tense and fluctuating, extending from the eleventh rib to the crest of the ilium, and very prominent in front. The urine was pale, cloudy, owing to the presence of pus, and crystals of its triple phosphates, and had a sp. gr. of 1010. No casts, and no concretions, and only a trace of albumen. There was no disease of the other organs detected.

The diagnosis was made of hydronephrosis of the left kidney, due to an obstruction in the course of the ureter, probably stone, and chronic disease of the right kidney, nature conjectural. The cyst was so tense that its rupture was felt to be imminent; and it was with a view to avoiding this catastrophe, as well as in the hope of finding that the obstruction was of a remediable nature, that lumbar nephrotomy was advised, although an unfavorable prognosis was given, based upon the patient's general condition, the probable diseased condition of the other kidney, and the chance of finding that the obstruction was not removable.

The cyst was reached without difficulty, or hæmorrhage of consequence, by an incision four finger-

breadths from the vertebral spines, extending from the twelfth rib to the crest of the ilium. Its walls were tensely stretched, but not ruptured at any point, although almost as thin as tissue paper. Before opening it, a considerable quantity of urine was noticed in the muscular inter-spaces and tissues in the vicinity of the tumor, and the question occurred if this might not have escaped from the aspirating punctures of the day before, upon the refilling of the cyst.

The cyst was now incised, and about a quart of urine escaped. Upon inserting the finger into the calyx of the kidney through this wound, it entered a very large cavity, the further limits of which could not be felt in any direction. Neither the orifice of the ureter nor any normal structures were recognizable, nor could any stone or other obstruction be detected, although a long probe was pushed far down into what was taken to be the course of the ureter.

The only thing left to do was to stitch the calyx of the kidney to the sides of the wound, and to arrange for permanent drainage through the loin, which was accordingly done. An antiseptic dressing completed the operation. Large quantities of urine continued to flow through the drainage tube. The shock was slight; pulse after the operation, 140. The temperature rose in the evening to 101° F.; vomiting, hiccough, and constipation ceased for about twelve hours after the operation. No more urine has passed into the bladder.

The patient partially recovered consciousness on the following morning, but gradually returned to his former condition, and died about forty-eight hours afterward with uræmic symptoms.

## AUTOPSY.

The autopsy which was made by Dr. W. W. Gannett, showed appearances unusual in this class of cases. The right kidney was converted into an oval sac 9.5 by 6 cm., there being a thin layer of renal substance of a pale gray color, and increased density on its inner surface. There was a narrowing of the ureter 1.5 cm. below the pelvis, with dilatation above this point, the ureter below being of the normal calibre.

The left kidney was much enlarged, measuring 19.5 by 11 cm. The pelvis and calyces were greatly dilated, a portion only of the renal substance remaining on the inner surface. The ureter at the point of origin from the pelvis, measured 4 cm.; immediately below this point it was widely dilated, being about the size of the small intestine, and measuring when laid open, about 8 cm. in width. Two centimeters above the bladder, there was a stricture of the ureter large enough to admit only a fine knitting needle. Below this, the ureter was of the normal calibre. No calculi were found, and nothing on the outside of the ureters to suggest that there had been any cause of stricture from without.

The right kidney had probably been rendered incapable of performing its function at the previous attack of renal colic. The left kidney had not been suddenly rendered useless, but the marked degree of hydronephrosis and dilatation of the ureter had required considerable time for their development. Whether the obstruction leading to the stricture on the left side was due to a calculus is impossible to say. The patient died from uræmia, due to the small amount of secreting surface remaining.

I have found in the literature relating to this sub-

ject, only four cases which at all closely resemble this one just reported, and have thought it worth while to present a short summary of them.

1. Kroner reports a right-sided hydronephrosis due to a valve-like formation of the mucous membrane of the pelvis of the kidney, the nature and cause of which are not accurately described in the *Arch. für Gynäkologie*, 1881, xvii., 87, 109.

This patient, a young woman, recovered after the kidney had been drained by ventral median operation, a nephrotomy being performed later, from which the patient was also restored.

2. A case somewhat resembling the one reported by me this evening, is published by L. Galliard in the *Progrès Médical*, 1880, viij., 868. The patient was a man of sixty, who, until within a day or two before his entrance to the hospital, had enjoyed excellent health, and had never had any symptoms pointing to renal calculus, or referable to the genito-urinary tract. He complained, on entrance, of a severe pain localized about the lumbar region, and a fluctuating tumor could be made out there. There was pus in the urine, and the patient was constipated. The tumor increased slowly in size for four days, when he died uræmic. The autopsy showed the left kidney to be the seat of an extensive hydronephrosis, due to the presence (according to the reporter) of an inflammatory stricture one and a half centimeter long, in the ureter, just below its exit from the pelvis of the kidney. The mucous membrane above the stricture presented the characters of chronic inflammation, and there was an extensive formation of connective tissue at the site of the stricture. The other kidney is not said to have been diseased.

3. *Agrolles, Société Anatomique*, lix, 214, has a case of a robust-looking man of fifty-four years of age, who gave a history of having passed renal calculi at intervals during the two years previous. He had passed no urine for five days before, and had, until ten days ago, been quite well. At that time he began to notice a sense of oppression in the abdomen. On the twelfth day in the hospital, pulmonary œdema came on; and on the sixteenth day after entrance, he died suddenly, having only passed four hundred grammes of urine in the last day. He was comatose during the last four days. The autopsy showed obliteration of both ureters (at what points is not mentioned), with formation of connective tissue at the points affected, and inflammation of the mucous membrane.

4. The last case is taken from *St. George's Hospital Reports*, Vol. x., 1879, p. 330. This was a young man aged twenty-three, who had catarrhal symptoms of nose, throat and bronchi, night sweats, and rapid wasting for a week. At time of entrance, the urine contained no albumen. Under treatment, he improved for three weeks. Albumen then appeared in the urine. Edema of the lungs and diarrhoea, and œdema of the tonsils followed, and he died one month from date of entrance. (No mention is made of the quantities of urine passed). After death, there was found a stricture of the left ureter, about four inches below its exit from the kidney, above which the mucous membrane was reddened, thickened, and ulcerated. Both kidneys were enlarged, and the seat of a diffuse nephritis. The lungs were œdematous. It was thought that the stricture was not of very recent date, but had been rendered impervious by the inflammatory changes.

Cases in which stones have been present in the ureters, diminishing their calibres, or in which the flow of

urine through them has been impeded or stopped by the pressure of new growths or strictures, resulting from the presence of abscesses or new growths in their vicinity, are not especially uncommon. But I have been unable to find other than these cases of strictures of this nature, in the published reports, and offer my own to the Society in the hope that those who have had a larger experience may have met with similar conditions, which they will be ready to impart.

## SEVERE AND PROLONGED NEPHRITIC COLIC WITH RECOVERY.<sup>1</sup>

BY F. GORDON MORRILL, M.D.

THE patient, married, aged twenty-four, was confined with her first child, April 20, 1884. A fairly prompt recovery followed a tedious labor which terminated in instrumental delivery. A laceration of the cervix of considerable extent was left to itself, it being deemed wise to avoid operative measures until the patient's general condition should improve with change of air, her usual health being far from robust, although no special cause existed, so far as known. From June 10 (the date of her leaving the city), until the latter part of October, I lost sight of her; but immediately upon her return she consulted me, complaining of frequent and painful micturition, which had then existed about a fortnight. Examination of the urine early in November showed slight acidity, a moderate amount of pus, and an excess of epithelium of a large variety, which may have been either vesical or vaginal—as the precaution of using a douche previous to passing the specimen examined was neglected. The usual treatment by sitz baths, alkalis and diluents having failed to give relief, and the pain being of such a nature as to raise a suspicion of the presence of a vascular tumor of the urethra, an examination was made November 10, but nothing beyond a gravid uterus of two months was discovered. This may have been the immediate cause of trouble which must have appeared sooner or later, as the subsequent history of the case will show. I have neglected to state that previous to her confinement, the patient's only illnesses had been an acute rheumatic fever, and a sickness which followed a fall upon the ice in girlhood, the nature of which can only be guessed at, but which necessitated the application of leeches over the course of the right ureter. The original diagnosis of cystitis was apparently confirmed—the acidity of the urine (considering the sex of the patient) not to my mind balancing the rational signs and absence of anything in the urine indicating renal trouble. Within a fortnight the pain and tenderness (the latter now involving the rectum at times) had become so intense as to require  $\frac{3}{ii}$  of tr. opii by the rectum every day to obtain relief, besides grs. ii of morphia by the mouth. Anorexia and a considerable loss of strength accompanied this condition of things, and the condition of the urine meanwhile remained unchanged. All treatment except outward applications and opiates had to be abandoned on account of persistent nausea, and matters grew steadily worse until December 10, when she complained of pain in the right lumbar region. On the 12th, a severe and prolonged chill was followed by a pulse of 135, and a temperature of 101° F. Previous to this neither pulse or

<sup>1</sup> Read before Boston Society for Medical Improvement, October 26th, 1885.

temperature (aside from weakness of the former) had shown any deviations from normal.

The pain was now of the most agonizing description, and followed the course of the ureter from the right kidney to the bladder, and thence to the meatus. At times it preceded or immediately followed micturition, and again it would come on entirely irrespective of the act. The urine now showed pus in clumps, and renal and caudate epithelium. It was still acid, and the quantity was increased. *No casts or crystals of any description were detected by repeated examinations.*

The rectal injection of laudanum had now to be abandoned on account of producing irritation, and six grains of morphia (hyperdermically and by the mouth) were required to give only partial relief. But little nourishment could now be taken, and brandy in large doses was required to support the strength. On the 14th, Dr. Hodges saw the patient with me, and agreed in the diagnosis of acute pyelitis, and that to support the patient's strength and relieve pain, was all that could be done at that time in the way of treatment. November 15, an excellent trained nurse was in attendance (against whose employment the patient had hitherto obstinately fought) and for the first time morphia enough (grs. 10 per diem) was used to subdue the pain, and the amount of nourishment was increased through her tact and perseverance. Chloral in 5ss doses was employed to obtain sleep. December 20th there was no change in her condition aside from loss of strength, and on the 21st, the urethra was dilated under ether, and a careful examination made of the interior of the bladder. Nothing was discovered here, or in the lumbar region or course of the ureter to shed any light upon the cause of the pain. Dr. Wood examined the urine, and the results obtained were identical with my own, save that one fibrinous cast was discovered. His opinion was that a pyelitis of the right kidney existed, and that the absence of the microscopic proofs of a calculus or gravel might be due to the patient having been so long in the recumbent position. December 29th, it was thought best to empty the uterus, in hopes that removing the pressure upon the ureter might afford relief, the patient now being four months pregnant. Dr. Boardman saw the patient with me, and under ether another careful examination was made with negative results. There was no renal tumor, no stone in the bladder or ureter—in short, nothing was discovered beyond the fact that the uterus was antverted, and that the foetal head could be easily caught between the finger of one hand in the vagina, and the other hand placed upon the abdominal walls. A sound was introduced into the womb and carefully swept around. Only a slight hæmorrhage followed. In the evening what appeared to be uterine pains caused me to give a full dose of ergot; but labor was delayed until January 1st, when a full dose of ergot was again given and the fetus removed. An adherent placenta together with considerable loss of blood and what almost amounted to collapse on the part of the patient were attendant features of the not too cheerful scene, and hyperdermic injections of brandy and ether were required to restore anything resembling a regular pulse. The uterus fortunately contracted firmly, and upon consciousness being restored the patient expressed great relief so far as her pain in the lumbar region was concerned; but the pain in the bladder and urethra continued severe. January 4th the lumbar pain returned and on the 8th, twenty-

one grains of morphia hyperdermically and 3ii of chloral were administered in twenty-three hours to obtain only brief intervals of freedom from acute suffering. This sudden and enormous increase of the amount of morphia required was accompanied by the excretion of more than double the normal amount of urine, which was comparatively free from sediment of any kind. On the night of the 8th, all pain suddenly disappeared, and during the next three days the urine was loaded with pus, and uric acid gravel was passed in enormous quantities, but nothing like what is ordinarily recognized as a "concretion" appeared. The morphia was immediately reduced to grs. iii. per diem, and at times even less, sleep being procured by the use of chloral. The appetite and strength now began to improve, and the patient was most eager to abandon the use of morphia. The urine was speedily rendered alkaline by lithium, and the only pain remaining (January 18th) was apparently occasioned by spasm of the urethra following micturition, and requiring about gr. i. of morphia every twenty-four hours. All trouble gradually ceased after this, and examination of the urine in February showed no trace of pus or crystals or casts, and the patient has remained free from any urinary symptoms to present date. I regret that the gravel passed was not saved after each micturition, but this being unfortunately the case, I can only roughly estimate the amount as between two and three even teaspoonfuls. I have not mentioned the particulars regarding the treatment, aside from the amount of morphia and chloral administered; and will briefly state that lithium, urethral suppositories of cocaine (when the pain seemed to centre at the neck of the bladder) and various other remedies were used as the symptoms indicated, without the least apparent effect. The two points of interest (aside from the severity of the symptoms and their long duration) are:—

The reference of the pain to the urethra when the cause was renal, this being analogous to the retraction of the testicles in males.

The absence of microscopic proof of renal trouble when the disease had existed for so long a time.

#### LUXATION OF LENS BENEATH TENON'S CAPSULE.<sup>1</sup>

BY O. F. WADSWORTH, M.D., BOSTON.

As I do not remember to have seen any report of the luxation of a lens beneath Tenon's capsule, it seems worth while to put the following case on record:

James T., aged forty-seven, entered the City Hospital March 18, 1881, by advice of his family physician, for emulsion of his left eye. Two weeks before, he had received a blow on this eye from the horn of a cow, which had destroyed its sight. Since the injury the eye had been painful, and any attempt to use the other eye had caused pain in it also.

The cornea was slightly hazy; a narrow strip of iris was visible at the inner and lower edge of the anterior chamber, elsewhere the area behind the cornea was dark and partly filled with blood. Near the inner edge of the cornea was an irregular cicatrix in the conjunctiva, and a few dark irregular lines in the tissues beneath suggested a partial rupture of the sclera. Upward and outward, between the external and superior recti, beginning  $1\frac{1}{2}$  to 2" from the edge of the cor-

<sup>1</sup>Read before the American Ophthalmological Society, July 16, 1885.

nea, was a rounded swelling, of the size and shape of the crystalline lens. Oblique light showed the swelling to be translucent. It was evidently covered by a layer of dense tissue.

I supposed the lens lay between the sclera and Tenon's capsule, and that on division of the capsule, during enucleation, it would escape; but this proved not to be the case. In the operation the hook glided behind the swelling, and it remained in position when the globe was removed. The eye was hardened in Müller's fluid and alcohol, and later divided anteroposteriorly through the swelling.

Microscopically, no sign of a rupture in the sclera could be seen. The lens appeared to lie against its outer surface; or rather it seemed as if the greater portion of the sclera lay between the lens and the vitreous chamber, while a thin layer of its outermost fibres passed outside the lens and held it in place.

On thin sections through the whole globe, which Dr. H. P. Quincy kindly made for me, the microscope showed, however, the true condition. The sclera had been ruptured near the anterior edge of the ciliary body, and the wound had been completely closed by cicatricial tissue. The whole thickness of the sclera ran along on the inner side of the lens, and the fibrous layer on the outer side round the lens behind, and was there united firmly to the sclera by inflammatory exudation.



## RECENT PROGRESS IN PATHOLOGY AND PATHOLOGICAL ANATOMY.<sup>1</sup>

BY WILLIAM F. WHITNEY, M.D.

### EXPERIMENTAL STUDIES ON THE FORMATION OF THROMBUS.<sup>2</sup>

Up to the present time this subject has been observed only in the cold-blooded animals, on account of the technical difficulties which stood in the way of using the mammals. However useful the former may be, in many respects they are unsuitable, especially when it becomes a question of the part played by the third formed element of the blood, the so-called blood plates. For these an almost specific rôle in the coagulation of the blood both within and without the vessels, has been claimed. They are supposed to change rapidly, bring about the fibrin fermentation, precipitating the fibrin upon themselves, from whence it shoots out in thread-like processes. In short, they control the entire process of extra-vascular coagulation. In the formation of the thrombus, they adhere to every foreign body within the vessel, and to a wounded wall. They cause the primary closure of a wound, and finally make up the white thrombus, which has hitherto been regarded as an accumulation of white cells.

The authors of this article have occupied themselves eagerly with this new theory of coagulation, and do not find that it can be justified. They have found that the fibrin threads do shoot out like needles, and in this respect coagulation is like crystallization; but

that the relationship of it to the blood plates is an accidental one. And further they deny, on the chemical side of the question, that they exert a specific or fermentative action in the sense of the term employed by A. Schmidt.

At the head of their investigations they placed a long series of observations on the circulation in warm-blooded animals, and endeavored to study the relation of disturbances from the very beginning. They were able to accomplish this by entirely immersing a guinea pig or dog in a bath of warm salt solution, of the strength of three-quarters of one per cent. The omentum or mesentery was drawn out beneath the fluid and directly observed by plunging the tube of the microscope down to it. In this way circulation could be maintained for hours. The normal condition was characterized by a red stream in the centre flowing with such swiftness that the separate elements could not be distinguished. Between this and the walls of the vessel, especially noticeable in the veins, a clear zone of plasma was to be made out, about the width of a leucocyte. In this, one of these occasionally rolled along, but much more slowly than the elements in the axial current.

By simply letting the water run out of the bath the vessels could be subjected to various degrees of irritation. Even when this was very slight, the arrangement, as described above, was essentially changed. If the vessels were dried for an instant, or the bath made too warm, a marked accumulation of the colorless cells took place in the plasma zone, rolling over each other two or three deep, and thus narrowing up the red stream. But still all the elements were in motion, nor did they become glued together, or permanently adherent or even cause an entire stoppage of the vessel. In the normal circulation the blood plates were never seen next the wall, and therefore they must all be carried along with the quickly-moving blood.

When the external violence was so great as to cause the current to slacken a little, there was an essential change in all of these relations. When the rate was such that the separate elements could just be distinguished in the middle, a blood plate was occasionally seen to be thrown out of the axial stream and appeared in the outer layer. If the rate became again accelerated, these plates were again drawn into the centre, and the old order was re-established.

On the other hand, if the current was slowed still more, the number of leucocytes lying against the wall decreased, being carried off by the stream, which however failed to bring others to supply their place, and passed through the walls. The number of blood plates steadily augmented, however, and soon assumed large proportions.

If the external violence was so great as to cause stagnation in the vascular territory, then all the elements of the blood, red and white corpuscles, and blood plates were indiscriminately mixed in the lumen of the vessel.

If a drop of blood as it comes from a vessel is examined with the microscope, the separate constituents show marked difference in their behavior to each other and to foreign bodies, slide and cover glass, with which they may come in contact. The red corpuscles do not stick either to each other or to the glass. They flow freely about in the capillary currents of the plasma, and arrange themselves in the well-known rouleau form. The blood plates, in consequence of

<sup>1</sup> Continued from page 167.

<sup>2</sup> Ehrlich and Schümmelbusch, *Fortschritte der Medizin*, Vol. 3, p. 1.

some alteration in them adhere to each other and to the glass, while the leucocytes first become fixed to the glass and then begin to change their position by means of their pseudopodia. Direct or indirect insult to the vascular walls often called forth similar conditions of the elements of the blood within the vessels. The blood plates adhered, the leucocytes migrated, while the red corpuscles were freely suspended in the plasma.

One fact was often noticed in connection with attempts at local irritation or compression with a needle, and that was that a normal stream would keep on for hours at a place where this had been applied and where even a partial thrombus had been formed on the injured walls. But in all such cases it was noticed that the current was moving very rapidly and was separated from the obstruction by the plasma zone. When, however, the force was weakened at the same time that the local violence was applied, or had become diminished in a vessel with an injured wall, then the blood plates appeared in the liquid zone. And as soon as they came in contact with the obstruction, they adhered to it, and formed a thicker and thicker layer, until the lumen was here and there entirely blocked up.

As the results of their work, it may be stated that first they bring into prominence the fact, that in opposition to the generally received theory, a lesion of the vascular walls or the presence of an abnormal body is not alone sufficient to cause the formation of a thrombus. Disturbances in the circulation aid even more materially in producing this. When this has reached a point that the blood plates are hurled into the peripheral part, then an opportunity arises for them to undergo a typical alteration, for which the authors propose the name of "viscous change," and when this has come about, then thrombosis takes place. Where the stream has its greatest activity, there the normal condition is more easily preserved, but where its energy is small, as in the veins, or where, as in the smallest capillaries the axial stream entirely ceases, a coagulation of blood in the vessels can easily arise. The exact relation of the exudation of fibrin in this process is purposely left out, as well as a consideration whether in the later stages, there are any evidences of what is known as "coagulation necrosis."

Shortly expressed, the thrombus results from a disturbance of the mechanical relations of the blood stream and the viscous metamorphosis of the blood plates.

This theory is capable of explaining some phenomena which have hitherto been hard to understand. For example, the marantic thrombi win a solid foundation from the appreciable influence of a weakened heart's action. And those cases in which thrombi are not found in spite of marked alteration of the vascular walls, as in endarteritis, appear in another light.

#### ON EMBOLISM OF THE VEINS AND BACKWARD TRANSPORTATION IN THE VEINS AND LYMPH VESSELS.

A few cases have recently come under von Recklinghausen's<sup>3</sup> observation which could only be explained on the assumption that emboli had been carried along certain veins in a direction opposite to the normal direction of the current. That this could be produced experimentally has been known for a long time, but the cases which have hitherto been cited as examples, were in his opinion capable of another explanation.

Those which the author cites, are divided by him into two classes, one where the circulation was open, and the other where it has been closed.

The first case was one of myxosarcoma of the tibia with metastatic tumors and emboli of the pulmonary and renal veins.

The second was of acute cirrhosis of the liver, and pyæmia with multiple metastasis. Phlebitis of the veins of the pelvis of the kidney with retrograde transportation.

In the second category are those in which this backward carrying has taken place in a vein or lymph vessel after one of the chief branches has been permanently obstructed. This was illustrated by cases of cancer in the lungs in which the peripheral lymph canals on the surface were filled with the new growth.

The cases must be read in the original, as the value depends upon a very close following of the author's accurate observation on the arrangement and distribution of the embolic masses to which it is impossible to do justice in a summarized account.

He closes by saying that if he has called attention to a way, hitherto little recognized, in which metastasis can take place, he is still far from the idea that it plays a great part in their propagation. The long, well-recognized way, in the direction of the stream, must ever act as the chief path. But we must remain mindful of the fact that there are many possible ways in an organism as complicated as the animal body, and that our task is to take cognizance of this, and decide between them all, in a given case.

#### ON OLD THROMBI OF THE HEART.<sup>4</sup>

The subject is one that has been known for a long time, and many erroneous ideas have prevailed in regard to it. Laennec was the first to demonstrate the true nature of the so-called polyps of the heart, and through him and the older pathologists the distinction between the recently coagulated masses or false polypi and the older heart thrombi, or true polyps, was clearly brought out.

The form under which these latter appear, differ according to the time and place of their origin, and finally with their aetiology. Yet they can be divided into groups, which from their external appearance can be distinguished by four chief forms, naturally passing into each other.

(1) Small parietal thrombi, usually cystic in character, from softening of the central portion. (Vegetations globulenses. Laennec.)

(2) Large thrombi often filling entire cavities of the heart, especially the auricular appendages or auricles.

(3) Pedunculated thrombi (heart polyps in the narrow use of the term).

(4) Free thrombi, that is not attached to the wall and floating freely in the blood. (Ball thrombi.)

The first two forms are those most frequently met with, and the seat of the first is usually at the apex of the right ventricle, and having its starting point among the trabeculae. The centre of the globular variety is often occupied by a cavity, the result of retrograde metamorphosis. The second group are distinguished by their grayish or whitish yellow color, lamellated structure, and often with a central softening. The chief seat is in the right auricle, then follows the left, then the right ventricle, and finally the left ventricle.

<sup>3</sup> Virchow's Archiv., Vol. 101, p. 502.

<sup>4</sup> Hertz, Deutsch. Archiv. f. Klin. Med., Vol. 37, p. 74.

They can extend from one cavity to the other, or into the large vessels. They come in a dilated heart, or in marantic persons.

The two last forms are much rarer, and the author contributes observations from the cases which have come under his notice.

The pedunculated ones are of considerable size, reaching at times the size of a hen's egg, and are solitary. Their seat of preference is the smooth surface of the interauricular septum.

Two cases of this sort are recorded. In one there was found a globular tumor attached by a short peduncle to the left side of auricular septum, midway between the fossa ovalis and the anterior segment of the mitral valve. When hanging down it almost reached the opening. The microscopic examination showed it to be composed of a loose fibrous tissue traversed by numerous thin-walled vessels. In the interstices of the tissue there were found clumps of golden brown pigment mixed with a finely granular detritus. The endothelium covering the auricle was not continuous over the surface, and this confirms the idea that this is to be regarded as an organized thrombus, and not an outgrowth from the wall.

In the second case, a tumor the size of a nut was found attached to the posterior edge of the entrance into the left auricular appendix by a stem the size of a knitting-needle, and was freely movable in all directions. The histological examination showed a structure essentially the same as in the last, only the organization was not quite so complete.

In looking through the literature of the subject, only nine other cases were found recorded. They differed from these in the mention of a lamellated structure and central softening, and sometimes calcification. In one only was the seat within the ventricle, in all others in the auricle, preferably the left, near the foramen ovale. The only cause that is assigned for this position is that a quiet eddy in the blood current may occur here.

The fourth variety of free swimming thrombi in the heart, is of exceedingly rare occurrence. Of this form he had met with two cases.

The first occurred in a man twenty-two years old, who as a child had suffered from rheumatism. He entered the hospital for sloughing of the lower leg, and died suddenly.

The markedly enlarged left auricle was found to contain two thrombus masses. The one somewhat ball-shaped with one part of the surface irregularly marked, rested loosely in the appendix, while the second, perfectly round and nearly as large as a potato, was perfectly free in the cavity of the auricle. The edges of the mitral valve were so adherent as to reduce the opening to an irregular, narrow funnel. The corde tendineae were shortened and the papillary muscles thickened.

The loose thrombus, the surface of which looked as if it had been turned and polished in a lathe, lay like a ball valve in the opening. The centre was occupied by a cavity filled with broken-down material. A second polished thrombus was found in the left ventricle, evidently having originated in the auricle.

The second case was in a woman, thirty-nine years old, a maniac, who had suffered for years with symptoms of mitral stenosis and insufficiency, and who died suddenly.

On removing the heart a round thrombus rolled

out of the left auricle. It measured four centimeters and had a firm elastic covering of coagulated fibrin, and gave a distinct wave of fluctuation. The heart was enlarged in all its dimensions, but especially the right ventricle. The mitral was very much contracted.

One other case only has been found recorded. It was that of a convalescent patient who died suddenly. In the heart there was a very firm, almost cartilaginous, grayish yellow, freely movable coagulum of half the size of a walnut, lying over the opening of the mitral valve.

The seat of origin of such thrombi is to be regarded as in the auricular appendage, from whence they become detached, and being too large to pass through the mitral valve, become rounded and polished by the to-and-fro movement in the blood.

#### INVESTIGATIONS ON THE PNEUMONIA FOLLOWING SECTION OF THE VAGUS NERVE.

From the time of Valsalva it has been known that if the vagus nerve was divided, a form of pneumonia was subsequently developed. Traube was the first who rightly characterized it as a broncho-pneumonia, caused by the fluid from the mouth finding its way into the lungs, as a result of the paralysis of the larynx and oesophagus. Schiff has opposed to this the idea that it was due to paralysis of the vaso-motor nerves of the lungs. It is, however, generally conceded now that Traube's theory is the right one.

Starting from this point, Lehan<sup>6</sup> has endeavored to determine what are the harmful agents in the fluid which bring this about. And he has naturally turned his attention to the microorganisms.

With this end in view, a series of seven rabbits were first used. A piece of the vagus was excised in each case under antiseptic precautions, and the animals kept fasting, and if they did not die sooner, were killed at the end of twenty-four hours. Scrapings from the cut surface of the lungs were dried upon the cover-glass, and was also sown in nutrient gelatine. When examined microscopically, both the slides and the pure culture showed an elliptical coccus of medium size, often united in pairs, and more rarely in strings of three or four. A formation of spores was not observed. It seen in a drop of fluid they gave evidence of a lively movement.

On the gelatine plate cultures, at the ordinary temperature, the colonies appeared as round, darkly granular groups with slightly rough surfaces and edges. After twenty to twenty-four hours there is seen with a low power a little liquified spot at the centre of each colony, which has a whirling motion. In a short time the gelatine is entirely liquified. When the cultivation is carried on in a beaker glass, a white sediment is deposited after the nutritive material has been rendered fluid. This organism also grows in blood serum, in bouillon and on potatoes, over the surface of which it soon spreads.

With the pure cultures thus obtained, injections were made into the trachea, and also used for atomized inhalation and finally for direct introduction through the thorax wall into the lung. In all of these a pneumonia, similar to that following section of the vagus, was produced in the majority of cases; except where the culture had been sterilized before use by heating, and there it was without any effect.

From these experiments the author concludes that

<sup>6</sup> Fortschritte der Medicin. Vol. 3, p. 493.

it is this bacteria which causes the disease. He endeavored to isolate it directly from the fluids of the mouth, but was only successful in finding it once in twenty-five cases.

Another interesting point in his investigations was the finding of two other microorganisms in the lungs and in the blood in great quantities; but which he considers as perfectly innocuous. He tried injecting large numbers into the trachea, but failed to produce any or only very slight inflammation in the lungs.

The one was a round micrococcus, somewhat above the medium size which grew on gelatine, without liquifying it, in the form of white colonies only raised a little above the surface.

The second was a moving elliptical coccus, similar in appearance to the pathogenic one, but which reduced the gelatine fluid less quickly and the colonies of which were not so darkly granular.

The above facts are of importance, as it is here clearly shown that the very abundant presence of bacteria in connection with a pathological process is far from a proof of their causal relation. These must be regarded as having developed secondarily to the pneumonia, and have thence entered the blood, while the disease was excited by another which remained in the lungs.

#### EPITHELIOMA IN A PHTHISICAL CAVITY.

The following rare case is reported by Friedlander:—<sup>6</sup>

A man died who clinically presented the features of phthisis with pleurisy on the left side.

Upon opening the lungs there was found in one of the cavities at the apex of the left a tumor attached to the walls by a broad base. From this point it tapered to a sort of pedicle, which lay in the bronchus connecting with the cavity, and enlarged again to a rounded end the size of a joint of the finger. This nearly filled the lumen of the branch in which it was, but yet was freely movable.

The pearly gray medullary aspect of the growth suggested at once the diagnosis of cancer, and the microscope showed it to be a true epithelioma. The stroma was everywhere firm, and only moderately vascular, and infiltrated in only a slight degree with round cells. In the meshes formed by this were imbedded anastomosing cords of cells, of varying breadth. The cells within these were mostly polygonal, with serrated edges and surfaces. Here and there they were scale-like, without nuclei, reacting like the horny layer of the skin, and lubricated like an onion. In short, the typical picture which is found in epithelioma of the lip, tongue, œsophagus, etc.

Nowhere else in the body was anything found which could stand in the light of a primary or secondary growth to this.

Therefore this must be regarded as the unusual occurrence of an epithelial tumor proceeding from an ulcerating tuberculous surface. It seems almost at first sight as if this could not be explained in accordance with the generally accepted theory, which supposes that such growths can only start from pre-existing epithelium. But the author recalls an observation of Griffini, who found in defects of the trachea and bronchi, especially those caused by tuberculous ulceration, that a layer of stratified pavement epithelium had been developed there. And Ziegler has also

noticed flat epithelium on the edges of syphilitic ulcers of the air passages.

On the wall itself of a cavity, so far as is known, epithelium has not been found, but this is not impossible, and it might be supposed to creep in from that lining the bronchus and become modified.

In subacute and chronic bronchitis (with the development of granulation tissue in and about the bronchial walls) Friedlander himself has noticed an atypical growth of the cells of the living coat by which buds and tongue-like processes of epithelium were found in the bronchial wall and its surrounding. These have the closest resemblance to cancer, but that they should ever form a true new growth must be a very rare occurrence.

### Reports of Societies.

#### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

OCTOBER 26th, 1885, the President, Dr. F. W. DRAPER, in the Chair.

#### SEVERE AND PROLONGED NEPHRITIC COLIC WITH RECOVERY.<sup>1</sup>

DR. F. GORDON MORRILL read a paper with the above title, for the discussion of which see below.

DR. F. S. WATSON reported a case of

#### URETHRAL CALCULUS.

H. C., six years ago, had gonorrhœa, which ran a normal course, and has since resulted in no harm. One year ago he had two attacks of renal colic, six months ago another, and two months ago he began to have pain in the end of the penis after micturition. Three days since he had another severe attack of renal colic, which was followed by complete retention of urine due to the passage of a stone into the urethra, but by manipulating the stone, he was enabled to urinate beside it slowly. The patient came to the clinic on July 1st, with a stone to be felt about one inch behind the meatus. Attempts at extraction without ether were so painful that the patient fainted and became pulseless. Upon being restored, he was etherized, the meatus was incised and the stone readily extracted. It was seen to be of the size of a large pea, oblong in shape, rough, and having a nucleus of uric acid, with a coating of phosphates. Its largest diameter was twenty-eight millimetres. The patient remained one day in the house, and then went home without any untoward symptom having made its appearance. This specimen is chiefly of interest on account of its being of a rather large size to pass spontaneously through the urethra.

Dr. F. S. Watson reported as follows a case of

#### STONE IN THE BLADDER, CRUSHED AND EVACUATED BY BIGELOW'S METHOD, UNDER THE USE OF COCAINE.

These fragments of a soft phosphatic stone weighing sixty-nine grains are from a patient aged sixty-two. There was no especial interest attaching to the stone itself, except that the operation (the ordinary one of Professor Bigelow) was performed without any other anæsthetic than cocaine, on which account he thought it worth reporting. Cocaine in a four per cent. solution was employed in the following way: a syringe full of

<sup>6</sup> Fortschritte der Medizin, Vol. 3, p. 307.

<sup>1</sup> See page 506.

it was injected into the urethra, by means of an Ultzmann syringe, and allowed to remain for two or three minutes. The bladder was then emptied, and an ounce of the same solution injected through the catheter. After waiting for three minutes, the smaller sized Bigelow lithotrite was introduced, and the stone easily caught and crushed, the time occupied being about fifteen minutes. The patient complained of an occasional twinge of pain, especially toward the end of the time, but was, on the whole, almost free from suffering. During the work with the evacuator it was found necessary to stop once and withdraw it, on account of pain and vesical tenesmus, which, however, passed off after a second application of cocaine, so that the rest of the work could be readily accomplished. The patient expressed himself as well pleased with the effect of the drug, and of its having enabled him to escape the unpleasantness of etherization.

Dr. Watson also read a paper on a case of

STRICTURE OF BOTH URETERS. DOUBLE HYDRO-NEPHROSIS. LEFT LUMBAR NEPHROTOMY. DEATH IN FORTY-EIGHT HOURS. AUTOPSY BY DR. GANNETT.<sup>1</sup>

The President said that as the papers were upon kindred subjects, he proposed to have them discussed together, and he called upon Dr. Francis Minot to open the debate.

Dr. MINOT said Dr. Morrill's case was of interest with reference to the diagnosis of calculus in women, neuralgia of the abdomen sometimes so closely resembling it with them, as to make diagnosis at the beginning of an attack not merely hard, but for a time, impossible. He had had two such cases, both in women who had inherited a markedly nervous temperament. In both, there was irritable bladder and a somewhat restricted flow of urine for a time. In neither was there any tenderness, nor was he able to give relief with any amount of morphia that he dared to use. In both, however, two or three eight-grain doses of quinine seemed to so cut short the pain, that he could not help believing it was quinine, and not the passage of a stone, that ended it.

Dr. C. B. PORTER said that having come in late, he had not heard the papers, and was, therefore, not criticising the treatment of the readers, but that personally, he objected to the use of large doses of morphia in these cases. Sudden cessation of pain by the passing of a stone, may be followed by poisoning. He had seen marked opium narco-sis under such circumstances, and believed that ether was much safer. The spasm of the muscular coat of the ureter is more easily relaxed by ether than by opium, and that is another reason for preferring its use.

Dr. O. W. DOR referred to a case which had been under his care for three weeks past, and which had presented many symptoms similar to those he had observed in the case reported by Dr. Watson before he called him in to operate.

The lady was twenty-six years of age, three months advanced in her second pregnancy. During the past year, he had six previous attacks of severe pain in the left lumbar region, coming on very suddenly and continuing until relieved either by morphia or ether. She was usually up and about again in two or three days. The present attack began on the morning of October 7th, and was relieved by morphia in about six

hours. Late in the afternoon, it returned suddenly with "ten-fold severity," and the patient was kept under ether for some hours. The following morning, there was very great sensitiveness throughout the left lumbar region, and especially marked along the course of the ureter. On the 9th, the tenderness had become so acute that she could hardly bear the gentlest examination, and at this time was noticed an unnatural fullness above Poupart's ligament, which became decidedly pronounced toward evening. During the day, she had passed only a few ounces of urine, and no stone had been discovered. The following night, the distension became more noticeable, and symptoms of general peritonitis ensued. He remained with her throughout the night and kept her partially narcotized. Hot fomentations were applied continually. At noon of the 10th, the distension suddenly subsided, and the urine became very free, requiring the frequent use of the catheter, but no stone was detected.

From that time until the present, there has been marked resistance felt in the left lumbar region, with dullness on percussion, which has steadily diminished, as has also the tenderness, which now is scarcely noticeable, excepting when the patient attempts to sit up, or when she has a movement of the bowels. At these times, she is conscious of a "deep-seated sore spot" about the size of a pear, which can be felt also externally.

Dr. EDES and Dr. PORTER had seen the case in consultation and agreed with him that it was a case of circumscribed peritonitis, with considerable effusion of lymph following the passage of a renal calculus. The treatment now is simply rest in bed, with hot applications externally.

Dr. A. T. CABOT was reminded of two cases of obstructed ureter that had been already published. A boy of ten fell down stairs, getting generally shaken up. He afterward passed bloody urine and had a swelling in the side, from near the ribs of the right side to the crest of the ileum. This was aspirated by Dr. Langmaid at the Children's Hospital, getting no urine, but a fluid which contained urea. This afterward reaccumulated, and Dr. Cabot having taken the service, operated as Dr. Watson had done, getting from one and a half to two pints of fluid, with much urea. The patient got well with antiseptic dressings. The speaker believed that the ureter had acted as the urethra sometimes does in similar circumstances, a full bladder aggravating a stricture, and puncture of the bladder making it passable again.

Dr. Cabot also spoke of a case of obstructive hydro-nephrosis with mobility of the kidney, in a woman of twenty-five or twenty-eight. There was pain in the right side, and a swelling as large as a fetal head. He had aspirated as a preliminary, getting urine containing pus, and had then made an opening in the loin, first stitching the sac to the skin. The pain was relieved and the wound healed, leaving a sinus admitting a probe a fraction of an inch, which did not heal; perhaps owing to neglect of cleanliness on the part of the patient. It is proposed in England to perform nephrotomy as a preliminary to nephrectomy in such cases.

Dr. R. T. EDES agrees with Dr. PORTER as to the danger of large doses of morphia, but also thinks that anesthetics are not without their risk, and mentions a case in which a patient with a large uric acid calculus took pounds of chloroform, and got into a condition

<sup>1</sup>See page 396.

resembling delirium tremens, which did not go off when the stone passed and the chloroform was removed.

DR. J. C. WARREN had had a similar experience with ether in a patient who had no large calculus, but who had kidney colic, with urine highly charged with urates. He had had some attacks, and always begins with ether. In his case, excitement grows to delirium, and he now gives ether in the beginning, and secures a night's rest with opium, giving ether again afterwards.

DR. PORTER did not mean that he never gave opium. On the contrary, he does give it in small doses in connection with ether.

DR. MORRILL said that in his case it would have been hardly practicable to give ether for three months.

DR. W. W. GANNETT, before describing the results of the autopsy in the case of double hydronephrosis, gave a brief summary of the usual conditions found in cases presenting a clinical history like that of Dr. Watson's. Earlier in the life of the individual, associated with symptoms of renal colic, a calculus lodges in some portion of one of the ureters, causing obstruction, leading to a collection of the urine behind the stone, increase of pressure in the pelvis of the kidney, and upon the renal substance itself, with suppression of all secretion, and finally, a hydronephrosis. A compensatory hypertrophy of the other kidney now occurring, the patient suffers no inconvenience. If a calculus forms in the sound kidney and blocks its ureter, anuria occurs. Here again, the back pressure in the pelvis soon increases to such a degree that no more urine can be secreted, and the patient dies uræmic, no time being afforded for dilatation of the pelvis and ureter above the obstruction. No hydronephrosis occurs, the kidney showing simply evidence of having an increased amount of blood in the vessels. The present case showed appearances differing markedly from the above.

DR. E. N. WHITTIER read a report by Dr. Charles W. Townsend, of a case of

#### PERSISTENT HIGH TEMPERATURE IN TUBERCULOSIS, WITH TUBERCULAR PHARYNGITIS.

Which occurring with abdominal symptoms, might mislead to a diagnosis of typhoid. The case will be published in a subsequent number of the JOURNAL.

DR. R. H. FITZ showed the specimen of tubercular pharyngitis from Dr. Townsend's case of tuberculosis, which he thought might be of special interest in connection with the recent report by Dr. De Blois of a number of cases of this comparatively rare lesion.

(Dr. Fitz's description will be published with the report of the case.)

The lateral walls of the pharynx contained extensive patches of minute, isolated, and agglomerated gray and yellow granules, without ulceration. The base of the tongue and region of the left tonsil (the right not having been removed), were the seat of an extensive ulcer with indurated base, in which were numerous cheesy granules. The surface was rough, irregularly reddened, opaque yellow in patches, and occasional shreds of mucous membrane were attached. Isolated gray tubercles were seen beyond and near its margin. There was an extensive acute miliary tuberculosis of the lungs, spleen, and peritoneum, a moderate miliary tuberculosis of the liver. A limited chronic miliary tuberculosis of the lungs was associated with extensive chronic tubercular ulcers of the ileum and colon.

Near the apex of the left lung was found a cheesy bronchitis with bronchiectasis.

DR. E. H. BRADFORD showed a specimen of

#### TUBERCULOSIS OF THE JOINT,

described, by Volkmann. In this case it was the hip joint that was excised, and the specimen was a good one of tuberculosis of bone.

#### PHILADELPHIA PATHOLOGICAL SOCIETY.

W. E. HUGHES, M.D., RECORDER.

MEETING October 22d, 1885.

The President, J. C. WILSON, M.D., in the chair.

DR. J. COLLINS WARREN read a paper on

#### A COMPARISON OF THE CHANGES IN ARTERIES AFTER LIGATURE AND IN THE DUCTS ARTERIOSUS AND UMBILICAL ARTERIES AFTER BIRTH.

After the ligature of an artery in continuity the earliest changes noted are the formation of the thrombi within the vessel and the development of a mass of inflammatory tissue or callus around the point of ligature externally. No perceptible cell action can be observed in the inner wall with low powers during the first week, although under favorable circumstances a proliferation to a limited extent of the endothelial cells near the point of ligature can be seen with high powers, and occasionally a few wandering cells may be found to have penetrated the walls of the vessel at the same point. In the second week the bundle of fibres of the adventitia, which were surrounded and held by the knot, have been absorbed and the two ends of the vessel retract slightly from one another, leaving the ligature imbedded in and partly disintegrated by the granulation cells. The walls of each portion appear to form a complete end-sac, and it looks at this time as if the healing process were complete, but it can hardly be said to have more than begun, as the vessel has not yet passed through what may be considered as the first stage of healing. The beginning of the second stage is marked by an unfolding of the ends of the vessel, the walls separating somewhat after the manner of opening of a bud, which permits the entrance of a considerable quantity of the granulation tissue. A disintegration of the thrombus follows, and we have now a fully developed external and internal callus, a small fragment of clot still protecting the latter from the current. The ligature may be totally disintegrated and absorbed, or it may have become encysted, or finally it may have created a small abscess about itself which has discharged the fragments of thread through a sinus opening externally. The second stage is completed when the internal growth has reached the neighborhood of a branch. After this we have an absorption of the callus which, as in fracture, is only a provisional structure, and eventually the two ends of the vessel are found held together by a slender cord of varying length. The walls of the vessel are slightly separated at each end by a cicatrix consisting of connective tissue externally, inside of which is another layer consisting largely of unstripped muscular fibres, the surface being covered within by a new endothelium. The cicatrix is always pierced by a vessel which terminates in a number of capillaries ramifying in the cord. We have here a

scar made up of three layers resembling closely the three coats of the vessel.

In the large vessel of amputation stumps we have a somewhat different series of changes. Soon after the ligation the end of the vessel may be seen imbedded in granulation tissue and containing a thrombus of varying length. By the second week there is a marked change in the intima extending for some distance above the point of ligation, probably to the first large branch or to the origin of the vessel. Examined several months later when the healing process has been completed, the vessel is found to be preserved in the form of a cord running from the first large-sized branch to the cicatrix of the stump; on laying open this cord, the walls of the vessel are found preserved, the interior being filled with new tissue, leaving spaces occupied by one or more vessels. There has been a process resembling that known as obliterating endocarditis by which the calibre of the blood channel has been narrowed to an extent to adapt it to the diminished blood supply. In this obliterating tissue we find comparatively large vessels with new coats consisting of an endothelium, an elastic membrane, and also a new media. An erosion preparation would best represent the condition of the arteries of the stump at this time. The main artery would, after giving off its largest branches, break into a spray of smaller vessels, no one of which would predominate.

A comparison of these two modes of healing with the changes seen in the arterial system soon after birth shows certain resemblances in the two processes. The ductus arteriosus about the time of birth differs considerably from the structure of the aorta and pulmonary artery. The media is much thicker than in either of these vessels; it is thrown into irregular folds which are increased at the time of birth, and help to narrow its calibre. The distinctions between the different layers of its walls are less marked than in other vessels. The lamina elastica is indistinct and in places apparently wanting; the media consists chiefly of longitudinal layers of muscular fibres, a few circular bundles existing in the innermost layer. A few weeks after birth a greater portion of the walls of the ductus undergoes hyaline degeneration, the inner or circular fibres of the media alone remaining, these being reinforced apparently by a growth from the media of the larger vessels. At this time there is an active growth of long spindle-shaped cells with staff-shaped nuclei at the edges of the media bordering on the opening into the aorta; here is also a moderate thickening of the intima. Eventually the hyaline tissue becomes absorbed, and is replaced by a ligamentous band of fibres which becomes continuous at either end with the media of the larger vessels. At the aortic end in a longitudinal section we see the media slightly separated. At the point of the cicatrix and between them, and also continuous with them are the longitudinal fibres of the ligamentum arteriosum. In this ligamentous tissue and between the edges of the media are numerous new muscular cells; nearer the surface is a layer of thickened intima, which in the aorta has not only connective tissue in it, but also a deep musculo-elastic layer; in the centre of the depression marking one side of the cicatrix, a small vessel is given off, which penetrates into the axis of the ligament where it either loses itself in a capillary network or becomes continuous with a similar vessel coming from the pulmonary artery. We have here conditions closely resembling those

which have been described as existing in the cicatrix of a large artery after ligation in continuity, namely: the slightly separated ends of the media between which lie the fibres of the ligament connecting it with the pulmonary artery, a new intima and a new growth of muscular cells, and finally a central arteriole. The only point of difference is the preservation of a layer of circular muscular fibres which form an outer wall to the ligamentous band, a much needed support at a point exposed to great tension. Further protection is afforded by the oblique insertion of the ductus into the aorta, diminishing the pressure upon this particular point. As with the umbilical artery, or that usually called the hypogastric artery, the portion within the abdomen at its origin from the internal iliac is a vessel of considerable size, being in fact a continuation of that artery. At its termination in the umbilical wound it has greatly contracted and is filled with clot for a distance of about one inch. The outlines of the various walls are not as distinct as in other vessels and the elastic lamina for the most part wanting. No special change is seen in the elements of the walls of the vessel, except a slight accumulation of endothelial cells near the apex of the thrombus.

A few weeks later there is a distinct growth on the inner surface of the wall up to its point of origin, the terminal portion having undergone a hyaline degeneration and obliteration for a short distance. The vessel has greatly contracted throughout its entire length, and its calibre is further diminished by the growth in its interior. Cross sections taken from the superior vesical artery in adult life, show the media as a wall thick out of all proportion to the size of the vessel, and consisting not only of its original wall, containing longitudinal muscular cells interspersed with elastic tissue, but also an inner circular row of cells which is provided with a well-formed elastic lamina. It seems probable that the greater portion of the hypogastric artery has been preserved, the ligamentous band which extends to the umbilicus consisting of the obliterated extremity of that vessel much elongated during the process of growth. The series of changes which occur in the hypogastric artery after birth is closely analogous to that seen in the main trunk of an amputation stump — a slight portion of each vessel is destroyed, both retract and are attached to the terminal cicatrix by a band of fibrous tissue, both remain as previous vessels with thickened coats and narrowed calibre. In both, the process is not unlike that seen in the so-called obliterating or compensatory arteritis. Arteritis hardly seems a term applicable to the changes taking place in normal arteries after birth, nor can the alterations which have been developed through the whole length of a large vessel, extending a considerable distance from the original seat of inflammation, be strictly regarded as of an inflammatory nature. May not the obliterating growths found to exist simultaneously in terminal arteries in widely removed portions of the body of the same individual also be regarded not as of inflammatory nature, but rather as a secondary and formative process, closely connected with disturbances in the mechanism of nutrition, designed to adapt the vessels to a diminished blood-supply?

Dr. S. W. Gross said, in view of the fact that Dr. Warren's teaching seemed so directly opposed to that of other observers, he would like to have some points cleared up. He would, therefore, ask if Dr. Warren held, first, that instead of the external cord where it is

included in the ligature sloughing and coming away with the ligature, the pressure of the ligature sets up an irritation which causes the adventitia to return to its embryonic state with a reconversion, after the ligature has cut through this, to connective tissue, and, second, whether the repair of arteries was brought about by the ingrowth of the cicatricial tissue, which he likened to provisional callus, together with some proliferation of the muscular cells of the media.

Dr. RANDALL said, that as the result of careful study of the subject he had always found the clot present at first, and that it was honey-combed even in the first few days by the contraction of its fibrin, through the spaces thus formed the blood seemed to be circulating. Cells, either original white cells, or of endothelial origin, occupied the walls of these cavernous spaces and seemed to sheathe them. The red cells early melted down into a homogeneous mass furnishing the frame-work upon which the reparative tissue was built. The "plastic clot" of some observers he had not seen, the new cells being distributed throughout the old clot as well as upon the vessel walls and not specially collected in the immediate neighborhood of the ligature. The obliteration of the vessel was accomplished by the growth and contraction of the trabeculae of new tissue built upon the remains of the original blood clot. Even close to the ligature he had not found the vessel walls greatly altered, merely showing a great increase in the nuclei and in the number and size of the vasa vasorum, the lamina elastica being distinct and, as a rule, intact. Toward the end of the first month the new tissue was largely spindle cells but careful staining had given no suggestion of muscular tissue. But, not having carried his study beyond the first month he had no data upon this subject, since the development of muscular tissue is claimed to occur only at a later stage.

Dr. FORMAD was inclined to favor the views of Dr. Randall. The observation of Dr. Warren that the new-formed connective tissue played the most important part was to him entirely novel. He thought probably that pressure upon the artery from without, with consequent diminution in its lumen, might bring about a condition more analogous to the growth of fetal life than to inflammation.

Dr. MEARS remarked, we are liable to be confused in considering this subject by the presence of the blood in the vessel. So far as the process of healing after ligature is concerned, we may consider only the structures which enter into the formation of the vessel wall, which is complex in character and composed of connective tissue, elastic and endothelial tissues. Dr. Warren has given us a very clear demonstration of cicatrization as it occurs in these structures after application of the ligature.

Dr. TYSON said the most novel feature to him in Dr. Warren's observations, was the part played by the muscular tissue. This apparent increase in the muscular tissue, he was inclined to believe, was really only a proliferation of intermuscular connective tissue. He was becoming more and more convinced that there was only one kind of inflammation — the interstitial. He feared that he might himself mistake a proliferating connective tissue with spindle cells for muscular tissue. It is true that new formed capillaries and arterioles have muscular walls, but the development of these seemed to him to be a slower process. He had expected to find a process of repair in the ductus arte-

rius different from that in an ordinary artery. This process he had expected would be a true endarteritis, for it seems that the conditions of closure here are rather different from those in the ligaturing of an ordinary artery, and in the umbilical artery, where we have also ligation practised.

Dr. WARREN, in closing, said, in cases where there is much breaking down and little repair, there might be a sloughing of the external coat, yet in his experiments this part of the arterial wall did not slough, but was simply absorbed by the granulation tissue, as is the ligature itself in some cases. In the normal condition even the elastic lamina is not a perfectly continuous plate: he did not refer to these breaks, however, but to numbers of little ruptures incident to the pulling out of the wound of the artery in the act of ligature; however, this need not necessarily occur. He had not attempted to identify anything like muscular tissue early; this could not be recognized till we had a permanent cicatrix formed. He had carefully eliminated all sources of error, and it seemed to him that in almost all cases there was a considerable number of these muscular cells. The layer was not always as well marked as in his diagram; especially was this true of human cases, but these had all been in alcohol for some years; of the fresh specimens he had selected only those in which he had recognized the process complete. In a specimen which he had here to-night, through an opening in the lamina elastica cells could be traced from the muscular layer, those in the inside resembling exactly those outside. These facts, together with the fact that we have normally a few muscular cells inside of the lamina elastica, lead him to believe in the proliferation of the muscular tissue. The disintegration of the blood clot is accomplished by granulations growing inward from the callus, there being two sets of blood vessels, one in the granulations, the other (blood spaces rather) in the clot itself; these unite about the end of the first or second month.

#### NEW YORK STATE MEDICAL ASSOCIATION.

SECOND annual meeting, held in the hall of the Murray Hill Hotel, New York, November 17, 18, 19, and 20, 1885.

##### FIRST DAY. — MORNING SESSION.

The Association was called to order at 9.30 A.M., by the President, Dr. JOHN P. GRAY, of Ftica.

The committee of arrangements reported that there were forty-nine scientific contributions, four addresses, and several contributions to the study of pneumonia, to be presented before the Society. The number of papers presented last year was fifty.

In the report of the council it was recommended that papers which were to appear in the volume of transactions of the Association be not published in the medical journals previously.

The treasurer's report showed total receipts for the year to be \$2,464; balance in treasury from last year \$683. Deducting disbursements for the year there remained a balance of \$193 for the library fund. The surplus from anniversary subscriptions last year was \$630, \$315 of which was placed to the account of the building fund. Excluding disbursements there remained in the library fund \$31; \$80 had been subscribed for a binding fund.

DR. FERGUSON offered some amendments to the by-laws to be acted upon at the next annual meeting. They referred chiefly to the abolition of the office of corresponding and statistical secretary, the appointment of a librarian by the council, and striking out certain words as to the qualifications of those becoming members.

#### RELATIONS OF THE STATE TO MEDICAL SCIENCE.

The President, DR. JOHN P. GRAY, then read his address on this subject. He reviewed the educational policy of the State of New York, which was confined principally to supervision of the common schools and of the normal schools in which teachers for the common schools were trained. The duty of the Board of Regents were briefly referred to. Law schools, medical schools, scientific schools, etc., were corporations sustained by private contributions or earnings, and were individual enterprises, receiving no grants from the State. He then asked the question, what was proper legislative interference with this class of institutions which represented scientific education and research? That the State itself should undertake such education as a public measure and for public policy constituted a serious question in political economy, and for this State, for the present at least, that question has been answered adversely. Legislative control over the medical schools of this State was not demanded by public interest. It was not intended to dispute the power of the Legislature to regulate medical education and declare what will constitute a doctor in medicine; but the fact was that the Legislature exercised its power only in the way of fostering, protecting, and advancing the interests of medical science up to giving the best opportunities to schools for attaining this end, and at the same time as far as possible, allowing the individual entire freedom of special study, and of the means for acquiring knowledge of medical science. The State had not adopted any particular school or system of medicine as against others, and could not do so. It was the part of wisdom to give the widest latitude to discussion wherever matters of opinion seemed to be in conflict. The giving to the physician certain powers which the State had conferred upon him, was the highest endorsement which the State could give the profession. The State had left the culture and development of medical science to the medical profession alone, had granted the right to incorporate societies and associations in order to maintain its unity of work, and for its elevation and progress.

With regard to the services of the medical profession to the public, little need be said. The physician's services were sought by the people in the same way that the services of the lawyer or other member of the community were sought.

The author then came to the matter of granting diplomas, and the control of this power by the State. His view was adverse to any such proposed change. The State did even attempt to regulate the compounding and sale of drugs and nostrums. As the State had nothing to do with the teaching in the schools, so it should have nothing to do with the examinations. What possible efficiency such a proposed board of examiners could have in benefiting medical science, the profession and the people, did not appear. Such a change would transfer students who came to the medical colleges of New York from all over the country,

and from foreign countries, to the schools of Boston, Philadelphia, etc. The schools had done excellent work in elevating the standard of medical study, and while there was room for further improvement, to seek it in the guardianship of the State was an error. It was true, also, that preliminary education should be better, and this demand also promised to be met as soon as the advance of the times would permit.

The reports of the different branches of the State Association were then read, in which it appeared that a large number of papers on different subjects connected with medical science had been read, and other work had been performed.

The president of the New York County Medical Association, DR. C. A. LEALE, also read the report of the annual labors of that Society.

#### ADDRESS IN STATE MEDICINE.

DR. ALFRED L. CARROLL, president of the Section in State medicine, then read his address.

The author reviewed briefly State medicine, or sanitary medicine, as it existed in ancient times, and said that many excellent rules existed among the Israelites which would be of practical utility in sanitary matters if adopted at present. State medicine in its comprehensive sense included all the medical interests of the State. But in popular estimation the term had a narrow significance; was applied more especially to practical administration of sanitary science for the protection of public health. Even with this limited definition, preventive medicine had presented its claims with greater vigor than other specialties. Modern sanitation might be defined as applied physiology. The sanitarian should be primarily an accomplished physician. But he should superadd to his medical knowledge some theoretical, if not practical knowledge of architecture and engineering. He should know how to detect defects therein, and suggested remedies to be carried out by the artisan. Dr. Carroll then pointed out some of the conflicting opinions of sanitary men regarding what constituted sanitary conditions. The superstructure of public sanitation had to be built upon the laws of personal hygiene. It followed that enlightenment in this direction must originate with physicians. As was the seed sown by medical schools, so would be the harvest of public health. How have these schools fulfilled this condition? The author said he would grant that many of them furnished the opportunities for a pupil having means and ambition to make use of them to gain the necessary education. But what was needed was an enforced education in all important branches, not leaving their study optional with the student. The author named the studies and time required for study in force in England, and said that while the work seemed formidable, it would also be seen that the knowledge to be acquired was not more than every physician should have when he comes to discharge his duties to the public and to private patients. In his official relations, Dr. Carroll had had opportunity to learn what were the acquirements of persons who sought positions on boards of health, and the answers by men graduated from regular medical schools were often absurdly erroneous. Now and then there were marked exceptions, even in remote country districts.

He thought a weakness in the State and local boards of New York existed in the short term of office, and time spent in inducting new men into strange

duties. A preliminary education and a higher and more thoroughly enforced medical education were pointed out.

# FIRST DAY, AFTERNOON SESSION.

The President in the Chair.

## TUBERCULAR CONSUMPTION: IS IT EVER HEREDITARY?

DR. HENRY D. DIDAMA read a paper on this subject, in which he quoted the opinions of different authorities on the subject of a hereditary tendency, hereditary diathesis, etc., and also the results of post-mortem examinations by various pathologists, and said that in the examinations of the bodies of hundreds and thousands of fetuses, none were found to have tubercle, which weighed very heavily against the hereditary theory. He also quoted the statistics furnished by insurance companies, in which it appeared that the majority of cases of phthisis occurred in persons whose parents had not suffered from the disease.

The following were the conclusions which the author reached:

*First.* That tuberculous disease is not inherited.

*Second.* That if a special tendency to the disease be transmitted, the term liability better expressed the idea than the term tendency.

*Third.* Many conditions, as poor and insufficient food, damp and impure air, stunted sunlight, and certain occupations, favored the development of the disease.

*Fourth.* Two conditions are almost indispensable — abundance of bacilli and an inviting asylum for their development, whether it be an inherited or an acquired vivibility.

An important indication was to place the newly born of a phthisical mother under the charge of a healthy wet nurse, who should occupy a room entirely secluded from that of the consumptive members of the family. This gave an opportunity to strengthen the feeble constitution and to eradicate a liability to the development of consumption. If a syphilitic taint existed or was suspected, the author advised anti-syphilitic treatment not only with a view to cure the syphilis, but also with a view to strengthen the constitution and guard against the development of phthisis.

DR. ROCHESTER said that some years ago he made an autopsy on an infant which died three weeks old, and found one lung crammed with miliary tubercles, and in the other was a cavity the size of a hickory nut. The mother was healthy. The father had died before the baby was born. In another case in which the father died before the birth of the child, and the mother was a healthy woman, having no tuberculosis, the child died at eighteen months of age, having had for a long time before death, every indication of pulmonary phthisis, and recently, of tuberculosis of the vertebrae. The father in both cases had died of consumption before the birth of the child. In the light of these cases, he could not help believing that sometimes, at least, phthisis was hereditary. He would admit, however, that many people have phthisis whose parents were free from the disease. The paper was further discussed by Drs. Colvin, Pomeroy, and others.

## PSOITIS AND PERIPSOITIS: THEIR PATHOLOGY AND DIFFERENTIAL DIAGNOSIS.

DR. SIMON TUCKER CLARK, of Niagara County, read a paper with this title, in which he first referred to the paucity of the literature of the subject, and the difficulties attending a differential diagnosis, and then

proceeded to give the clinical histories of three cases which had come under his personal observation. In all of the three cases there was a history of traumatism. In the first case, the patient, a woman without children, aged forty-three, had received a blow on the abdomen, which was followed by severe pain in the supra-pubic region, two inches from the median line. A hard lump from which the pain seemed to proceed, was recognized by the physician who examined her. Negative results from a vaginal examination. Dr. Clark saw the patient later, and became convinced that there was suppurative inflammation of the psoas. Finally, pus was removed, and thirty-one aspirations were made before a cure was finally effected. The pus did not contain a trace of phosphate of lime.

The second case was in a young man, whose condition originated in strains during roller-skating. When he consulted his physician, Dr. Gould, he complained of pain in the region of the hip, and had a rapid, bounding pulse, the temperature 105°. Afterwards, copious perspiration of acid odor, etc., led to the diagnosis of rheumatism, but later, a boggy tumor appeared in the supra-pubic region. An exploratory puncture gave exit to foul gases, followed by pus. An opportunity to make an autopsy was afforded in this case, and a psoas abscess was found, which had led to denudation of the bone beneath, and there was also some softening of the vertebrae, but it was evident that the disease had originated in the muscle, and not in the vertebrae.

The third case was that of a man who first attributed his difficulty to rheumatism, from which he was a frequent sufferer; but it was learned that he had injured himself in the region of the psoas while throwing filled sacks upon a wagon. He complained much of pain in the neighborhood of the thigh. The pain was relieved by a local anæsthetic. A supra-pubic tumor developed, which, at a time when Dr. Clark had intended to open it, burst spontaneously into the bladder, and a quart of healthy pus was evacuated per urethram. Later, another opening for the escape of pus was made by the knife above Poupart's ligament, and then pus ceased to escape through the bladder, and finally, through the artificial opening, and the patient went on to complete recovery.

Dr. Clark pointed out in the differential diagnosis, history of traumatism, pain in the region of the thigh and leg, the posture of the patient, avoiding extending and rotating the leg, the supra-pubic tumor; and, on aspiration, obtaining laudable pus. In each instance, the syringing of the pus cavity was followed by washing out with solution of carbolic acid.

DR. FREDERICK HYDE believed that many cases of supposed vertebral disease were really cases of the kind related by Dr. Clark, and he urged with great earnestness the importance of making a careful search in suspected cases for a history of traumatism, for a pelvic tumor, and for pus by repeated use of the aspirator, if necessary; for the train of evils following a change of the laudable pus which was first present into unhealthy pus was too long and serious to permit of postponement of the case, with the idea that eventually the symptoms would demonstrate it to be a case of Pott's disease. It taken in the early stage, a cure could be effected and the bones would escape implication.

DR. CROSBY, of Buffalo, had seen two or three cases of psoriasis, and said that in diagnosis, valuable aid would be found in putting the patient under the influence of chloroform, flexing the thigh, and searching for thuc-

tuation over the region of the psoas muscle. History of traumatism was important in diagnosing poitis. Let the pus escape; then keep the leg in the extended position, bringing the walls of the sac together, and union would rapidly take place.

Dr. MOORE thought that where it could be shown that the disease had begun with a traumatism, he thought it was unnecessary to try to explain its occurrence on the supposition of a tubercular inflammation. An acute disease might become chronic, and, of course, when this occurs there is a good opportunity for tuberculosis to develop. But the commencement may have been in fibrous tissue, thence to the bone.

#### NOTE ON TWO PECULIAR CONDITIONS OF THE MAMMARY GLAND.

By DR. S. T. CLARK.

The paper was read by title.

#### SHOCK AND THE EFFECTS OF INJURIES UPON THE NERVOUS SYSTEM.

Dr. CHARLES W. BROWN opened a discussion on this subject by a short paper, in which he described the symptoms present in shock, and referred briefly to the explanation which had been suggested of its nature. He had seen a few cases of what had been termed "insidious" shock, in which the patients did not suffer pain in proportion to the seriousness of the injury, and were of a cheerful state of mind, although there was almost a diagnostic melancholy expression upon the face, which seemed to foretell death. He also referred to individual susceptibility, and said that some persons of fleshy habit and apparent health would succumb to a minor injury producing shock, than some others of delicate habit and nervous temperament, the nervous system in the latter giving way less readily. Shock was less in persons suffering from chronic disease, but such persons were less likely to regain strength and make complete recovery afterward than those of previous good health, who might be able to withstand the first influence of the injury upon the nervous system. There were two indications in treatment: the first, to modify the effects of the shock, and the second, to control superinflammation. The use of heat and stimulants received some attention.

Dr. FRANK H. HAMILTON continued the discussion with a short paper, read for him by Dr. Bermingham. His remarks were limited to surgical shock, which, he said, might be defined as a general paresis of the nervous system induced by external violence. One point which received his attention was what is called railroad shock. Many of the symptoms which had been described as belonging to railroad shock were seen in certain cases of shock which occurred before railroads had come into existence. But, if he admitted that the introduction of railroads had brought into existence a particular kind of shock, Dr. Hamilton thought it was due to that sort of injury to the spinal column which was likely to occur in railroad accidents, resembling the cracking of the lash of a whip. In these cases, he believed that the injury was not primarily in the nature of a shock resulting from commotion of either peripheral or central nerves, but that those structures which lie external to the spinal marrow and contribute more or less to its support and protection, of which the ligaments are the chief factors, are those which have suffered direct injury, and from which inflammation has subsequently progressed to the spinal marrow

itself. As to the treatment of shock, bring about reaction by rest, in some cases by warmth, stimulants.

Dr. EDMUND S. ARNOLD continued the discussion by a brief paper, in which he took the view that shock was due to an impression produced upon the sympathetic nervous system, tending to stop its function, and in doing so, stopping nutrition of vital parts over which that system of nerves presided. Sudden death would occur if such influence were sufficient to entirely destroy the function of this system of nerves or ganglia, as in lightning. Another illustration, he thought, was in death by hydrocyanic acid. If there was an influence upon the heart in this case, he thought it was directly due to suppressed function of the sympathetic system which presided over its action, and other parts of which system of nerves were also affected at the same time.

Some general discussion took place, Dr. Kneeland, Dr. French, Dr. Moore, Dr. Arnold, Dr. Van de Warker, and Dr. Hendricks participating.

#### INSANITY FOLLOWING AN INJURY OF THE HEAD— CEREBRAL CYST—OPERATION—RECOVERY.

Dr. CARLOS F. McDONALD read a paper with this title, the case being that of a man who received a pistol shot on the frontal region, inflicted by his own hand. The man was sent to prison, where he developed symptoms of insanity, and had to be confined to a cell. For a considerable period of time, however, he had been required, and was able, to do prison duty, but manifested a passionate temper. It was decided to trephine at the seat of the wound, which was half an inch in diameter, a fourth of an inch in depth, located over the right first frontal gyrus, corresponding to the junction of the anterior and middle third—three-eighths of an inch to the right of the median line. The patient was etherized, the wound was found traversed by dense fibrous tissue, no bone intervening between the dura mater. A fine hypodermic needle was introduced, and nothing was withdrawn until the fourth puncture, when about two drachms of serum were withdrawn. The fluid contained a few blood corpuscles, which were accidental. Nothing more was done than to close wound with suture and dress antiseptically. The patient, on coming from under the influence of the anæsthetic, was in his natural mind, was greatly pleased with relief from pain at the seat of the injury, and shortly afterward gave a satisfactory account of his case from the beginning, excepting a period when he was unconscious. He went on to complete recovery, with permanent relief from cerebral symptoms, except a part of the day. It was learned that the physician who saw him after the shooting, had removed the pistol ball; he found no fracture of the bone, or spicule.

#### FIRST DAY.—NIGHT SESSION.

The President in the chair.

#### DISCUSSION ON PNEUMONIA.

Dr. AUSTIN FLINT opened the discussion with a paper in which he propounded the following eight questions:

1. Is acute lobar pneumonia a primary local inflammatory disease, or is it an essential fever, the pulmonary affection being secondary thereto and constituting its anatomical characteristics?

Since 1877, when he read a paper in support of the

doctrine that acute lobar pneumonia was not a local affection, but an essential fever, that doctrine had been gaining ground. The view was supported by the following facts: Acute lobar pneumonia is characterized by an enormous exudation into the pulmonary alveoli, and this exudation may be rapidly absorbed, leaving the tissues intact. This anatomical fact, he said, had no analogy in local disease. *Second.* Acute lobar pneumonia never persists and becomes a chronic affection. *Third.* It is never referable to any appreciable local condition, nor is it possible by any form of traumatic injury to produce the affection. *Fourth.* Ordinary causes of local disease are not capable of producing acute lobar pneumonia. The traditional belief that the affection may be produced by cold is without foundation, and is being abandoned even by the Germans. *Fifth.* That a special or specific influence is invariably the cause of acute lobar pneumonia is rendered probable by its occurrence at certain seasons, greater frequency in certain climates, occurrence at times as an endemic disease. *Sixth.* It differs from acute primary local inflammation in that at the outset there is a pronounced chill. *Seventh.* In the course of the disease the temperature and associated febrile phenomena bear no constant relation to the local affection. *Eighth.* Experience shows that acute lobar pneumonia responds better to treatment addressed to the fever than to the local affection.

2. What facts and rational grounds, with our present knowledge, can be cited in support of the doctrine that acute lobar pneumonia depends on the presence of a specific microorganism?

Dr. FLINT left this question for discussion to Dr. Janeway, but expressed his belief in a specific microorganism as the cause of the disease.

3. What conditions or circumstances incident to acute lobar pneumonia tend to render the disease fatal?

The present or previous existence of certain other diseases rendered the prognosis more unfavorable, and certain conditions, as empyema, pulmonary gangrene, malarial miasm, etc., were more likely to develop in one who had been reduced by pneumonia. But of special conditions rendering danger of a fatal issue in the course of the disease greatest, the author mentioned heart clot and heart failure.

4. Are there known remedies or therapeutic measures capable of arresting this disease, or of exerting a curative influence by either shortening its duration or conducing in any way to a favorable termination?

Dr. FLINT had reason to believe that quinia had been of benefit in shortening or exerting a favorable influence upon acute lobar pneumonia, but he could not enter fully into discussion of the treatment.

5. Is blood-letting ever indicated in this disease, and if so, what are the circumstances indicating and contraindicating this measure of treatment?

Acute lobar pneumonia tended intrinsically toward recovery. Treatment in general should be for special indications. He believed there were circumstances in which blood-letting would prove of benefit, and that benefit would be most likely to manifest itself in relief of oppressed heart action. Contraindications to blood-letting were previous existence of enfleebing affections and the anemic state. A plethoric condition and a bounding pulse were among indications for this measure. The collection of cases made some years ago by Lewes, in which there were twenty-eight deaths out of a total of seventy-eight cases in which blood-

letting was resorted to, showed a high mortality, but the cases were not selected.

6. Is alcohol useful in the treatment of acute lobar pneumonia, and if so, what are the indications for its use, and how is its use to be regulated as regards the quantity given, etc.?

The author regarded alcohol as indicated wherever there was required the supporting plan of treatment, wherever there was a tendency to asthenia. It should be begun tentatively.

7. To what extent is it safe and useful to employ antipyretic measures of treatment in cases of acute lobar pneumonia, inclusive of the cold bath, sponging of the body, or the wet sheet?

Dr. FLINT spoke specially as to his experience with the wet sheet, which he had employed in three cases, with favorable results.

8. Do relapses of acute lobar pneumonia ever occur during or shortly after convalescence, and does this disease involve any special liability to other diseases or sequels?

The first part of the question the author answered in the negative, and said this fact was in favor of the view that the disease was an essential fever, for local diseases had relapses, but one attack did not exempt against subsequent attacks.

The first question propounded was discussed in brief papers by Drs. Didama and Ross; the second, by Dr. Janeway, who expressed regret at having been unable, on account of sickness, to make further investigations personally regarding the influence of a microorganism in the causation of pneumonia. He gave a synopsis of the literature of the subject. The third question was discussed by Drs. W. H. Robb and H. M. Biggs; the fourth by Drs. T. F. Rochester and Van de Warker; the fifth by Drs. S. T. Clark and C. S. Wood; the sixth by Drs. John Shradley and E. D. Ferguson; the seventh by Drs. C. Griswold, C. C. Stockton and W. S. Fuller; the eighth by Dr. J. G. Orton.

[To be continued.]

## Recent Literature.

*Diseases of the Rectum and Anus. Including a Portion of the Jacksonian Prize Essay on Cancer.* By HARRISON CRIPPS, F.R.C.S., Assistant Surgeon to St. Bartholomew's Hospital, London. 8vo. 430 pages. Philadelphia: P. Blakiston, Son & Co.

The stimulus offered for original work by the establishment of Prize Funds does not necessarily cease with the gaining of the prize, but the distinction and satisfaction resulting from the thorough study and mastery of some one subject stimulates further effort which often results in great benefit to the profession, as in the work before us. In 1875 Mr. Cripps wrote the Jacksonian Prize Essay on Cancer of the Rectum, which was a valuable contribution to our knowledge of the pathology and treatment of this disease.

The present volume, an outgrowth from the collateral research involved in the study of rectal cancer, is devoted to the consideration of the other disorders incidental to the same locality that have come under his observation at St. Bartholomew's Hospital. It contains some 130 pages and is written in a very attractive manner, showing evidence of being the result of

personal experience based upon anatomical and clinical investigations. The illustrations are numerous and good. In the chapter devoted to "the anatomy of the rectum and the functions of its mucous membrane," we would call attention to the description of the *levator ani*, their sphincter-like action, and (later on) its possible bearing on the pathology of rectal stricture. In his description of the mucous membrane of the rectum, we are surprised that the author makes no mention of any folds known as Houston's valves, and conclude that he has never seen them.

The chapter on *Hæmorrhoids* is very satisfactory; especially his observations on external *hæmorrhoids*; in dealing with internal *hæmorrhoids* he states his preference for the ligature which "if properly used leaves little room for improvement," a conclusion not borne out here where the operation by clamp and cautery has proved more satisfactory. Mr. Cripps' remarks on Stricture of the Rectum are exceedingly interesting and instructive, and cannot fail to impress the reader as being both practical and instructive.

The chapter on Cancer of the Rectum is a portion of the prize essay to which reference has already been made. He has found that all forms of so-called rectal cancer conform to one type, the adenoid, and assume two main forms, namely, one where it forms a thin flat layer between the mucous and muscular coats, and when ulcerating makes an ulcer with a base formed by the hypertrophied muscular coat with crater-like margins; the other where it forms from the first a projecting tumor, clinically innocent; that these growths are developed from lymphoid cells originally derived from epithelium, that these lymphoid cells not finding their way into the lymph channels become fixed, develop into epithelium, and give rise to a formation reproducing the characters of gland tissue.

Mr. Cripps advocates colotomy for this disease in those cases where local interference is impracticable, not with any idea that the progress of the tumor would be retarded thereby, but as a means of alleviating symptoms which if not relieved would of themselves prove fatal. Excision of the rectum either complete or partial he regards as justifiable if there is a reasonable prospect of its being possible to remove the whole disease, but unfortunately, the cases which admit of extirpation he states as comparatively rare, probably not more than ten to twenty per cent. of the cases of the disease applying to the surgeon.

—Prof. Asa Gray, the celebrated botanist of Harvard University whose seventy-fifth birthday was celebrated by his friends, November 18, was born in Paris, New York. He was educated as a physician at the Fairfield Medical College, where he was graduated at the age of twenty-one. He was appointed Fisher Professor of Natural History at Harvard University in 1842.

—Painting the pharynx with a two-per cent. solution of cocaine, according to Dr. Lafosse (*Bulletin Générale de Thérapeutique*, August 15, 1885), entirely prevents the production of dyspnea during the introduction of the stomach-tube; and, since this procedure is every day becoming more frequently employed as a therapeutic measure, it is well to know that the discomforts attending its use may largely be done away with by the employment of cocaine.

## Medical and Surgical Journal.

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### THE DANGERS FROM COAL GAS.

The return of the season when furnaces and coal stoves begin their period of activity, suggests a danger which, although alluded to in the medical press from time to time through the report of serious or fatal cases resulting therefrom, does not perhaps receive the attention its importance would justify.

A person complains of general symptoms of malaise with debility, often a dry irritative cough, anorexia, anæmia, drowsiness, mental inertia, and usually more or less intense headache. On examination no special organ seems to be at fault. The physician is at a loss, and, after ordering an inspection of the plumbing with negative results, and looking hard at the wall-paper, he either suffers himself to lapse into that limbo of medical diagnosis "malaria," wherein, in a literal use of the word he is nearer the truth than he has a right to believe himself, or else contents himself and his patient with the obvious statement that the latter is "run down." Quinine is prescribed with some advantage, and if more out-of-door exercise and especially a little journey are prescribed the patient gets well, and passes into the large category of cases described by an eminent English physician, who said that half his patients got well without his knowing what was the matter with them.

Or again, perhaps in the same house occurs an acuter case. A man who has slept in a chamber with closed windows is found in the morning stupid, confused, with indications of having vomited, thick in speech and staggering in gait, and with a raging headache. The physician's first inquiry is, if the patient dined out the previous evening, and he is disappointed to receive a negative answer. The time of year excludes the possibility of insolation, and if, as is possible the case, the history as given by friends shows something not unlike this attack to have occurred before, the view of the physician inclines towards nocturnal epilepsy, and as usually happens, the speedy recovery takes away the motive for a closer study of the diagnosis.

Thus not until a case comes under observation, and perhaps not until two occur in the same room, or sev-

eral in the same house, presenting extreme symptoms, is the true cause of the trouble recognized. The patients are unconscious, with stertorous and rapid respirations, sometimes manifesting the Cheyne-Stokes phenomenon. There is perhaps frothing at the mouth, and mucous râles are heard in the lungs. The conjunctivæ are insensitive and the pupils dilated and unresponsive. The pulse is rapid and feeble. Convulsions may appear with tonic, passing into clonic spasms. There is vomiting with purging, and as consciousness returns, intense headache. As has been said, a plurality of cases in one room or house may give the first clue to the cause of the trouble.

The literature of this subject, already not very scanty, has received a valuable addition in a report of two cases, made last June, before the college of Physicians of Philadelphia, by Dr. John Graham. An aged couple went to bed together in good health, at 10 p.m. They afterward could recall nothing amiss except that the smell from the heater was a little stronger than usual. Fourteen hours later they were found, both unconscious. The symptoms were at that time in the main similar to those that have been reported by other observers. In the husband, aged seventy-eight, the labored breathing remained, the blood became more carbonized, and he died without regaining consciousness, in thirty-six hours. The wife, aged seventy-four, responded better to treatment and gained slowly. In seven days she was able to sit up a little. She still remained drowsy, often half conscious, and complained of noises hurting her head. Anæmia was very marked, though the blood was not examined. Carbonate of iron was given, which impaired the digestion, and at the end of the third week she had an attack marked by loss of consciousness with convulsions. The lateness of the convulsions is one of the notable features of this case. They were followed by mental confusion and hallucinations, with marked aphasia. Every attempt to give iron induced such digestive disturbance that it had to be abandoned, while under the use of dilute muriatic acid, the tongue would clear. On the forty-second day there was an attack of alternate paralysis, preceded by muscular twitchings, and affecting the right side of the face and the left arm. From this she recovered in ten or twelve days. Dr. Da Costa, who saw the case, considered that the paralytic symptoms were due to anæmia of the brain. It was not until the fifty-eighth or sixtieth day that iron was productive of any good effects. The form then selected was the phosphate of iron with citrate of ammonia, which Dr. Da Costa has found one of the most easily tolerated and digested combinations of this remedy.

Of the gaseous products of the combustion of coal the principal are two, carbonic oxide (CO) and carbonic dioxide (CO<sub>2</sub>) commonly called carbonic acid gas. The former is actively poisonous, the latter simply irrespirable. The carbonic oxide which is, of course, the product of a less complete combustion, forms a compound with hæmoglobin which is very difficult to

break up. The compound of the dioxide with hæmoglobin, on the other hand, is readily split up by increasing the tension of the free oxygen in the blood. It is probable that the peculiar anæmia, so obstinate to treatment by iron, is due to the modified condition of the hæmoglobin, and the tenacity with which it holds on to the carbonic oxide.

The sources of this poison are not difficult to find. In the furnaces, which heat the majority of our houses, there is a hot-air chamber from which the distributing pipes are supplied. The smoke-flue is often led through this chamber, and sometimes to economize heat it is carried for quite a distance downward to the bottom and thence up again through the hot-air chamber. The joints are often not tight, and even if they were originally so, become loose with the wear of the heater. In the case cited above, in Philadelphia, the smoke-pipe was of terra-cotta, and ran through the hot chamber. This pipe had a crack half an inch wide and eighteen inches long, allowing, of course, the gases to mingle with the air of the supply chamber. Even where no actual crack exists, it has been shown that carbonic oxide may pass through heated cast-iron plates. If, therefore, the furnace is run so that the iron work becomes red-hot, there may be a diffusion of this most poisonous gas into the hot chamber, and thence all over the house. If, now, there occur an obstruction to the appointed smoke escape, by an obstruction in the chimney, or even by a widely-opened draft in the flue, or a down draft, the products of combustion find their most natural vent into the sleeping-rooms of the house, instead of into the outer air. Both the gases are tasteless and odorless, and unless mingled with the irritative constituents of smoke, which will not be the case after a firm bed of coals has been established, attract no notice through any of the senses. In Dr. Graham's cases, the chimney, which had several angles, had become obstructed by bricks and mortar, which, loosened by the frost, fell and lodged at one of the bends, causing considerable obstruction to the draft.

The chances of recovery in acute carbonic oxide poisoning depend, as is well known, on the amount of the gas inhaled, and this depends on the length of the exposure, as well as on the size of the room and the amount of pure air introduced from outside. It is probable that most of the serious cases are due rather to the CO than to the CO<sub>2</sub>, the former gas being lighter than the air, while the latter is heavier. This accounts for the similarity in the symptoms to those of poisoning by illuminating gas.

The treatment in acute cases is, of course, primarily fresh air and stimulants, hypodermically and by rectum. Transfusion, and the modification of it known as refusion, namely, a withdrawal of the vitiated blood and a transfusion of fresh blood, may be of great service. The prophylaxis depends upon ventilation of the living-rooms, upon a free and unobstructed chimney draft, upon tight joints and an avoidance of overheated furnaces. Perhaps the hygiene of the domicile

depends as much upon the designer and maker of our heaters as upon the plumber.

### STRANGULATED UMBILICAL HERNIA.

THE attention of the profession has of late been called anew to the operative treatment for strangulated umbilical hernia by the report of two cases by Mr. Clement Lucas at a meeting of the Clinical Society of London, held October 9th. In this report Mr. Lucas endeavors to account for the high rate of mortality hitherto following instrumental interference, and to lay before the notice of the profession the most rational means for reducing it. He strongly advocates the removal of the sac, and the suturing of the patulous umbilical ring; and this not on the ground of safety alone but for the incidental advantage to the patient of obtaining a radical cure. He regards "the sac itself as a danger from its badly nourished texture, its tendency to suppurate or slough, and its liability to collect discharges and guide them into the peritoneal cavity," and strongly advises that that useless and dangerous piece of tissue be removed. His two cases certainly furnish strong evidence in favor of the method. The first case was a woman of forty-eight, who was also suffering from renal dropsy in an advanced stage. The taxis having failed, the sac was laid open freely, when fluid escaped and a long coil of purple intestine came into view. It was found impossible to reduce the hernia, even after the constriction was divided, until a large quantity of ascitic fluid had been drained off through the wound. The sac was then cut away, and the margins of the umbilical opening brought together with three stout catgut sutures passed through to, and including, the peritoneum. For the skin wire sutures were used. The recovery was uninterrupted, except that a slight suppuration was caused by one of the catgut sutures, which came away on the fifteenth day. Two months later there existed no tendency to umbilical protrusion.

The second case was a woman of fifty-two years, extremely fat and flabby. Taxis having failed, a four inch vertical incision was made over the upper part of the tumor, the sac was laid open, the stricture divided, and several feet of dark colored intestine returned. There was in this case an omental sac lining, the one of peritoneum and in parts adherent to it. As much as possible of sac and omentum were removed, and the edges of the umbilical opening brought together with catgut as in the first case. In three weeks the patient had recovered from the operation. In both cases carbolic spray and antiseptic dressings were used.

In the subsequent discussion the weight of opinion was in favor of the operation, especially in cases presenting unusual difficulties. The procedure had been adopted several times with success by other surgeons present at the meeting.

The interest shown in the subject induced Mr. Rivington, of the London Hospital, to report in the *Lancet* of October 24th, several cases of hernia, which

had been treated essentially in the same manner as that advocated by Mr. Lucas, and among them two cases of strangulated umbilical hernia. The results in both were perfectly satisfactory. Mr. Rivington affirms that the removal of the sac or omentum after the bowel has been reduced cannot, in most cases, add appreciably to the risk of an operation.

In the issue of this JOURNAL, for October 16, 1884, Dr. A. T. Cabot urged the importance of removing the sac and suturing together the peritoneal surfaces around the ring under strict antiseptic, so as to shut off the abdominal cavity from any suppurative action which may take place in the wound. He there says that "the wound left by an operation done in this manner for umbilical hernia differs in no essential particular from the simple incised wound of an ovariectomy," which almost invariably heals readily, the peritoneal surfaces, when snugly approximated, cohering within twelve hours. The case which he records recovered from the operation, but died about three weeks afterwards from causes not directly traceable to the operation, but to her own indiscretion.

In the same issue of the JOURNAL Dr. H. L. Burrell reported a case, in which he performed this operation on a woman of fifty-two years, weighing 230 pounds. Owing to the great thickness of the abdominal wall it was necessary to make a vertical incision reaching from the top of the tumor to a point four-fifth inches up the linea alba—practically an abdominal section. The sac was excised and the wound brought together by deep wire sutures which included the peritoneum. A perfect cure resulted.

Judging from the results of all cases published, and from the opinion of competent surgeons, as well as from the reasonableness of the operation itself, it would appear that this comparatively new method is to be recognized as a distinct advance in surgical science, and as applicable to all cases of strangulated umbilical hernia, which present unusual difficulties in the way of reduction. The principles to be borne in mind are removal of the sac, ligature of the ring by stitches passing through the peritoneum, and strict antiseptic.

### PUBLIC SCHOOL "TEMPERANCE TEXT-BOOKS," AND TEACHING ON PHYSIOLOGY AND HYGIENE.

UNQUESTIONABLY one of the most serious, and most deeply-rooted evils affecting our population is that of alcohol in its effects upon the physical welfare of man. The number of criminals who fill our public prisons, jails, and reformatories, of inmates who have been committed to asylums for the inebriate and insane, of those who have sought admission to hospitals in consequence of the effects of alcohol; of the children of these persons who are destined to fill similar institutions in consequence of their inherited traits; the support of the courts and tribunals which have jurisdiction in such matters; the enormous burden of taxation

imposed upon the people for the support of all these, make this one of the most important questions, moral, physical, and economic, of the present day.

Legislative action has been sought and laws enacted under the name of prohibitory, and license, which fail to remedy the evil, either on account of the want of proper executive authority, or of adequate support on the part of the people.

Failing of these means, attempts have been made in Massachusetts and in other States to secure such legislation as should lead to reform in a different direction — by the education of the young — the honest intention of the framers of the law evidently being to teach the scholar in the public schools the action of alcohol upon the human system, on the principle "As the twig is bent, the tree is inclined."

We shall not attempt here to discuss the propriety of such a statute. Under proper instruction and with discretion in methods of teaching, doubtless good may be accomplished. Harm may also be done by wrong methods and the lack of discretion, and we have before us examples of the very exaggerations and indiscretions which we feared and anticipated when some of these legislative bills were under discussion.

The recent agitation of this subject has led to the publication of an unusual number of text-books, some of which are well adapted to the purposes for which they are designed, the subject being treated in an intelligent and careful manner, and with freedom from sensational and exaggerated statements.

On the other hand, other text-books now in use in the schools contain much that is questionable, both in matters of fact as well as the method of presentation.

As an introduction to the study of myology, the following is not calculated to inspire the pupil with enthusiasm: "The skeleton is the image of death! Its unsightly appearance instinctively repels us; We have seen . . . how the ugly-looking bones abound in nice contrivances."<sup>1</sup>

The following statement from the same text-book can hardly pass unquestioned: "Dr. A. B. Hall says that he once bled a man who was dead drunk. The blood was caught in a bowl, and on applying a lighted match, the liquid blazed up at once. Experiment shows that to do this it must have contained twenty per cent. of alcohol." The author of this statement has long been dead. The experiment, however, lacks confirmation. Let the assertions in this quotation be considered in connection with each other. *First*. Blood flowing from the body of a drunkard ignited on the application of a lighted match. *Second*. Blood must contain twenty per cent. of alcohol, in order to blaze or ignite. The amount of blood in the body is variously estimated, the estimate given in the same book being one-thirteenth of the weight of the body, or ten pounds in an adult of 130 pounds. Twenty per cent. of this, or two pounds of alcohol would represent four pints of brandy or ten to fifteen pints of wine existing in the circulation, to say nothing of such

quantity as might also remain in the cavities, or organs of the body, stomach, bladder, etc.

While there is no definite information on this subject, the query arises, how long would human blood continue to circulate without coagulation, while containing twenty per cent. of alcohol, or even ten or five per cent. of a substance so decidedly poisonous? The same book appears to give evidence contrary to the preceding statement, for example: p. 130. "A quart drunk at once would kill like a bullet;" p. 133. "Even so small a quantity as one part of alcohol to 500 will materially check the absorption of oxygen in the lungs."

In another place appears the following assertion: "An infant kept in absolute darkness would grow up a shapeless idiot." A bright scholar in one of our public schools, on seeing this statement, inquired of her teacher if all children born blind were shapeless idiots. The sensational colored plates introduced in the same book to illustrate the effects of alcohol on the stomach, might with propriety find a place in a patent-medicine almanac, but such travesties upon pathology should never form a part of a system of education. Especially should the wretched plum-pudding-like figure at the bottom of the page, entitled *cancerous stomach*, have been omitted, not only on account of its utter want of accuracy, but also as having no connection either possible or probable, with the subject of alcohol.

Singularly enough, this text-book is accompanied with a circular endorsed by twelve persons, not one of whom is an expert in physiology or hygiene; not one, in fact, is a physician; eight of the number are clergymen, and one has the remarkable affix R.W.G.V.T., S.O.G.T., whatever that may be. It intended to give weight to the endorsement, the remainder of the alphabet is at command.

It is time that the endorsement of text-books intended for the purpose of teaching special branches, should be entrusted to "practical experts in the matters concerned," as is claimed for this book in the circular referred to.

#### THE SALE OF POISONS.

Two recent occurrences in Boston illustrate forcibly the laxity of the law and of actual practice regarding the sale of deadly poisons and of dangerously poisonous articles.

In the one case a young lawyer, apparently prospering in his profession and happy in all his surroundings, was found dead in his office, with evidences of death having been caused by cyanide of potassium.

In the other case all but three members of a large family, occupying a house in the most fashionable part of the city, were suddenly taken with nausea, vomiting, diarrhea, great thirst accompanied by headache, soreness of the limbs, oedema of eye-lids — symptoms continuing in some measure for a week or ten days. The attending physician recognized the symptoms of an irritant poison — probably of arsenic — when con-

<sup>1</sup> Hygienic Physiology for High Schools. By J. D. Steele, Ph.D.

sulted, but it was some time before the cause of the trouble could be discovered, and in the meantime every member of the family suffered severely.

The bread was finally hit upon as the cause of the trouble, and with the aid of chemical analysis, the flour was proved to contain arsenic. After removing the top layer of flour for two or three inches a large deposit of gray substance was found which proved to be a mixture of white arsenic and charcoal, either the preparation known as "Rough on Rats" or some similar one. The family had a narrow escape. In one or two more bakings this mass would have been reached, and had it passed unnoticed, would undoubtedly have proved fatal to all eating the bread, although, we understand, the determination of the exact quantity of arsenic has not as yet been determined.

Four or five days before the outbreak of the first symptoms a cook, who had been but a short time in the family, was discharged. The reasons for suspecting her of connection with the poisoning were sufficient to cause her arrest and detention for trial.

In the meantime the police are anxious to know where the poison was purchased. An inquiry of this sort is attended with abundant uncertainty, for "Rough on Rats" and other vermin killers containing deadly poisons can be bought by almost any one and no questions will be asked. Moreover, we believe that many of these preparations are extremely uneven, a large portion of the poison being concentrated in one part of the mixture, perhaps, and but little in another.

The Massachusetts Statute on the sale of poisons reads as follows: "Whoever sells arsenic, strychnine, corrosive sublimate, or prussic acid, without the written prescription of a physician, shall keep a record of the date of such sale, the name of the article, the amount thereof sold, and the name of the person or persons to whom delivered; and for each neglect shall forfeit a sum not exceeding fifty dollars. Whoever purchases deadly poisons as aforesaid, and gives a false or fictitious name to the vender, shall be punished by a fine not exceeding fifty dollars."

Something more than this and more stringently enforced is evidently necessary for protection against such events as the two above detailed.

#### MEDICAL NOTES.

—A class of fifteen was graduated from the Medical Department of Dartmouth College, November 17.

—In Spain the progress of the cholera from September 29 to October 8 inclusive, was 3,534, with 1,411 deaths. This makes the total reported cases in that country 271,223, with 100,370 deaths. Since Oct. 13th no new cases have been reported from Gibraltar, although up to the end of the month there was sporadic cases in the neighboring villages. Since Nov. 1st clean bills of health have been issued from Cadiz.

—The death-rate from small-pox has of late been daily diminishing in Montreal.

—The *Lancet* remarks that a peculiar sensation of

numbness, or "pins and needles" in the extremities is frequently experienced by dentists. This condition, Dr. George Johnson considers to be due to the combined influence of perverted nerve-function, directly due to a mechanical impediment to the circulation through the rigidly contracted muscles and their associated nerves, and to direct compression of the nerves by the firmly contracted muscles. This combination is found in dentists who stand fixed and firm in one position for long periods of time. The obvious means of prevention and of cure consist in rest for the overstrained limb, or such a frequent change of position as is equivalent to a certain amount of rest. Standing in one position is notoriously more fatiguing than walking, and for the obvious reason that while in standing one set of muscles is in a constant state of active contraction, the circulation through them being thereby retarded and enfeebled, walking involves alternate contraction and relaxation of the muscles, with an invigorated and quickened circulation.

#### BOSTON.

—A case has recently occurred of the poisoning of several members of a family in Boston by means of arsenic which was mingled with the flour used for domestic cooking. A cook was discharged October 26, and her place was at once filled. The next day the family had some newly baked bread, and during the evening one after another was taken sick. The symptoms were vomiting, with great pain. Two boys and a servant only escaped, and they, as was afterwards remembered, ate none of the bread. The sickness of the other members of the family continued for two or three weeks with no improvement. The servants were most seriously affected. Finally the boys one night partook of some toast and were soon after taken sick. A dog fed with the bread was also made sick. A beggar who had been given some bread has been since found to have suffered in a similar way. An analysis of the flour showed arsenic in large quantities. A scoop from the middle of the barrel contained a great amount of the poison. Suspicion fell upon the discharged cook, and after some difficulty she was traced and arrested; but attempts to fix the purchase of the poison upon her have as yet failed.

—The "Hæmorrhage Trick," so called, has been practiced upon a number of good people, in various suburbs of Boston within a few weeks past. A poor man is found lying on the ground with much bright blood upon his lips and his attire. A good Samaritan comes that way to whom the afflicted man explains that he has accomplished most of the distance from Jerusalem to Jericho on foot in search of work and could easily have finished the journey had he not had this bleeding from the lungs. The good Samaritan, moved with pity for the man's sad condition, does not exactly set him upon his own beast and take him to an inn, but after the changed conditions of the nineteenth century, renders an equivalent service. He gives the sufferer a bank note and advises him to take the first train for a hospital. Such a one recently met a fellow Samari-

tan who had had a similar experience the previous day upon the same road, and the two compared notes. Investigation has showed that there is in Jerusalem a store-house from which "ha-morrhage material" is supplied to whoever of the brotherhood of wayfarers requires it. Meantime the priest and the Levite are disposed to rejoice over the Samaritan and are confirmed in their policy of passing by on the other side.

#### PHILADELPHIA.

##### *Notes of Autopsy of John McCullough.*

Owing to the prominence given by the daily press to the case of Mr. John McCullough, the public has been kept fully acquainted with the history and progress of his malady, up to the time of his death in this city on the 9th inst. Desiring to avoid further publicity the family decided at first not to have an autopsy, and the body was placed in a receiving vault at the Monument Cemetery. Subsequently, they requested that the brain alone should be examined. On the 18th inst., therefore, nine days after death, the post-mortem examination was made by Dr. Hugo Engel, who had been the attending physician, Dr. Chas. K. Mills, Dr. Frank Woodbury, Dr. J. Hendrie Lloyd, Dr. J. M. Barton, and other medical gentlemen, who had been invited by the relatives to be present. The body showed no signs of decomposition: the globes of the eyes were shrunken, and the nose thin. The air of the vault was dry and pure.

The head only was examined. The aponeurosis of the occipito-frontalis muscle instead of being loosely connected with the pericranium was rather adherent. Nothing abnormal was detected (neither scar, depression, or marked irregularity of contour) upon the outer or inner surface of the calvaria, to which the dura mater strongly adhered. Upon the upper surface of the dura mater, along the lateral borders of the superior longitudinal sinus, and most marked at the vertex, were observed granular bodies or small pearly masses without corresponding depressions in the bone. No marked abnormality was observed in the dura: no discoloration, thickening, or evident inflammatory change.

It was noted, however, that some of the vessels of the dura mater, notably in the left temporal region, had rigid, almost cartilaginous walls, without being obviously enlarged. Upon removing the brain the absence of the usual amount of cerebro-spinal fluid was noted. (It had probably been imbibed by the tissues in the long interval which had elapsed since death.) The large venous branches in the pia mater were prominent, and contained dark blood, their walls were thickened, and in some places cord-like. The pia mater showed milky opacities, most marked over the fissures, notably the Sylvian and Rolandic, and along the course of the vessel. The same condition of the pia as to opacity and vascularity, was observed to extend to the cerebellum. The brain structure was remarkably well preserved, but the large ganglia and corpus callosum were quite soft and were torn in manipulating the brain during its removal from the skull. At the point of greatest

opacity of the pia, over the convexity of the left hemisphere, the cortical layer of brain tissue came away in several places when the pia was torn away; this was not noticed in others. Deep in the fissure of Sylvius, adhesions were found between the adjoining lobes.

The basilar artery, both middle cerebral arteries and their branches, showed marked degenerative changes in their walls. White deposits were seen and felt, and some of the smaller arteries had their lumen almost, if not totally, occluded by such deposits. (These vessels named were secured for microscopic examination.) Sections of the hemispheres and of the large ganglia, did not reveal any gross lesions beyond those already quoted.

A more careful and detailed report of the autopsy, it is understood, will be prepared. The euphemism of "blood poisoning," so frequently repeated in the daily papers, is well understood by the profession, fully accords with the revelations of the autopsy, but is not in any way inconsistent with the previous diagnosis of general paresis.

#### NEW YORK.

— The new Mount Olivet Crematory, on Long Island, was privately tested November 10th. The bones of an ox were used for the purpose, and the working of the apparatus employed is said to have been entirely satisfactory.

— Dr. Cyrus Edson, of the Health Department, has commenced a very important work in the investigation of the ice-supply of the city, and he recently reported to the Board that the ice obtained from a pond near the King's Bridge road is impure, the water being polluted with sewage.

— The Twenty-second Annual Meeting of the New York Society for the Relief of the Ruptured and Crippled, was held at the Society's hospital, corner of Lexington Avenue and 12d Street, November 10th. During the year then closed, 8,317 new cases were treated, of which 187 were received into the wards as in-patients. The number of visits from continued dispensary patients amounted to 15,573.

— A number of cases of small-pox have been discovered in the city during the past week, and one of the patients was a street-car conductor, who was found collecting fare in a crowded car with the eruption actually out on his face. Five cases were discovered in a large, double tenement house in Yorkville, where efforts were made by the inmates to conceal some of the patients from the sanitary authorities.

— The graduating exercises of the Brooklyn Training School for Nurses were held at Historical Hall, Brooklyn, November 29th, when diplomas were presented to a class of ten graduates by Mayor Low. Addresses were made by the Mayor, Dr. J. C. Hutchinson, Gen. Stewart L. Woodford, and the Rev. Dr. T. B. McLeod. Six nurses were graduated November 12th from the New York State Training School, in connection with the Brooklyn Maternity, the annual meeting of which was held at the same time.

— Some time ago, several families living in an up-town apartment-house near Fifth Avenue, discovered that certain of their members had been poisoned by sewer-gas, and vacated their apartments. Thereupon, the landlord sued them for rent for the remainder of their terms, which they refused to pay. When their case came up, they established to the satisfaction of the court, the fact that sewer-gas was present in the house, and the suit has been decided in their favor by the judge before whom it came, on the ground that the landlord was responsible for the sanitary condition of his premises.

### Miscellany.

#### HYDROBROMATE OF HYOSCINE.

A PREVIOUS issue of the JOURNAL contains an extended reference to Prof. H. C. Wood's observations on this drug. In the September number of the *Therapeutie Gazette* the same author publishes an additional note upon his experience with it. The dose for an adult he places at one-eighth of a grain. In spermatorrhœa he believes it to have a specific field of usefulness; thus, in a case in which the discharges were three a week, they were completely arrested by a dose of one-seventy-fifth of a grain at bedtime each night. The effects of the drug do not seem to be very lasting, but they are quite evident during its administration. It was employed in the penitentiary by Dr. Robinson, who reported that its results were surprisingly good. In a case of a woman with eroto-mania, its influence was also decidedly beneficial. As a hypnotic it is useful where sleep is prevented by too great cerebral activity, by a succession of thoughts, or where sleep is disturbed by urgent dreams. In intense fever with delirium, the hyoscine has seemed to control this symptom. Used hypodermically, in one case it seemed to produce a paralyzing effect upon the pneumogastric nerves; the patient, a woman, had an attack of suffocation, apparently paralytic and laryngeal. The dyspnoea of a child suffering with anginose scarlet fever was much increased after taking the drug, and in the course of an hour or two death resulted, whether from the use of the drug or not is uncertain; but these two cases are sufficient to arouse suspicion.

#### SCARLATINIFORM RASH PRODUCED BY INTES- TINAL ABSORPTION OF PTOMAINES.

A PATIENT observed by MM. Lépine and Mollière (*Journ. de Med. et de Chir. Prat.*, 1884) presented at first nothing abnormal, except an artificial anus, the consequence of a strangulated hernia. One day he was suddenly seized with violent delirium, and M. Mollière noticed a considerable dilatation of the pupils. The skin was covered with a scarlatiniform rash, but there was neither fever nor angina. Poisoning by belladonna was at first suspected; but, after a careful examination, M. Lépine came to the conclusion that the symptoms were due to the absorption by the intestine of ptomaines, acting like atropine, and probably similar to that obtained by Zuelzer and Sommenschein from putrid substances. After a short time, acute conjunctivitis and fever supervened, and the patient died. At the post-

mortem examination, a highly offensive substance was found in the intestine below the artificial anus, so that the possibility of an acute auto-intoxication cannot be disputed.—*British Medical Journal*.

#### DEATH OF DR. A. T. KEYT.

DR. A. T. KEYT, who died suddenly, November 7th, at his house in Cincinnati, at the age of fifty-eight years, was well known in connection with the application of the spymnograph to medical diagnosis. He contributed a number of articles to this and other medical journals, upon this and kindred subjects.

#### THE ELIZABETH THOMPSON SCIENCE FUND. A NEW ENDOWMENT FOR RESEARCH.

A LADY, residing in Stamford, Conn., who has been well known in that locality, for her benefactions to causes of religion and philanthropy, but who has never had any special interest in any particular branch of science, has given a fund consisting of \$25,000, of which the income, in the words of the letter of conveyance, "is to be devoted to the advancement and prosecution of scientific research in its broadest sense; it being understood that to provide for, and assist in, the maintenance of an international scientific association, is a method of application which seems to me very desirable."

The trustees are left with very great discretionary powers, which are to be guided by certain general directions. It is, above all, expressly understood that the prime object is to contribute from the income towards defraying the cost of scientific researches. The board of trustees consists of five members: Dr. Henry P. Bowditch, chairman; William Minot, jun., treasurer; Prof. Edward C. Pickering; Gen. Francis A. Walker; and Dr. Charles S. Minot, secretary. It was considered important to have as great a variety of interests represented as possible, and this is accomplished by the association of the above gentlemen.

When the International association is organized (and it is hoped that the movement will be initiated by the British association at Aberdeen), the income of the fund will presumably be expended under the direction of that new association; until then under the direction of the trustees. A moderate sum is now available, and persons who are carrying on original scientific research, and are in need of assistance therein, may communicate with the secretary.

#### RESISTING ELECTRIC SHOCKS.

DR. A. L. HUMMEL recounts some curious cases of recovery from shocks, which ought, according to all ideas upon the subject, to have proved fatal. Two of them are given in the *Popular Science News*. One is that of an *employé* of the Brush Company, who, while still grasping the wire in his left hand, cut it with a pair of nippers held in the right. The current was at once established through his body; and he was held to the wire at the top of a thirty-foot pole for three minutes at least, by which time a ladder had been procured, and he was released by a fellow-workman. During this time a current of three thousand volts, or sufficient

to run fifty arc-lamps of two-thousand-candle power, had apparently passed through his body; yet he was able to reach the pavement with slight assistance, suffered little or no constitutional disturbance, save a slight rise in temperature, and was not confined to his bed. His punishment was limited to the charring of three fingers on the left hand, and a small but deeply burned hole in the palm of the right hand. The only treatment was that applied for simple burns. Another case was afforded by one of the workmen of the Bell Telephone Company, who, having climbed a pole belonging to the Brush Company in order to carry a

wire over it, grasped the tie-wire of the positive line with one hand, and that of the negative line with the other. Here he was held until an assistant ran five squares to the electric-light station, when the circuit was broken, and he was released. A rope had been attached to him, and passed over the arm of the pole. This was held by another man, and he was thus prevented from falling. Though unconscious for a while, he soon rallied; but his pulse never exceeded 86, nor his temperature 101°. The thumb of the left hand was burned nearly off, as were also the index and middle fingers of the right hand. These were all amputated.

## REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 14, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	562	185	16.38	17.10	1.26	1.26	8.46
Philadelphia	927,995	315	105	20.80	12.48	—	4.80	12.16
Brooklyn	644,526	258	90	22.62	16.77	1.56	3.51	11.31
Chicago	632,100	210	16	35.04	12.00	.48	5.28	20.64
Boston	290,406	146	75	10.70	17.00	1.36	1.68	—
Baltimore	408,520	122	45	17.22	16.58	.82	1.64	10.66
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	139	44	22.32	—	5.78	—	3.60
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	40	9	7.50	20.00	—	7.50	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	20	4	30.00	30.00	20.00	5.00	—
Charleston	52,286	33	11	12.12	9.09	6.06	—	6.06
Lowell	64,051	29	6	13.80	10.35	3.45	3.45	6.90
Worcester	68,383	15	4	13.33	20.00	—	—	13.33
Fall River	56,863	13	5	7.69	7.69	7.69	—	—
Cambridge	59,660	25	6	28.00	24.00	8.00	—	16.00
Lawrence	38,825	14	3	—	21.42	—	—	—
Lynn	45,861	15	2	—	33.33	—	—	—
Springfield	37,577	—	—	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Holyoke	27,894	10	4	40.00	20.00	10.00	10.00	10.00
New Bedford	33,393	11	3	—	27.27	—	—	—
Salem	28,084	9	—	11.11	22.22	—	—	—
Chelsea	25,769	10	2	10.00	10.00	—	—	10.00
Taunton	23,674	6	2	16.66	—	—	16.66	—
Gloucester	21,713	7	3	14.28	14.28	—	—	14.28
Haverhill	24,748	4	1	—	25.00	—	—	—
Newton	19,750	2	—	—	50.00	—	—	—
Brocton	20,783	3	—	33.33	—	—	—	—
Malden	16,407	7	1	—	14.28	—	—	—
Newburyport	13,716	1	—	—	—	—	—	—
Waltham	14,609	2	—	—	50.00	—	—	—
Fitchburg	15,375	3	2	—	—	50.00	—	—
Northampton	12,896	2	—	—	—	—	8.16	4.16
86 Massachusetts Towns	—	48	12	12.48	22.88	—	—	—

Population by State Census, of May 1st, 1885.

Deaths reported 2,082; under five years of age 600; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 372, consumption 310, lung diseases 190, diphtheria and croup 176, typhoid fever 37, diarrhoeal diseases 11, malarial fever 31, scarlet fever 27, whooping-cough 19, cerebro-spinal meningitis six, measles five, erysipelas three, small-pox two, puerperal fever two. From malarial fever, New Orleans 15, Brooklyn seven, New York five, Philadelphia three. From scarlet fever, Philadelphia eight, Brooklyn six, Chicago five, Boston, four, Cambridge and Salem one each. From whooping-cough, New York 14, Brooklyn and New Orleans two each, Baltimore one. From cerebro-spinal meningitis, New York three, Nashville, Holyoke and Brockton one each. From measles, New York, Philadelphia and Boston one each. From small-pox, New York and Chicago one each. Puerperal fever, Chicago two.

One case of small-pox was reported in Chicago.

Cases reported in Boston: scarlet fever 34, diphtheria 24, and typhoid fever 22.

In 109 cities and towns of Massachusetts, with a population

of 1,327,813 (population of the State 1,941,465), the total death-rate for the week was 14.57 against 16.26 and 15.08 for the previous two weeks.

For the week ending October 31st, in the Swiss towns, there were 27 deaths from consumption, lung diseases 11, diarrhoeal diseases seven, typhoid fever five, diphtheria and croup four, whooping-cough four, small-pox three.

The death-rates were, at Geneva 10.1; Zurich 9.5; Basle 18.9; Berne 26.1.

In the 28 greater towns of England and Wales, with an estimated population of 8,406,116, for the week ending October 31st, the death-rate was 18.0. Deaths reported 3,075, infants under one year of age 778 (deaths in London 1,346); acute diseases of the respiratory organs (London), — measles 65, whooping-cough 64, diarrhoea 51, scarlet fever 33, fever 32, diphtheria 19, small-pox (London four, Nottingham and Preston one each) six.

The death-rates ranged from 9.7 in Norwich to 21.0 in Plymouth; Birkenhead 17.1; Birmingham 11.0; Bradford 13.1, Hull 15.7; Leeds 18.6; Leicester 17.6; Liverpool 23.1; London 17.5; Manchester 21.8; Nottingham 17.0; Sheffield 17.1.

In Edinburgh 15.6; Glasgow 27.4; Dublin 2.6.

The meteorological record for week ending November 14th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.		Relative Humidity.				Direction of Wind.		Velocity of Wind.		State of Weather. <sup>1</sup>		Rainfall.	
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.
Saturday, Nov. 14, 1885.															
Sunday, . . . 8	29.874	60.8	66.4	53.7	92.0	95.0	100.0	96.7	S. W.	N. W.	10	10	5	O.	R.
Monday, . . . 9	29.656	53.5	62.6	44.5	88.0	74.0	75.0	79.0	S. W.	N. W.	10	14	9	R.	O.
Tuesday, . . 10	29.679	44.3	50.9	42.1	77.0	56.0	63.0	65.3	W.	N. W.	12	22	9	O.	O.
Wednesday, . 11	29.802	48.0	57.1	37.4	64.0	35.0	57.0	52.0	W.	N. W.	12	9	11	C.	F.
Thursday, . . 12	29.750	58.6	67.0	48.7	60.0	44.0	60.0	54.7	S. W.	W.	8	8	8	O.	C.
Friday, . . . 13	29.718	58.0	66.8	47.7	65.0	50.0	73.0	65.7	S. W.	N. W.	10	10	10	O.	O.
Saturday, . . 14	29.714	45.9	57.8	44.3	65.0	91.0	80.0	78.7	W.	E. W.	8	6	6	O.	O.
Mean, the Week.	29.742	52.7	68.8	37.4				71.6							

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 14, 1885, TO NOVEMBER 20, 1885.

ELLYSEY, F. W., assistant surgeon and captain. Sick leave of absence further extended six months on surgeon's certificate of disability. S. O. 263, A. G. O., November 14, 1885.

STRONG, NORTON, assistant surgeon and captain. Relieved from duty at Fort Union, N. M., and ordered for duty at Attending Surgeon's Headquarters. District of New Mexico, and post surgeon, Fort Marcy, N. M. S. O. 171 Department of Missouri, November 16, 1885.

EWING, C. B., assistant surgeon and first lieutenant. Now at Fort Leavenworth, Kansas, ordered to proceed to Fort Reno, Ind. Ter., and report to commanding officer for temporary duty in the field. S. O. 170 Department Missouri, November 13, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 21, 1885.

DEENAN, M. C., surgeon. Ordered to training ship "New Hampshire."

ATLICK, H., surgeon. Detached from training ship "New Hampshire," and wait orders.

FITTS, H. H., assistant surgeon. Ordered to appear before Examining Board preliminary to promotion.

RUSH, C. W., passed assistant surgeon. Granted sick leave for three months from November 20, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDING NOVEMBER 14, 1885.

WHEELER, W. A., passed assistant surgeon. To proceed to Ontario, Canada, on special duty, November 11, 1885.

UPDEGRAVE, F. M., passed assistant surgeon. To proceed to Baltimore, Md., with steamer "Manhattan," and then rejoin station, November 12, 1885.

#### SOCIETY NOTICE.

MEETING OF AMERICAN PUBLIC HEALTH ASSOCIATION, WASHINGTON. We are requested to announce that tickets from Boston to Washington and return can be obtained for about \$14.00 at the office of the Pennsylvania R.R., Washington Street, Boston, on presentation of a certificate from the Secretary, Dr. Irving A. Watson, Concord, N.H.

#### BOOKS AND PAMPHLETS RECEIVED.

The Role of Bacteria in Parturition. By Henry O. Marey, M.D., Boston. (Reprint from Journal of American Medical Association, September 12, 1885.) Chicago: 1885.

L'Année Médicale (Septième Année, 1884. Résumé des Progrès réalisés dans les Sciences Médicales. Publié sous la Direction du Dr. Bourneville. Paris: Librairie Plon. 1885.

Health Statistics of Women College Graduates. Report of a Special Committee of the Association of College Alumnae, Annie G. Howes, Chairman, together with Statistical Tables collated by the Massachusetts Bureau of Statistics of Labor. Boston: 1885.

The Surgical Treatment of Cysts of the Pancreas. By N. Senn, M.D., of Milwaukee, Wis. (Reprint from the Journal of the American Medical Association, September 26 and October 3, 1885.) Chicago.

Book-Keeping Simplified. The Double-Entry System Briefly, Clearly, and Concisely Explained; with Valuable Rules and Tables for Counting-Room Use. By D. B. Waggener. Fourth Edition. Philadelphia: Charles E. Deacon. 1885.

The Diseases of Sedentary and Advanced Life. A Work for Medical and Lay Readers. By J. Milner Fothergill, M.D., etc. New York: D. Appleton & Co. 1885.

Acne: Its Etiology, Pathology and Treatment. A Practical Treatise Based on the Study of One Thousand Five Hundred Cases of Sebaceous Disease. By L. Duncan Bulkley, M.D., etc. New York and London: G. B. Putnam's Sons. 1885.

A Formula Book. How to use Listerine. St. Louis: Lambert Pharmaceutical Co. 1885.

The Metric System and New Apothecaries' Weights and Measures. By Oscar Oldberg.

Note on a Form of Post-Neuralgia (Encephalotropic or Cerebrasthenic) Insanity. By C. H. Hughes, M.D., St. Louis. (Reprint from the Alienist and Neurologist, October, 1885).

A Reply to a letter entitled Dr. Joseph Holt and Steam as a Disinfectant, Reprint from N. O. Medical and Surgical Journal, and Commercial Relations with Brazil as affected by Quarantine Regulations. Extracted from N. O. Press, October 20, 1885.

The Induction of Premature Labor in Certain Cases. By Walter Coles, M.D. (Reprint from St. Louis Courier of Medicine, November, 1885).

Report of Proceedings of the Illinois State Board of Health. Quarterly Meeting. Springfield: October 29, 30, 1885.

Inorganic Chemistry. By Edward Frankland, Ph.D., D.C.L., etc., and Francis R. Japp, M. A., Ph.D., etc. With Fifty-one Illustrations and a Plate. Philadelphia: Lea Brothers & Co. 1885.

Notes on the Classification, Diagnosis and Treatment of the Stages of Chronic Nasal Inflammation. By John N. MacKenzie, M.D., of Baltimore. (Reprint from Medical News, April 4, 1885).

A Contribution to the Pathological Histology of Acute and Chronic Coryza. By John N. MacKenzie, M.D. (Reprint from New York Medical Journal, August 22, 1885).

Some Observations on the Toxic Effects of Chrome on the Nose, Throat and Ear. By John N. MacKenzie, of Baltimore. Read May 8, 1884, at the American Medical Association.

Review of Hay Fever; its Etiology and Treatment, with an Appendix on Rose Cold. By Morell MacKenzie, M.D., London. (From the American Journal of the Medical Sciences, October, 1885).

Reflections on the Etiology of the Simple Inflammatory Affections of the Upper Air Passages. By John N. MacKenzie, M.D., of Baltimore. (Reprinted from the New York Medical Journal, September 12 and 19, 1885).

Aids to Surgery. By George Brown, M.R.C.S., L.S.A., Late Demonstrator of Anatomy at Westminster Hospital Medical School. New York and London: G. P. Putnam's Sons. 1885.

The Blot upon the Brain: Studies in History and Psychology. By William W. Ireland, M.D., Edin., etc. New York: G. P. Putnam's Sons. 1886.

Aid to Gynecology. By Alfred S. Gubb, R.C.P., M.R.C.S. New York and London: G. P. Putnam's Sons.

## Original Articles.

ELECTROLYSIS AND ITS THERAPEUTICAL APPLICATIONS.<sup>1</sup>

BY ROBERT AMORY, M.D.

ELECTROLYSIS is the result of a discharge of an electrical influence or action from one pole of an electrical cell to another in a fluid whereby a decomposition of the molecular combination occurs with a possible or probable reformation of a new combination. Faraday considered these terminals of an electrical circuit, as for instance, carbon and platinum, merely the doors through which the electrical force enters and leaves the fluid; he called these by the names of electrodes, and likened the path of this force to that of the terrestrial magnetism, namely, in the same direction with that of the apparent motion of the sun; where the current rose, as it were, from the carbon, the anode, and where it set the kathode or platinum; the decomposed particles, complicated though they may be, he called by the name of "*ions*," those which set towards the platinum the "*cat-ions*," those which went up against the electrical current (from West to East) and were the results of a chemical action at the anode — "*the anions*." The substance which was decomposed he called an *electrolyte* and the process electrolysis.

The ions act upon the fluid surrounding the electrodes. This phenomenon will occur unless the ions combine with the electrodes. As an illustration of this physical fact, chlorides become perchlorides and chlorates perchlorates at the anode. On the other hand, the secondary actions at the kathodes are those of reduction; thus if iodide of potassium in solution be subjected to electrolysis, one equivalent of iodine liberated at the anode will also have one equivalent of hydrate of potassium liberated at the kathode, showing that the potassium liberated from combination with the iodide has combined with some of the surrounding water. If chloride of ammonium be decomposed the chlorine liberated at the anode will react upon some of the remaining salt, giving free nitrogen and chloride of nitrogen. A rise of temperature favors the chemical decomposition and reaction and promotes at the same time rapid mixture of the ions with the solution. Consequently the higher the temperature the greater must be the current density or the size of the electrodes employed.

The application of electrolytic action upon abnormal growths in animal tissues is not so very recent, and its use in these many cases has been naturally limited by the fact that the surgeon's knife acts more surely and quickly; yet there are many of these abnormal growths for which excision by the knife is little used for obvious reasons. These might, for convenience, be divided into —

*First.* Skin marks, naevi and other similar abnormalities which cover too much space, or are too vascular, or leave too distinct a scar when the knife is used.

*Second.* Many of these growths are deep-seated, or are within cavities of certain vital organs so that the risk of danger to surrounding parts or incomplete removal makes the surgeon hesitate to operate. Of this class are uterine fibroids, glandular growths, and

perhaps might be added, though irrelative to this class, aneurisms and emboli.

*Third.* Adventitious growths which are too small and too numerous to be removed without more blemishing effects than the original trouble. Of this class are small wens in the scalp or skin and facial hairs on women's faces.

Now let us presuppose some practical theory to explain the result of electrolysis in abnormal vascular growths, whose size is most certainly reduced by its application. I think that it is most generally admitted that these latter undergo diminution of extent from the electrolytic puncture, and that little, if any, inflammation of the surrounding tissue supervenes. If a needle be plunged into tissue containing living blood, and the needle be withdrawn, a small amount of blood appears at the puncture; if, however, a moderate current of high tension be passed through the needle into the puncture, no blood will appear on withdrawal of the needle, provided the latter be connected with the negative pole, or kathode, or hydrogen pole; if, on the contrary, the needle be connected with anode or positive pole, on which oxygen collects in the voltmeter, blood will follow its withdrawal. To illustrate, I prick my finger point with the needle and blood flows, so also will it flow if the current from the positive terminal be conducted into the needle, while if the hydrogen or negative pole be used no blood follows the puncture. Now observe that I have instanced the use of a current of moderate or high intensity, or density, if you prefer the term. It would seem to be a matter of simple deduction to believe that if the vascular supply be diminished in an abnormal growth, and especially if a portion of the tissue is destroyed by mechanical or physical means, that the growth will become smaller and finally be replaced by a lower order of tissue formation. In fact, this has been successfully accomplished by surgeons tying arteries that supply large growths with blood supply, though this has sometimes been followed by disastrous consequences. Examples of this character are shown in cases of enlargement of the thyroid gland or body, especially of the form known as exophthalmous goitre (as it is sometimes called), familiarly known as Grave's disease. Fortunately these cases are not frequently met with in this part of the country. In my clinical experience I have had five of them under treatment, in all of which I first pursued a thorough course of treatment by iodide of potassium in large doses, but without any effect upon the glandular enlargement; in two of these digitalis was tried, with similar want of success. In two I tried the constant current applied over the course of the sympathetic nerve and the ganglia of the neck, and at the condyle of the jaw, and also the faradic or interrupted current from an induction coil, but with no obvious advantage. In two of them I used the electrolytic needle. One of these was considerably benefited by the current from a dynamo-machine of high tension, and small internal resistance; in this case the negative pole was passed through a gilt needle and enlargement was reduced to one-half of its size, and has been no larger for four years since; the exophthalmos was also considerably reduced. The current in this case produced so much pain that I ceased treatment after about twenty sittings of twenty minutes each.

The fifth case was very striking and was carefully examined last fall by Dr. J. C. Warren, before I began any treatment at all; he also saw the case several

<sup>1</sup> Extracts from a communication to the Suffolk District Medical Society, October 31, 1885.

times during the treatment by electrolysis. When first seen by me a measurement around the whole neck at the upper margin of the enlargement showed thirty-six centimetres (36 cm.), January, 1885. At this time she went into the country for six weeks and took regularly and daily doses of iodide of potassium, from ten grains gradually increasing to twenty grains and forty grains, until the local effects of coryza and indigestion were so disagreeable that she reduced the daily amount to fifteen grains. On March 26th she returned to Boston. On examination the measurements of the neck were nearly of the same dimensions as when I first saw her; namely, 36 cm. at the upper margin, 39 cm. along the middle line of the swelling, and 40 cm. at the lower margin. Digital and ocular examination of the tumor failed to show any cysts or irregularity of the swelling, except to suggest an isthmus and two alae, as is often seen in these cases. After the pressure exerted by persistent digital examination the skin would redden and the tumor enlarge. I introduced the gold needles, which are here shown, (by Stubb's gauge, varying from size from No. 55 down to No. 60, and the smallest measuring .0029 inch) through the skin and into the vascular swelling about half an inch deep; they were then connected with the hydrogen or negative pole (kathode), the other pole being attached to a piece of carbon covered with wet chamois skin being held in the hand; gradually the current was increased to the full strength of this battery, namely, twenty-four cells (Gaiiffe's modified Ledaniché cells). The pain where the needles were in contact with the skin was sharp but not unbearable, and soon gave place to a sense of numbness. The current was applied for twenty minutes' duration. This same application was repeated on the 30th, and again on May 10th: after the latter sitting the measurements taken around the neck and as nearly as possible in lines similar to the first time showed a diminution of 25 mm. at the upper margin, 20 mm. at the middle, and 40 mm. at the lower margin. After seven sittings (on April 17th) on which date she was exhibited to a class at the hospital by Dr. Warren and subjected to pretty considerable handling, the tumor had increased somewhat in thickness, though its marginal borders were narrower in all directions; the measurements taken on this date were 35 cm. at upper margin and 37 cm. at lowest margin. I regret that I did not take the measurements in extenso, to have judged of the improvement in the marginal limit; but it should be remarked, the perceptible diminution, as seen by inspection, was very great; though the circular measurements around the whole neck do not correspond with the improvement in the thickness of the vascular swelling, which were apparent to the eye; it might be readily understood that as the margins were narrowing the measurements would naturally be taken in places which were different from previous examinations. I must own that I had not expected such rapid improvement, and consequently did not measure the diameters of the tumor, nor had I expected to present the history of the case to a medical meeting. The 26th of May was the last application of electricity, fourteen sittings in all, and on the 30th of May the tumor had been so reduced that I advised waiting until after the summer season before resuming the electrical applications. I saw her again, and for the last time, on the 20th of June. On this date the measurements of the diameters were about 5 cm. on the

horizontal line, and the swelling had resolved itself into two ovoid-shaped alae and an isthmus, that on the right measuring about 2 cm., that on the left a little less than 2 cm., and the isthmus making up the balance; the shape of the two alae was ovoid, the longest axis being on the horizontal line. The neck which had been thick and distorted at the first visit was then long and thin, and there was no protusion of the eyeball. The irregular and tumultuous pulsations of the heart which are common in "Grave's disease" were, however, pretty well marked. I prescribed digitalis, hoping that it would improve this symptom. She went home to Nova Scotia, and I can therefore only give the report of her condition in a letter received from her sister last month, and in one written by herself, October 21st.<sup>2</sup>

In the first letter, dated September 14, her sister writes: "I found M. not very well, but she is improving. She gets tired very easily, and her limbs feel *shaky* when she walks but a short distance. I think Dr. Amory would be very much pleased could he see her neck now. It has become very much smaller even in the last weeks, and we are all so happy about it. She perspires very freely, especially her head, her hair being damp all the time."

In the second letter from herself, dated October 21, 1885, she writes: "There is still a little swelling in my throat, which you can see clearly in one of the proofs, but my doctor who examined me soon after I came home, and again this week, says that now it is less than half the size it was when he first saw it, and I know you would be very much pleased with the improvement could you see it yourself. I have been gaining in strength very rapidly ever since the weather has turned colder."

The case of M. is that of a parenchymatous bronchocele without cysts, which was vascular and growing larger, and the object of treatment by electrolysis was to reduce the size of the growth, which had already so pressed upon the larynx as to cause huskiness, and at times complete loss of the voice, besides being accompanied also by dyspnoea. The growth was evidently encapsulated, for it was difficult to push through this envelope the gold needles, which you may see are both stout and sharp-pointed, and after it had been penetrated it required some caution to prevent too deep a penetration, on account of the soft tissue enclosed. Once or twice a drop of black venous blood would ooze from the puncture of the needle, but only after one application was there enough blood to spot the collar after the first drop had been wiped off. At no time, except as before stated, did any secretion or fluid exude from a puncture.

The constitutional symptoms in the above case were three, exophthalmos, the parenchymatous goitre and the cardiac symptoms. Only one of these symptoms was attacked, namely, the enlargement of the thyroid body. With the reduction of this enlargement the protuberance of the eyeballs disappeared. The third symptom, increased frequency, irregularity and tumultuous pulsations of the heart, though greatly improved, persisted after the reduction of the enlargement of the thyroid body. When the heart was examined, both before and after treatment, there were anæmic souffles heard, but once or twice during treatment they could not be distinguished. There were also other signs of

<sup>2</sup> Three photographic portraits of the patient's present appearance were shown.

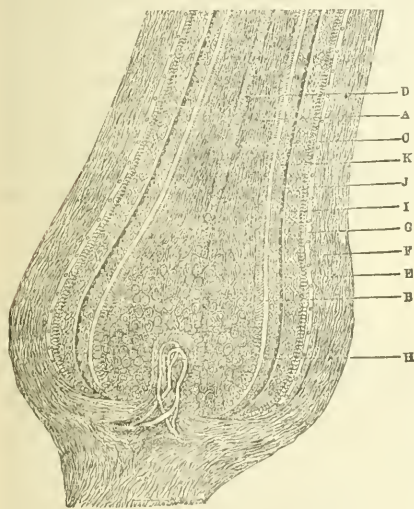
anæmia besides this, as, for example, the color of the pale mucous surfaces, frequent and pale menstrual flow, inappetence, restlessness and muscular languor, also shortness of breath after exertion. With her letter, dated October 21st, which I read to you, she sent these three photographs, which shows that very little of the vascular swelling remains.

The next series of cases which I present to your respectful consideration, are the treatment by electrolysis of superfluous hairs on the face of women, of enlarged sebaceous glands or wens, and of hair moles and warts. The treatment here being applied to the cutaneous structure naturally is followed by more pain, and consequently the battery strength cannot be used to the same extent as when applied to deeper tissues.

Without going into unnecessary detailed description of the hair follicle it is sufficient for our purpose to

surely grow again. Yet, if the operator is sufficiently skilful and finds some indefinite place out of which the saponification may or may not exude, he will, by gently pulling on the hair into whose follicle he has penetrated with his electric negative terminal, with the very lightest traction extract the hair, or better still, the hair may fall out without traction. In either of these latter cases the hair will not grow again, as the papilla in the follicle is destroyed.

On examination into the cause of this successful treatment of epilation, you must know that two-thirds of the sebaceous substance secreted by these glands is composed of water and the remaining one-third is chiefly fats, extractive and other albuminous materials and some earthy salts. Fat is essentially a hydrocarbon (free from oxygen), and hence if we pass a chemical or electrolytic current through the fatty secretion in the sebaceous gland and see bubbles of gas forming upon the pole by which the current passes out of the circuit it might be assumed that the fatty matters are decomposed by the escape of hydrogen. However plausible this explanation may seem, it does not answer all the conditions. I have seen a most liberal saponification follow the introduction of the electrolytic needle into a sebaceous gland adjacent to a hair on the skin, but the hair not only did not fall out or come out by gentle traction, but worse than this, in a few weeks it would grow again and apparently stronger and thicker than before. If then with more care than first was used, I would extend the hair and follow along its cylinder until I touched the bottom of its own follicle and applied there the negative terminal the hair would entirely come out, and would not reappear. In order to destroy the hair it is not essential to cause the secretion of sebaceous matter nor to penetrate the sebaceous follicle. Penetration of the hair follicle and the papilla of the hair with the electrolytic needle will destroy the life of the hair, provided the needle be the cathodal terminal of the battery. If the other pole is connected the positive current will singe the hair within the follicle but will not destroy its life; in fact it will stimulate its growth. A true destruction to the living tissue follows the presence of the hydrogen terminal, and the cicatricial tissue which replace the hair sac leaves but a small scar. Consequently it is essential, to avoid large scars, to use as fine a needle as will accomplish this destruction. If a needle be used which is made from metal offering a resistance to the electrical current, it should be remembered that the resistance is increased by that of the body, which is nearly 2,500 ohms. It should be remarked in this connection that the alopecia following seborrhœa is probably the result of inflammation and destruction of the pilous follicle, and will be consistent with the same hypothesis in which it is fair to assume a destruction of the papilla from destruction of tissue and obliteration of the hair follicle; disease in the latter instance accomplishing what electrolysis is forced to do by treatment. I have here a series of photographs from a very exaggerated form of hair-growth in a woman, which in fact is as strong as we see in the beard of male adolescence. This case has been under treatment during four months last spring and one month this fall. I have removed 3,000 facial hairs, of which five per cent grew a second time, because the papillæ were not destroyed. The series shows not only the gradual decrease in the hairs of the face, but in some of them the results of such



THE HAIR AND HAIR FOLLICLE.  
(From Duhring's Diseases of the Skin.)

A, Shaft of Hair; B, Root of Hair; C, Cuticle of Hair; D, Medullary substance of Hair; H, Papilla of Hair.

state that the hair emerges from its follicle and depends for its nutrition upon the papilla, which is situated at the bottom of the hair follicle, and derives its nourishment from the arterial supply to this papilla, which anastomoses, and finally becomes the venous outlet. The sebaceous glands are found wherever the hair abounds, and these, as a rule, connect with the hair follicles, and occasionally when small, are a sort of sacculated bulging from these follicles. Now if the hydrogen-forming pole be passed into the sebaceous follicle, and the electrical circuit be set up in the subject, there will appear a series of bubbles at this hydrogen-forming terminal (negative pole), and white minute drops of emulsion, like that noticed in the saponification of fats. We may prolong the action for several minutes, but unless we grope round with the electrolytic needle until the papilla is transfixed, we may pull gently on the hair which is nearest this sebaceous follicle, but in no case will it readily leave its hair bulb unless force be used, and in that case it will

heroic treatment is seen in the *recent* scars which are prettily liberally distributed upon the chin. Yet by examining carefully with a magnifying glass the photograph taken on September 27th, you will observe that though the scars when recent are quite distinct, three months' interval effaces most of them, the new skin showing not much induration, but in a few months rather an exaggerated whiteness where the follicle had been destroyed, in some cases shining like the skin of a man's bald head. In these other photographs taken after epilation, either complete or incomplete, the skin-marks may be seen indistinctly, and you may observe also that the photographs are taken on an exaggerated scale, as may be seen from the effects of coarseness and detail of the skin as well as the largeness of the freckles which artistic photographers seek rather to obliterate, since they are not seen in their pictures. In one of these photographs, marked M., of a young girl's face from whose skin about five hundred hairs have been removed, though the freckles are quite apparent the marks of the needle can scarcely be made out. In another, marked O., may be seen the scar left from the removal of a hair mole on the cheek; in this case the mole was as large as an ordinary white bean, from which hung twenty-six to thirty long coarse hairs and nearly as many fine hairs. These were removed by electrolysis in August, 1884, and the mole has, as you may see, been entirely removed, and the scar is only half the size of a split dried pea. None of the hairs have ever reappeared, as you may see in the photograph, which was taken only three days ago.

The method of procedure is very simple, and though it may be known to some of you, others may be desirous of a description.

After inspecting carefully where a certain hair protrudes from the skin, the needle, which I will especially mention later on, is passed along the hair shaft into the hair follicle, and then connected with the negative or hydrogen terminal of a battery, where it is turned and twisted in many directions but without using sufficient force to push in through the bottom of the sac. If penetration is effected through a sebaceous gland, the sebaceous matter will bubble and boil out in a sort of soap sud; if you are fortunate enough to have struck the papilla, twenty or thirty seconds' duration of the circuit current, which is established by the moistened positive terminal applied to any portion of the body, preferably the skin of the hand, will suffice to destroy the hair, which will follow a gentle traction with a pair of hair forceps.

These forceps I have had constructed of a pattern which I show you; they have the advantage of a curvature at the point to allow of the more readily groping with the needle for the hair shaft. If, as is more often the case, you have missed the papilla on your first introduction of the needle, you must grope around until you find the hair loosened, when again gentle traction will loosen and remove it.

Unfortunately, there are but few guides which will point out exactly the position of the papilla. A few of these are important. If the hair has never been extracted from the follicle, following down its axis from where it protrudes from the follicular outlet of the skin will often suggest its hair; if, on the contrary, the hair has been extracted, and more than once, the seat of the papilla is not in the direct axis, but to one or the other of the two sides, and in such cases, the operator will find the papilla more readily by bending

the needle point in a sort of hook or at right angles to its length. You may be sure of two things, first, that if the electrical current is good, and the conductivity of your rheophores and needle in good order, twenty seconds is sufficient to destroy each hair growth; but under the best of circumstances it will take an hour of constant work to remove from forty to fifty hairs.

As electrolysis is becoming one of the fashionable agents in the cure of diseases, it may not be amiss for me to state that many physicians may use the method without being familiar with certain matters which it is important for us to know, and which are well known to physicists. The practical bearing upon the question before us will be apparent, and it may be observed that through this ignorance, already some physicians have been led to underrate a treatment which, in its proper place, will become an important factor to relieve forms of disease which can hardly be so well cared for in other ways. To illustrate, physicians are using to-day certain terminals and batteries which are a hindrance to the very object they wish to obtain. Among these are iron wire, or other poor conductors, and batteries of a deficient electro-motive force. You may remember in the early part of this communication I called your attention to the fact that iron and steel are poor electrolytic conductors. I grant that annealing the iron makes it a better conductor, but even then it does its work in a more or less difficult way. According to Jenkin's tables

The resistance of annealed iron is	.125
" " platinum	.116
" " gold	.026
" " annealed	.025
" " silver	.019
" " copper	.157

In fact, the resistance of annealed iron is, therefore, nearly five times as great as that of gold, and that of platinum four times more than that of gold. When you remember also that Faraday's experiments showed that iron was converted into a peroxide from an oxide which is hardly a conductor of electricity, you will see how much smaller an electrolyzing agent we get from this metal. In view of the fact that the resistance to electrical conductivity furnished by the human body is so much higher than that of most metallic electrodes, practically the question of the latter is not of great consequence. On the other hand the high internal resistance of a battery is important, and the varying strength of a battery used for a sitting of an hour, offers a serious objection to its selection, because owing to the polarization of its elements, the current becomes too weak to effect a sufficient electrolysis.

It is generally supposed that an electric battery is a simple and constant thing, and that one form is as good as another for medical uses. No greater mistake can be made in connection with this matter of electrolysis. I have used many batteries, Daniels' cells, Leclanché cells, Dynamo machines, chloride-of-silver batteries, and many other forms. In the commercial uses of electricity, no battery has yet been found that perfectly answers the purpose, yet in medicine, physicians seem content with apparatus that the electrician long ago has discarded. Improvements are constantly being made in electrical cells, and for convenience and portability for electrolytic uses, probably that of Gaiffe has up to this time, stood best. Of such a battery I present this one. Its work for two hours keeps up in a pretty uniform way and with fairly constant strength; and in conclusion, I will describe this and another modi-

fication of the Leclanché pattern, as well as the means we have for testing the electro-motive force, and the subsidiary apparatus for medical uses of electrolysis.

Gaiffe's modified Leclanché cell battery with twenty-four cells is contained in this portable box, which is so arranged that any two of the cells may be used at pleasure without disturbing any of the others. This is accomplished by the use of what is called a Dial Collector, by which every two cells are short connected by a wire, leaving the others out of the circuit. This cell is formed of carbon and sesquioxide of iron for one element and zinc for the other; the exciting fluid is water, into which is thrown one-fifth of its weight of zinc chloride, which must be neutral to test paper, and free from lead. In this cell the elements are secondarily depolarized so that the electrical action is quite constant for three or four hours of continuous service. Its action is unlimited, provided it is not overworked, and that the zinc is replaced when used up. This battery has been in pretty constant use for two years. Its electromotive force, in the size used here, is about three-tenths of a Volt. A Volt is equal to the electro-motive force which is furnished by about one Daniell's cell freshly charged,<sup>2</sup> while an Ampère is equivalent to the strength furnished by an electro-motive force of one Volt passing through a resistance equal to one Ohm.<sup>3</sup> It may be seen, therefore, that the quantity (as it is termed) furnished by Gaiffe's is small, owing to its enormous internal resistance. An instrument called a Voltmeter, applied to this battery, shows that the full strength will decompose in a minute of time twenty-three cubic millimeters of combined gases from a one per cent. solution of sulphuric acid and water, which is equal to two milliamperes (one-thousandth of an ampère).

Another battery of the modified Leclanché cell, of which these two are a pattern, is made by Holtzer of Brookline, on a mechanical principle very similar to that of Gaiffe's, though the exciting fluid is a solution of ammonium chloride in water; but in this form which you see, the elements are large and offer a wider surface to a larger body of water. The internal resistance of this form of cell is very low, the tension is high and the quantity of the current is large. The action of this battery is very constant, and its power of decomposing water by electrolysis is very good, twelve of these cells decomposing one hundred and sixteen cubic millimeters of the combined gases from the same solution, and is, therefore, equal in power to ten milliamperes, and has three times the electrolyzing power of the Gaiffe battery. Its work on the human tissues might be compared to that of a sharp knife as compared with that of a dull knife when using Gaiffe's battery. The consequence to the patient will be that less formidable scars and more certain destruction to the pilous follicle will result from its use in preference to other batteries of feeble power.

The instruments used for the purpose of epilation are an insulated needle-holder and a fine needle. I had hoped to go more fully in this application of electrolysis as a therapeutical measure, especially for the treatment of enlarged sebaceous sacs, or so-called wens, which are more readily cured by this than by any other surgical method. Its application to the cure of acne in its

varied forms is also wonderfully successful. I have, however, trespassed on your patience so long that I will defer further details for more general publication in some other channel, in a memoir which I am preparing for the general practitioner.

## Hospital Practice and Clinical Memoranda.

### REMOVAL OF A TUMOR OF THE LEFT THIGH ADHERENT TO THE SCIATIC NERVE, WITH EXCISION OF A PORTION OF THE NERVE.<sup>1</sup>

REPORTED BY WM. B. LITTLE, M.D.,

Late House Officer of the Lynn Hospital.

Mrs. H., age twenty-five, occupation button-hole operator, was admitted into the Lynn Hospital May 12, 1885, having previously been seen by Dr. J. S. Emerson. She presented a large, firm tumor, on the posterior aspect of the left thigh, just above the popliteal space, which had been growing for a year and a half.

It first manifested itself by a dull ache along the thigh, followed by sharp lancing pains upwards, one spot being very tender. Patient had no inconvenience while walking, but sitting caused severe pain. She had felt some anxiety about the tumor, thinking it might be incurable. She had been immoderately fond of roller-skating, and of feats of high kicking, in which latter trials she had beaten all her rivals. Her family history was good, except that her mother had had large fatty tumors on back, thighs and arms. The patient was first advised to see Dr. C. B. Porter, of Boston, who advised removal of the growth. An exploratory aspiration of the tumor was made on the 13th of May, but no fluid was found. On the next day, May 14th, the patient was etherized and the operation for removal was performed by Dr. Emerson. An Es-march's bandage being applied, an incision seven and a half inches long was made on the posterior aspect of the thigh, directly over the tumor which was closely adherent to the surrounding tissue. These were detached by dull dissection until the pedicle was reached. This was found closely connected with and apparently incorporated in the sciatic nerve to the extent of about an inch. The tumor had grown backwards and downwards, and found its way in under the nerve, so that the nerve lay in a groove on the upper surface of it. It was impossible to dissect off the attached portion and it was decided to resect the nerve to the extent of an inch and a half, and thus remove all the diseased structure. The cut end of the nerves were approximated and retained in position by three catgut sutures. All hemorrhage was arrested, and a drainage tube put into the wound which was then closed by sutures and strips of plaster, the whole being covered by a modified Lister dressing, with iodoform gauze as a protection. The leg was placed at nearly a right angle with the thigh and held by bandages. On the evening of the second day from the operation the temperature rose to 104°. The dressing was removed, the tube thoroughly syringed out with carbolic water and the wound redressed. Each night thereafter the temperature declined one degree till normal was reached, the wound closing with very little suppuration. Patient was in good spirits, complained

<sup>1</sup> Five to ten per cent. less.

<sup>2</sup> The Ohm is about equal in resistance to 183 meters of pure copper wire of one millimeter diameter at 0 degree Centigrade.

<sup>3</sup> Read before the Essex South District Medical Society.

of but little pain and had an excellent appetite. She was frequently tested as to sensation in the foot and leg, which was impaired though not wholly lost. If the great toe was touched she thought for a time that it was the little toe, and vice versa. It was supposed that the cut ends of the nerve in some way became twisted so that the sensation travelling up the nerve fibres on the inside of the leg from the big toe beyond the line of section crossed to the outside, and vice versa.

On the 28th of May extension was begun, a movement of two or three inches being accomplished at a time. Her condition remained good till the 25th of June, when she had some slight febrile disturbance lasting but a day or two. She was discharged the third of July, and then had impaired sensation below the knee. There was no motion except with the thigh. She had no ache or pain when sitting, and no tenderness on the thigh. She stood upon the foot for the first time on the 26th of July, but the knee had a tendency to come forward. From this time till the 11th of August she used a cane to assist her in walking. On the 12th of August she walked to the doctor's office and back to her residence without any assistance. At present there is a slight limp in walking, but she affirms the whole limb to be growing stronger each day. She can go down stairs easily, but has some difficulty in getting up stairs. On the outside of the foot there is no feeling whatever, but on the inside and on both the inside and outside of the leg she says the feeling is as natural as ever, but the foot is completely powerless. Within the last few weeks she has twice noticed a sensation of itching on the sole of her foot. For the last three weeks she has followed her occupation without any discomfort.

The tumor was ovoid in shape, twelve inches in its longest circumference, and weighed eleven ounces. The pedicle was firm and fibrous. It was a sarcomatous tumor whose cells were embryonic in character and embedded in connective tissue. As sarcoma originate invariably in the connective tissue structure, this tumor must have found its origin in the neuroglia of the nerve. On section, the tumor presented a bony substance about one and one-half inches in diameter encased in a softer tissue to the depth of about an inch. Ziegler says, "sarcomatous tissue may easily be the result of proliferation of the cartilage of a chondroma or the fibrous tissue of a fibroma, and conversely sarcomatous tissue;" may equally well be transformed partially into osseous tissue, and the growth of this tumor seems to confirm the latter statement.

The resection of the nerve; the peculiarity of sensation experienced by the patient during her convalescence; the probable origin of a sarcomatous growth in the neuroglia of a nerve; its growth and development to the formation of bone; were all features of unusual interest.

Two wills were lately offered for probate in Salem, Mass., one made in 1807 and the other in 1802. The testators died respectively in 1822 and 1812. Where the wills have been during this time is not explained. Both wills were allowed by the Probate court. The testimony as to the genuineness of the signatures of testators and witnesses was all offered of course by very aged witnesses, some of them being upward of eighty years old. The court, however, evidently had confidence in the reliability of their memory.

## Reports of Societies.

### PROCEEDINGS OF THE SUFFOLK DISTRICT MEDICAL SOCIETY.

CHARLES M. GREEN, M.D., SECRETARY.

OCTOBER 31st, 1885, the President, DR. GEORGE B. SHATTUCK, in the chair.

DR. ROBERT AMORY read a paper on

#### ELECTROLYSIS AND ITS THERAPEUTICAL APPLICATIONS.<sup>1</sup>

DR. J. C. WHITE said that he had operated for hypertrichosis by electrolysis in many cases in the last four or five years. According to his experience, there will be a slight amount of scar formation in a certain proportion of the cases, not dependent upon the degree of inflammation produced by the operation, which is inevitable in some measure in every case, and not to be foretold in any instance. The scars are, however, when a very fine needle is employed, only minute, cup-like depressions at the mouth of the follicles destroyed, and are much more noticeable in brunettes than in blondes. He knew no way to prevent this result in skins thus disposed. The slight deformity thus produced is, however, in no way comparable to that of the pre-existing hair growth. Contiguous follicles should never be operated upon simultaneously. A certain proportion of the hairs operated upon, also return, even with the greatest possible care, about one in eight or ten on the average, which have to be subsequently removed. Eventually the operation was always successful. He generally used the very finest jeweller's broach, but occasionally the irido-platinum needle of Dr. Hardaway, of St. Louis, who first applied the operation to hypertrichosis. The needle is passed directly down by the side of the hair until it reaches the hair papilla, a point readily recognized by the experienced hand. The operation has nothing to do with the sebaceous glands, and the "foam" which always issues at the side of the needle is the escaping hydrogen generated in the albuminous fluid. The kind of battery he considered unimportant, and this was the unanimous opinion of dermatologists expressed during a discussion of the operation at the recent meeting of the American Dermatological Association. He had generally employed a chloride-of-silver battery, which required refilling but once a year, although used nearly daily. He thought that the treatment of vascular growths by electrolysis was rarely successful unless very superficial.

DR. MORTON PRINCE said that he had been fortunate in not seeing much scar formation following the process, though when he first began to use electrolysis more scars resulted than did later. This improvement in the results was probably due to greater experience. To avoid scars it is desirable to observe three precautions, namely: not to remove at the same sitting hairs that are situated close together; not to insert the needle too deep—that is, below the hair follicle; and third, not to use too strong currents, even though more hairs thereby returned. If this happened, the operation could easily be repeated, and pain and soreness of the skin largely avoided. He had found that different parts of the face bore electrolysis differently.

In a case under his care at present, for example, the strongest currents were borne upon the side of the

<sup>1</sup> Extracts from this communication appear on page 529.

face without ill effects, without scar formation and with scarcely any secondary inflammation; whereas, even weak currents, applied under the chin were followed by local inflammation and scars, unless great care was exercised. These scars, however, upon which much stress has been laid, are not conspicuous, but fine points, hardly noticeable, infinitely preferable to the hairs.

As to apparatus, he used for a needle-holder simply a perforated laryngoscope handle, through which the battery wire was seen. This was light, allowing delicacy of touch, and better than any he had seen. As to batteries, he agreed with Dr. White that one battery was as good as another—that is, of the ordinary medical galvanic batteries. He had used gravity, zinc and carbon, and chloride-of-silver batteries and could not see any difference in the results. One may have to use more cells of one battery than of another, but only a weak current is required, and as long as one have enough cells, it makes no matter. For a needle, he, also, used the ordinary fine round goldsmith's broach. It answered every purpose. After heating it at the shank it could be bent to any desired shape. Though theoretically one battery or one kind of needle might possibly be better than another, practically, with the apparatus just mentioned, electrolysis could be perfectly performed, the hair readily destroyed, and he could not see what more was needed.

Dr. AMORY said there was a great difference in the efficiency of different batteries, and he thought the chloride-of-silver battery was unreliable, which was the only battery he believed Dr. White used, on account of the difficulty of making with this battery the electric discharge constant and of uniform electro-motive force. Makers of electrical medical batteries, like Gaiffe in Paris, and Stohrer in Dresden, as also at the officina Galileo in Florence, had given up the attempt to make this form of battery (*De la Réve*), on account of its unsatisfactory use in practice. He believed that more formidable scars followed the use of the watch-maker's iron broach (even when the temper of the steel was drawn) than was observed after the use of his own gold, or of iridium-platinum alloy needles; whether due to the use of a better battery—or rather, a battery of higher electro-motive force and of uniform current, strength and resistance—or to the improved conductivity of his gold needles, or to both causes, he thought the return of hairy growth occurred less often in his experience than in that mentioned by Dr. White from his experience; in two instances Dr. Amory recalled the fact that not one hair of about fifty which he removed over a year ago at the first sitting has ever reappeared. Dr. Amory further stated that by pricking cocaine oleate (normal strength 52 per cent. of the alkaloid) into the skin of his patients, he found the same patient could tolerate a larger number of cells and for a longer period of time than without its use. Subsequent skin inflammation was less and the scars were more superficial and smaller, probably on account of the more rapid destruction of the hair papilla.

Dr. H. L. BOWITCH asked the reader if electrolysis had proved of any value in the treatment of aortic aneurism.

Dr. AMORY replied that in Hotel Dieu in Paris, electrolysis was used in the treatment of aneurisms of large vessels, but not in aneurism of the aorta.

THE PRESIDENT remarked that in 1877, McCall

Anderson of Glasgow reported three cases in which electrolysis was employed in the treatment of aortic aneurism, in two successfully, in one unsuccessfully. Dr. John Duncan of Edinburgh had previously had two unsuccessful cases.

Dr. A. C. GARRATT remarked that in connection with this subject of electrolysis, he wished to announce to the society the important fact that a new primary battery had recently been invented in this city that must hereafter greatly facilitate and make more efficient the medical and surgical uses of electricity. The peculiar excellence and superiority of this new battery consists in its cheapness, power and *endurance*. That is, to provide and maintain a constant current of high tension and great quantity without flagging, even in the most lengthy applications. While doing a hard and prolonged work, it keeps in order and holds its strength for many months together and this without lifting out of the fluid any of its parts.

By actual tests this battery has proved to be able to do from five to seven times more work, as in heating a platinum knife or wire red hot, or sustaining an electric light, than any bichromate of potash, or other battery known. There is no bichromate of potash in it. It is named after the inventors, the Knaffer and Goldener battery. He did not call the attention of the profession to this new battery because he had any immediate pecuniary or commercial interest in it, but because, from his standpoint he saw its importance as an aid in therapeutics, and wished to have the honor of first bringing this wonderful battery to the notice of this society and through it to the medical world.

This new battery was first brought to his notice about three months ago. Soon after that a single cell, arranged as a two-fluid battery, for it can also be arranged as a single fluid plunge battery, was set up in a back room with wires twenty feet long connecting it with several helices in his office, some of which were very long coils and offered greater resistance; it has worked any or all of them together daily and has remained entirely untouched days and nights all this time and is still in as good power now as at first. On State Street, by means of a few of these battery elements, electric incandescent lamps at full candle-power were maintained for over two hundred hours, without renewal of solution or other element of the battery, and no potash-chrome-alum crystals formed to hinder or stop its action.

#### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

NOVEMBER 9th, 1885, the President, Dr. F. W. DRAPER, in the Chair.

Dr. A. L. MAYSON read a paper entitled

TYPHOID FEVER AT THE BOSTON CITY HOSPITAL IN 1884-1885; WITH REMARKS ON THE USE OF ANTIPEYNE.

He said that since January 1st, 1884, 442 cases of typhoid had entered the hospital, with 47 deaths, or 10.7 per cent. This included all who entered moribund, and excluded all cases of mild, doubtful fever and febricula. The number of cases in the city at large during the same period, so far as reported to the Board of Health, had been about 1,300 with 288 deaths, or 22.1 per cent.

per cent. One-third of all the cases reported to the authorities were treated at the City Hospital, and the mortality among the remaining two-thirds might be regarded as high if all cases were returned. But, as this is a recent requirement of the Board of Health, it is probable that many of the milder cases escape registration, thus increasing the apparent proportion of deaths.

The mortality from typhoid in Boston was not great as compared with that from other diseases. Last year, for instance, there were more deaths from whooping-cough; twice as many from diphtheria, a comparatively new disease in this community; and six times as many from pneumonia.

It was sometimes said that typhoid fever had lost its former virulence. How far epidemic diseases, of periodic recurrence, were preventable by improved sanitary conditions was not known; but it was probable that any immunity resulting from milder visitations of this disease was due chiefly to the energetic measures of the Board of Health.

The interesting report on Typhoid Fever at the City Hospital, by Dr. C. Ellery Stedman, published in 1882, in the third series of Hospital Reports, showed the mortality rate for fifteen years to have been 17.3 per cent.; varying from 12 per cent. in 1872 to 21 per cent. in 1879, when only 70 cases were received. In 1881 the rate was 11 per cent.; in 1882-3, it was not known to the reader; in 1884 it was 9 per cent. in 254 cases; and it had been 12.2 per cent. in 188 cases thus far in 1885. Therefore it appeared that the hospital death-rate was likely to be somewhat lower than in the last decade, and lower than that which prevailed in the city at large.

The hospital records threw little light on the causes of typhoid. The number of cases had increased with the growth of the city. Many patients entered too sick to give an account of themselves. Sixty-five per cent. came in August, September and October. This year twice as many entered in August as in the same month in 1884; and in October, 1884, twice as many as during the October just past. They were widely scattered, many coming from the crowded districts, where all diseases thrive; many also from the suburban wards; some fresh from the country. Occasionally one was found who had been drinking water from a well, possibly contaminated. But few cases could be traced to any specific source. They came with the season. Isolated instances occurred in which a *de novo* origin was suggested.

However various the sources of infection might be, contagion played a small part in the hospital. Among the large number of nurses and attendants, most of them at very susceptible ages, there had been no death from typhoid for several years; and but seven cases, all in females, had occurred in the past two years. No house physician had contracted the disease since the opening of the hospital, twenty-one years ago. Disinfection of stools with chloride of zinc was enforced.

Of these 112 cases, about 500 got well without much assistance beyond careful and abundant feeding, chiefly with milk, intelligent nursing at the hands of the members of the City Hospital Training School, cold sponging, and such occasional medication as was required.

The others were severe cases, many entering at late periods of the disease, some in a hopeless condition. In treating them, no routine method was adopted by

the different physicians of the hospital staff. But, as free stimulation and some mode of reducing the fever were generally adopted, the reader offered a few remarks on those subjects, especially on the effect of alcohol in large doses, and of antipyrine.

He reported several critical cases in which brandy to the extent of a pint and a half daily had been administered for many days, in one instance for more than two weeks. A few such cases got well, either because of, or in spite of the extreme stimulation. The absence of the ordinary effects of alcohol in health was noticed, but the reader doubted the beneficial effects upon the heart and nervous system of long continued saturation without chance for elimination. Although it was difficult to fix a limit beyond which brandy ceased to be useful in typhoid, he thought that eight or ten ounces daily would in almost all prolonged critical cases have a better effect than double or treble the quantity.

The action of antipyrine, to which Dr. G. B. Shattuck had called attention in a report last year, had been further observed by the physicians of the Hospital in about one hundred cases of typhoid fever.

This drug had been used, in single or continuous doses, in most cases which had a temperature above 103° F. without decided remissions. Doses of eight, ten, fifteen, twenty, or thirty grains had rarely failed to reduce the fever from three to five degrees within an hour of their administration, the effect of the dose continuing from three to six hours. One drachm daily was seldom exceeded. A child five years old was treated successfully with doses of eight grains, and in other children between seven and twelve years of age, fifteen grains had usually produced rapid defervescence without ill effects.

The evening exacerbations were modified, giving quieter nights, and sometimes a single daily dose sufficed to keep the temperature at a lower level. But in grave cases it usually went back to the previous heights. In many instances the mental and nervous condition improved; there was less subsultus tendinum and delirium; sleep was promoted, and the general appearance of a fever ward was one of comparative rest and comfort.

With the fall in temperature free perspiration often occurred, and in some cases a chill. Vomiting was noticed in a few instances, but defervescence was not prevented thereby.

Six patients, within one hour after taking twenty or thirty grains of antipyrine, presented symptoms of collapse. In three the temperature became subnormal. In all there was profuse perspiration lasting several hours. In one the radial pulse disappeared, there was cyanosis, with dyspnoea and cold extremities. Heaters and subcutaneous injections of brandy were required. All rallied, but three died at subsequent periods. The patients who presented these unfavorable symptoms after antipyrine were all much debilitated by prolonged fever. They had high temperatures and were in critical conditions. Under similar circumstances collapse often followed a cold bath or any other mode of producing defervescence. The indications were, however, to be extremely cautious in the use of this drug late in the fever when the pulse was above 120, or the first heart sound was deficient in volume.

Several cases were reported, with charts to illustrate the points mentioned above. The most striking instance of collapse is appended.

CASE XIII. Mary F., seventeen years old, entered on the tenth day of the fever. At the beginning of the third week the temperature remained at about  $104^{\circ}$  throughout the twenty-four hours. She became deaf, and had subsultus and carphologia. From the 14th to the 30th day, remissions of several hours were obtained by one or two daily doses of thirty grains of antipyrine, with relief to the nervous symptoms. She took milk and brandy well, and was rational. On the 27th day, however, the antipyretic dose caused marked depression, the temperature falling in one hour five and one-half degrees, to the normal point, and remaining there twelve hours, the pulse being 135 and the skin pale, with extreme perspiration. Brandy was increased to one ounce every hour, and she took that amount or more until her death, two weeks later.

On the 30th day, with temperature  $105^{\circ}$ , pulse 130, and an accession of cerebral and nervous symptoms, a smaller dose of antipyrine, twenty grains, was given. This produced such complete collapse that the patient might have died but for the timely administration of brandy and ether under the skin and the application of heaters to the body. The pulse at the wrist disappeared, there was cyanosis with dyspnea, and extreme sweating. The patient rallied in a few hours, although the temperature at midnight fell to  $96^{\circ}$  and remained subnormal eighteen hours. The following day it gradually rose to  $104^{\circ}$ , but did not reach its previous height. Four days later the fever had abated, although the pulse remained at 150. The patient seemed to be on the road to convalescence, when an attack of phlebitis carried her off on the 41st day.

The reader stated that the drug was probably uniform in quality, as it all came from one laboratory in Germany.

The President said that he hoped that the use of antipyrine would be especially considered this evening, and he called on Dr. Edes to open the discussion.

Dr. R. T. EDES said that he had had no experience in the use of this drug. That there is a certain benefit to be got from antipyretic treatment is not to be doubted, although it is not adapted to all cases, and the pulse and other indications are to be considered as well as the temperature. The latest researches show that fever is due to the retention of heat, rather than to its over production, which would, perhaps, lead us to abstract it, rather than to hinder its formation. There is a serious objection to the use of baths, unless in the form of sponging. The sweating of antipyrine seems to show that it acts by taking heat from the surface, in this respect giving us a substitute for baths, but the speaker thought that the matter had not yet been minutely studied. If it shall be proved that this is the action of the drug, it does not follow of necessity that it is of advantage to use it. It may do harm in other ways; for instance, tartar emetic would have this same effect, but is contraindicated by the depression caused by it. Quinine, in the large doses sometimes used, depresses the heart, while it does not do so in small repeated doses. In Dr. Mason's large number of cases, there were, however, but six cases of collapse, and these all occurred in the late stage of fever.

Dr. G. H. LYMAN said that he had used antipyrine in the same class of cases as those in which it had been employed by Dr. Mason. It is only fair to point out that one of the fatal cases recovered from collapse and died; not from the effect of the drug, but from phlebitis.

Charts are always a little fallacious, and a series of cases otherwise treated, might be brought together, showing the same curves. One of his patients had a rapid fall of temperature after taking antipyrine, but it rose again in a day or two, and then fell without especial treatment. Still, the whole weight of testimony is that antipyrine is a heat-reducing agent. A large hospital gives opportunity for seeing this on a large scale.

Dujardin-Beaumetz has recently used this drug in a different way, giving a moderate dose to bring down the temperature moderately, and then keeping it down with repeated small doses. Dr. Lyman is of opinion that cases without marked cerebral symptoms do as well with quinine, and in this way we avoid collapse. It is a question how much benefit is got from reducing the temperature below that which is normal to the disease.

The pulse is of more value than the temperature in judging of the case, and with increasing experience, the speaker is more and more convinced that unless the temperature is exceedingly high, stimulants are of more service than antipyretics. We must not forget that we are dealing with a disease marked by great depression, and he believes that we have not much improved on the treatment of Stokes, who, thirty-five years ago, anticipated depression by the early use of stimulants, and pushed them if need be. With a low and feeble pulse and a high temperature, quinine serves a good purpose and is not dangerous. The speaker closed by saying that he spoke upon the subject with diffidence, because Dr. Mason had had a large experience with antipyrine which he had not.

Dr. A. M. SEMNER has used antipyrine extensively. Last year he gave thirty grains, and repeated in an hour, according to circumstances. This year he has, with few exceptions, given doses of twenty or fifteen grains. He thinks that there is a certain advantage in its use. In many cases, the temperature takes more than twenty-four hours to rise to its limit, and the patient has that much rest from heat and nervousness. He has seldom seen collapse. The disadvantages are nausea and vomiting, which sometimes come almost instantly, the vomiting lasting some time. In these cases, the temperature is not affected. In a few cases good results were had, and nausea avoided by giving the drug in an enema. The speaker thinks that the smaller doses have as good an effect on the disease as large ones, but they do not reduce the temperature so low. He has seldom given seventy grains, as has been done elsewhere. His mild cases that have needed no antipyretic have been treated with milk and one grain doses of quinine as a placebo.

Dr. HENRY I. BOWDITCH thought the communication important. The fact of collapse at times happening after the use of antipyrine, should lead to care in its administration in some cases and in large doses. The use of heroic doses seems to be becoming again fashionable, as it was fifty years since, when from some ill effects the "expectant" plan was followed with little or no medicine.

Dr. JAMES AYER said that he believes in the great value of stimulants used to anticipate depression, and especially he believes in the value of carbonate of ammonium. Dr. Ayer inquired as to the analysis of antipyrine.

Dr. FRANCIS H. WILLIAMS said that antipyrine is an alkaloid which is synthetically prepared. It has

been a good deal used in pneumonia, typhoid fever, and erysipelas; it is important not to employ the drug in cases where the heart is weak, as there is danger of its causing collapse. It has been used as a substitute for the salicylates in acute articular rheumatism with success, and is also valuable in the sweating of phthisis. In children, even for those at the breast, it has been used as an antipyretic.

Its action in reducing temperature, although not well understood, is probably not alone through its diaphoretic effects, for the amount of nitrogenous material excreted is diminished by it. When atropine is previously given and diaphoresis is thus prevented, the temperature is still reduced by it.

There are other recent antipyretics, and we may fairly hope that an even more valuable one than antipyrine will be found.

DR. JOHN G. BLAKE said that the typhoid that he has seen at the City Hospital this year has been of a mild type, and he seldom now sees the severe cases that were common in his student days. He has used dilute hydrochloric acid for twenty years, and finds that it ensures digestion, but no drug cuts short the disease. Mild cases recover as always, and severe ones die of hemorrhage, ulceration, and so forth. Still there is no doubt but that antipyrine brings down the temperature, and he has seen a remarkable absence of severe symptoms among the forty cases that he has treated this year. As was well expressed by his House Officer, antipyrine takes the place of a bath and makes the patient comfortable. He is glad to learn that its effect is so constant.

DR. H. C. HAVEN said that the physical properties of antipyrine, that is, its ready solubility and comparative tastelessness, especially adapted it for use in children, the ordinary antipyretic drugs being bulky and difficult to administer in a palatable form. Antipyrine has been quite extensively used in the febrile diseases of childhood in Germany, and to a less extent, in Russia, France, and England. In the *Jahrbuch für Kinderheilkunde*, W. Jacobowitsch has collated all published records of its use in children, some thirty in number. The testimony of these observers is unanimous as to its antipyretic action, and as to its action being relatively greater in children than adults. In several instances, quite large doses, however, were not accompanied by a fall of the temperature, although a considerable degree of collapse seemed to follow its use. Götte reports two such cases followed by death. The observations of Jacobowitsch seem to have been the most careful of any thus far recorded in children. The action of the drug was studied on both sick and well children. They were weighed the day before and after the administration, and a certain weighed quantity of food given. The temperature was taken in the rectum every two hours. The quantity of the urine and its composition were determined the day before, the day of, and for the forty-eight hours after the use of the drug; an average dose of three to four grammes, or forty-five to sixty grains was not followed by any disagreeable symptoms. In two healthy children, the electro-muscular irritability was tested before and during its use.

Jacobowitsch summarizes his conclusions as follows: (1) Antipyrine reduces the temperature in healthy, as well as sick children, but not as much.

(2) The amount of the reduction does not always depend on the size of the dose.

(3) In children, an individual idiosyncrasy is met with. Very large doses sometimes do not reduce the temperature, but do induce collapse.

(4) With the largest doses, the temperature always begins to rise after twenty hours.

(5) The greatest depression is noticed about midnight.

(6) Small children usually bear large doses well. He seldom observed among this class vomiting, never collapse or eruption, and often no sweating.

(7) The electro-muscular irritability rises under its use.

(8) In the majority of cases, the daily amount of urine is diminished one-half or more, and its specific gravity increased. The daily amount of uræa, uric acid, chloride of sodium, the phosphates and sulphates, is diminished. Forty-eight hours after the last dose, the daily quantity of all urinary constituents exceeds that of the day before its use. Antipyrine cannot be recognized in the urine after forty-eight hours from the last dose.

He does not attempt to give a positive answer as to the propriety of its use in febrile conditions in childhood, but thinks it probable that it arrests oxidation, and hence is not fitted for long continued administrations.

Dr. Haven mentioned the case of an infant under his care, suffering from right apex pneumonia, to whom was given by mistake of the mother, ten grains of antipyrine for four doses certainly, and probably more, at intervals of one-half an hour. No vomiting occurred till after the fifth dose. The temperature, which was nearly 104°, was not reduced. There were neither collapse, eruption, nor sweating. There was, however, complete suppression of urine for over twenty-four hours.

DR. GEORGE B. SHATTUCK said that, to the best of his belief, antipyrine was first used in this country at the Boston City Hospital. It had now been in use there about eighteen months, a long enough time to enable us to arrive at definite conclusions in regard to its value. In answer to Dr. Bowditch's expression of a desire for formulated conclusions as to its effects, he referred to a paper read by him before the Clinical Section of the Suffolk District Medical Society last May, and published in the *MEDICAL AND SURGICAL JOURNAL*, July 23d, in which the results with antipyrine up to that time were given. Dr. Shattuck had seen no occasion to alter the opinions then expressed. A judicious administration gave sleep to the wakeful and made the restless tranquil. This was a great gain, even though the reduced temperature subsequently rose again. Antipyrine did not otherwise alter the course of a disease and certainly had no specific action in typhoid fever. He was convinced that, as might be expected from its composition, it had in common with quinine some distinct antipyretic action other than that resulting from mere diaphoresis and evaporation. His experience certainly led him to regard it as a more constant, prompt, efficient and less disturbing antipyretic than quinine.

Antipyrine had been tried in a great variety of doses at the Hospital, and Dujardin-Bennet's suggestion of continued small doses—say of five grains—to prolong the lowered temperature, had been anticipated at the Hospital, but without marked success. There undoubtedly were individuals who exhibited idiosyncrasies toward this as toward other drugs; with such the dose should, of course, be regulated or its use given up. Dr. Shattuck did not believe that the rate of mortality

had been much affected one way or the other in typhoid since the introduction of antipyrine at the Hospital, but did think that the comfort of the patients had been promoted. He considered it a prompt, safe, efficient, and convenient antipyretic.

Dr. S. L. ABBOT said that after so full a discussion of the whole subject little remained to be said. The Society was under great obligations to Dr. Mason for his paper, which he understood as being a presentation of the facts of his experience in the use of antipyrine, rather than argument in its favor. For his part, he felt that the end sought for in employing it could be attained quite as effectually and more safely by the external application of cold by sponge baths, ice water being used, if necessary. This method was more manageable, as the process could be stopped at once as the temperature fell, without the danger involved in using antipyrine, the action of which could not be limited after it was administered.

Dr. MORTON H. PRINCE said that he was investigating the etiology of cases throughout the city and was able to confirm the reader's opinion, that some of the milder cases were not reported to the Board of Health. Of course, such an investigation is a more complicated affair in the city than in the country, and his work so far is merely preliminary; but he has tabulated seventy-five cases to-day, and finds that ten of them were surely imported, while in twenty-three cases importation was more or less probable, and in six no conclusion could be reached. Of the seventy-five cases, twenty presented evidence of contagion, probably because disinfectants are, in a large proportion of cases, not used. No case could be attributed to the use of milk. The speaker has been sceptical as to sewer gas being a cause; but has met with a group of cases in which, if the disease were imported, it must have been latent for one month and six days in the first case, and more in the second; while the first person to be taken sick had been hardly out of the house for that time since moving in, and the second patient, the husband of the first, becoming sick four days later, probably did not contract the disease from his wife. Two other cases followed. Examination showed a connection between the drain and furnace pipes.

Dr. MYSON said, in closing the discussion, that he had not intended to convey the impression that antipyrine was a dangerous drug, but that in critical cases it must be used with caution, like all other agents which reduce fever quickly. We should infer from the remarks of some of the speakers that they thought it best not to interfere with these prolonged high temperatures. Would the same conservatism extend to cases of sunstroke, in which it was generally thought desirable to resort to prompt refrigeration?

If extreme bodily heat, or prolonged heat of a lower degree, is a source of danger, then antipyretic drugs must be regarded as important additions to therapeutics. Of this class the one under discussion was the most valuable thus far discovered.

Dr. S. L. ABBOT said as to the question of the cause of typhoid in the city, he had been very much impressed of late years with the fact that nearly all the cases of this disease in his private practice were in persons in easy circumstances who had passed the summer in the country and had returned to the city in the autumn feeling "poorly," with loss of appetite and strength, which developed into typhoid; or patients who come back to the city from a house in the country where

there were cases of this disease; or thirdly, cases originating in the city where there was what seemed to be a sufficient local cause in broken drains, worn-out soil pipes, or untrapped sinks or basins. In repeated instances, these defects had been long known to exist by the persons exposed to their influence, but had not been corrected, owing to the parsimony or negligence of landlords, or the inefficiency or carelessness of Board of Health inspectors.

## ANNUAL MEETING OF THE NEW YORK STATE MEDICAL ASSOCIATION.<sup>1</sup>

### SECOND DAY,—MORNING SESSION.

The President in the Chair.

A communication from the American Medical Association regarding certain State legislation was referred to a committee of three, to report to-morrow.

After certain other business had been transacted, the Society again took up the

### DISCUSSION ON PNEUMONIA.

Dr. CHARLES G. STOCKTON discussed the seventh question propounded by Dr. Flint in a brief paper, and said he thought the special manner in which the temperature should be lowered would depend upon the individual case; a single antipyretic would not answer in all cases of elevation of the temperature. He had sometimes used quinine and antipyrine successfully in the same case. Regarding antipyrine, he recommended its use in from fifteen to twenty-grain doses, repeated once in eight to twelve hours. When so used, it had never produced any toxic effects upon the heart, and it had the desired effect upon the temperature.

Dr. E. D. FERGUSON's experience with antipyrine had been similar.

Dr. J. G. ORTON discussed the eighth question in a brief paper. He had never seen an unqualified case of relapse of acute lobar pneumonia during or shortly after the period of convalescence, but one attack seemed to predispose to subsequent ones in the same lobule. He thought that pneumonia was a non-infectious essential fever. He also spoke of complications and diseases to which pneumonia predisposed.

Dr. F. HYDE had found evidence at autopsies in several cases of acute lobar pneumonia, that there had been early and persistent thrombosis, as well as embolism of the veins, and in two cases, there was embolism in the arteries as well. This condition he thought occurred more frequently than was supposed, and he could see why remedial measures proved of no avail, and why death occurred so early in the course of the disease.

### MEDICO-LEGAL BEARING OF PELVIC INJURIES IN WOMEN.

Dr. ELY VAN DE WARKER, of Syracuse, read a paper with this title, in which he said that actions at law to recover damages for injuries sustained to the pelvic organs in women, were becoming quite frequent and involved large sums of money. They were usually brought against corporations, particularly cities and villages, and railroad companies. He cited three illustrative cases, by which it appeared that the facts of the case could they be obtained by a thorough medical examination, were in favor of the defendant, but the ver-

<sup>1</sup> Concluded from page 539.

diet was likely to be in favor of the complainant. Some of the women attributed conscientiously, but erroneously, their symptoms to the injury sustained, but most of the cases were of a fraudulent nature. In all, perhaps, there would be found a history of previous pelvic inflammation, or affections which would fully account for the symptoms present. The impossibility of a fall of some nature, which was the usual accident in these cases, producing such concussion of the healthy uterus and pelvic organs as to cause permanent displacement of the womb, or swelling or pelvic inflammation and abscess was evident to the physician, but not to the simple jurymen, whose sympathies were appealed to by a suffering woman standing before him, while the other party to the action was a heartless corporation with a supposed unlimited supply of money.

DR. WILLIAMS, of Boston, and DR. ALONZO CLARK, of New York, were at this point introduced to the Association.

#### ADDRESS ON SOME OF THE RELATIONS OF PHYSIOLOGY TO THE PRACTICE OF MEDICINE.

DR. AUSTIN FLINT, JR., read the address, and said that physiology was the only rational basis of scientific medicine. This was true even should we use the term medicine in its widest signification, including in it the practice of surgery, gynecology, and pathology. A knowledge of anatomy and physiology was a most important requisite in making a correct diagnosis.

The necessity for a knowledge of physiology was evident in the study of valvular lesions of the heart, for our ability to diagnosticate heart lesions depended upon our familiarity with the functions of the heart and the sounds produced by their blood current in health. Dr. Flint analyzed the heart sounds in different diseased conditions of the heart, in proof of his assertion that a knowledge of physiology was an important element in scientific medicine. In the same line, he cited certain affections of the digestive tract, Beaumont's observations upon digestion within the stomach through a gastric fistula, the discovery of vaccination by Jenner, of the circulation of the blood by Harvey, of the manner of bacteria culture by Koch, etc. Regarding bacteria as a causation of disease, it offered wide possibilities, and it was not improbable that methods of prevention and treatment of disease would now be discovered which would be of the greatest benefit to the human race. Methods of bacteria culture might also prove of value in the study of the physiology of the fluids and functions of the body. Dr. Flint referred to an article on the subject of how to treat a fever as based on physiology, which he published in the *American Journal of the Medical Sciences* in 1879, and said that fever meant the rapid use of the heat-producing elements in the economy, and hence the importance of digestion of heat-producing foods during a fever to prevent the burning up of the system. Alcohol in fever was well borne, and temporarily was capable of taking the place of the elements consumed by hyperpyrexia. In phthisis with fever, hydrocarbons should be given, as starch, sugar, cod liver oil; alcohol was well borne by such patients.

#### SECOND DAY.—AFTERNOON SESSION.

DR. E. D. FERGUSON was elected Chairman pro tem.

ANTHRINE: ITS POWER TO DIMINISH AND, OCCASIONALLY, ENTIRELY REMOVE FEVER.

By DR. N. S. FILLER was read by title.

THE SIGNIFICANCE OF NON-TRAUMATIC INTRA-OCULAR HEMORRHAGE IN DISEASES OF THE HEART, BLOODVESSELS, AND KIDNEYS.

The author, DR. CHARLES STRADMAN BULL, was prevented from being present by sickness in the family.

#### RECTO-LABIAL OR VULVULAR FISTULE: THEIR CAUSES AND TREATMENT.

DR. ISAAC E. TAYLOR read the paper, in which he spoke of the comparative rarity of the condition. It was very liable to begin with a vulvar abscess, depending upon an inflammation of the vulvar glands, perhaps excited by injury during coition, masturbation, labor, direct injury, or in cold. A small tumor might exist in the labia prior to breaking down into an abscess, perhaps quite movable, and leading to the suspicion of an ovary in Broca's canal. The history of such a case seen by the author was given. The tumor constituting the suspected ovary broke, and gases and feces escaped by the small opening. Huguier's plates were shown in illustration of the subject matter of the paper. The pathognomonic symptom of vulvular fistula was the escape of air and thin faeces. The vulvular opening was usually small, perhaps so small that it would be found with great difficulty. As to the treatment, he adopted the ligature, being in general the method employed by Barton between 1835 and 1840.

The method was simple and efficient, and in view of the great and serious difficulties liable to attend the use of the knife, he thought it deserved much more general employment. The elastic ligature was to be preferred.

After reading the paper, Dr. Taylor presented to the Society a form of obstetric extractors donated to the Association's museum by Dr. Samuel W. Francis of Newport. Dr. Taylor also presented a fetal skull, which showed the effects of moulding during extraction from an equally contracted pelvis. The gifts were accepted with thanks.

DR. EDWARD M. MOORE then read a paper on

#### RECURRING LUXATIONS.

That luxations were likely to recur he would not attempt to prove, for it was a well-known fact. Recurrence of the luxation took place often as a result of violence, but of the action of different forces not connected with violence. Some replacements were maintained with great difficulty. Attention was then called to the tendency of recurrence of luxation in different joints and to the manner of preventing this accident. To prevent recurrence of luxation in the claviel, the elbow was thrown backward and retained in that position by binding the hand to the side by means of adhesive plaster, or, what was better, by means of his figure 8 bandage, thus the scapula would be carried nearer the vertebral column.

Several interesting cases in which recurrence of luxation took place in the shoulder joint were related and the manner in which the accident was liable to occur was pointed out. His views with regard to luxation occurring in this joint were made clear by certain experiments which he had performed after removal of the flesh about the shoulder and bringing forces applied upon the arm and forearm to bear upon the ligamentous structures. His experiments illustrated incidentally how it was that in many cases of sprains or supposed injury to ligamentous filaments, the symptoms were as serious and more prolonged than in

fractures of bone, for, as was shown in these instances, the ligament gave way only by taking with it a portion of the bone to which it was attached. In luxations of the shoulder, either upon the dorsum of the scapula or into the axilla, examples could be met with in which maintenance of reduction would be found difficult. The manner in which the luxation took place was by gravity, allowing the arm to fall, especially if at the same time the arm was turned more or less forcibly outward. Touching upon recurrence of luxation at the hip joint, the author cited an interesting case which had come under his observation, and had been reported with two others by Bigelow, in which a soldier acquired the tact of dislocating and replacing the head of the femur by a certain twisting motion of the body.

#### THE DIFFERENCE IN THE SYMPTOMS OF STRANGULATED OBLIQUE INGUINAL HERNIA.

DR. FREDERICK HYDE read a paper with this title, in which the following were some of the principal points developed: 1. In proportion to the length of time an inguinal hernia existed would the symptoms and signs of strangulation be mild and chronic. 2. In a case of long standing inguinal hernia in which signs of stricture of the bowels were obscure, there not being evidence of total obstruction to the canal, often it was not safe to wait for fecal regurgitation before deciding that strangulation existed. 3. When strangulation occurred at the first protrusion, the symptoms of strangulation would be found to be more marked. 4. If hiccough and fecal vomiting existed from nearly the beginning of the symptoms, no time was to be lost, herniotomy should be performed at once. 5. If a swelling existed with symptoms of obstruction of the bowel, the patient complaining of severe pain in the abdomen, but of none in the tumor, and had hiccough, although there was absence of marked general disturbance, a fair trial of taxis should be made, and that failing to reduce the tumor, herniotomy should not be delayed. This remark was based on an interesting case, the history of which Dr. Hyde gave in detail. No fecal vomiting occurred, no pain in the tumor even after taxis, but there was some pain in the abdomen, and hiccough. Because of the mildness of the symptoms, the consulting physicians delayed the operation more than twelve days, and when it was finally performed, the strangulation was found to have existed within the abdomen. The patient died. 6. If no strangulated portion were found within the external sac, the finger should be passed internally and adhesions sought for in the neighborhood of the opening. 7. Too long a trial of taxis before dividing a stricture, should be guarded against, as it prepared the way for the death of the patient after herniotomy. 8. After stereoraceous vomiting had set in, taxis should not be applied, but herniotomy should be performed at once, although the prognosis was unfavorable. 9. If after opening the sac, the omentum was found smooth and no intestine could be detected, the omentum should be opened to learn whether it may not contain a strangulated portion of intestine. It was unfair to speak of herniotomy as a dangerous surgical operation *per se*. The danger attending the operation was due to the condition of the sac and its contents and to taxis and delay in operating.

Dr. J. W. S. GOULEY read some notes on the subject of Dr. Hyde's paper, in which he reached the

following conclusions: 1. When doubt arises in the mind of the surgeon respecting the existence of strangulation of the intestine or omentum in case of incarcerated hernia, it is his duty to give the patient the benefit of the doubt by at once resorting to the operation of herniotomy. 2. Delay in relieving the strangulation is often fatal, while herniotomy in a case in which no strangulation exists is not usually harmful. 3. Medicinal treatment is often delusive, and local applications, such as opium, tobacco poultices, ice, etc., are in most cases worse than useless. 4. Persistent taxis is infinitely more dangerous than herniotomy, and such taxis, even when it is followed by reduction of the hernial protrusion is often the cause of fatal peritonitis. 5. Another, though rare, effect of violent taxis is the reduction *en masse* of the hernia in its state of strangulation, and the result is but too well known. 6. As a general rule, two minutes of gentle taxis, the patient being in a hot bath, will settle the question as to the possibility of safely reducing the hernia. 7. Therefore, it may be said with propriety that the less taxis, the less ice, the less other topical applications, the less opium, the less general or special middle-some interference which often do serious injury to the intestine, the better the chances of recovery in the event of herniotomy. This is particularly the case in femoral hernia.

I have abstained from incising the neck of the sac in femoral hernia, but have made division by simply insinuating the index finger through the free opening made in the sac until it enters the abdominal cavity, and have had no trouble in effecting reduction of the intestine, the object of the procedure being to avoid division of the obturator artery should it be abnormally situated. I coincide with Dr. Hyde that herniotomy is not *per se* a dangerous operation. Dr. Gouley said further that if it seemed necessary in a case of inguinal hernia after herniotomy, he would open the abdominal cavity in order to relieve the strangulated intestine.

#### MEDICINAL AND DIETETIC THERAPEUTICS OF THE COMMON FORMS OF CHRONIC INTESTINAL CATARRH.

DR. JOHN S. JAMISON read the paper which was supplementary to one read last year. It called out considerable discussion.

#### SECOND DAY.—NIGHT SESSION.

The society was called to order by DR. JOSEPH C. GREENE, vice-president from the Fourth District.

#### A CURSORY REVIEW OF THE EPIDEMIC AND ENDEMIC DISEASES OF SULLIVAN COUNTY DURING THE LAST THIRTY-FOUR YEARS.

DR. ISAAC PERDY read the paper. The first years of the period, commencing in 1800, pneumonia and fevers of a sthenic type prevailed, in which it was common to bleed, to employ cathartics, diuretics, and a depleting system of treatment, and this course seemed to be indicated as being followed by the best results. About the beginning of 1851, typhoid fever was heard from in the distance, and soon reached Sullivan County, and for several years pneumonia and other forms of disease took on a typhoid character, and this period was marked by the fact that in nearly all cases the athenic form of disease showed itself; a depleting course of treatment was followed by the worst results. Close attention had to be given to the diet, encouraging nutrition, and to checking excessive discharges. About 1860, diphtheria began to prevail in

Delaware and marched up the Delaware River, and existed in Sullivan County in the epidemic form for about five years, being very violent, and carrying away many patients. The odor of persons suffering from the disease was peculiar, and could be recognized at a great distance from the sick-bed. In the author's opinion it was a constitutional, not a local affection, although the local deposit, constituting diphtheritic croup, was present. About 1862-63, it was present in the form of black fever, petechial fever, etc., being in places very malignant. Afterward it again appeared as genuine diphtheria of the throat. In these cases turpentine and sweet oil were applied to the throat at night with benefit. During a part of this period dysentery prevailed, first severe, then of mild type. Scarlet fever was present at intervals of about five years, sometimes of severe, sometimes of mild character. Rubella or measles had occurred at different periods, but in general required little treatment. Occasionally diphtheritic cases occur up to the present time, but the contagion was generally brought from afar. Typhoid fever continued to prevail more or less, especially in the fall months, typhoid-pneumonia during the winter, up to 1881. The spread of typhoid fever up the Hudson and its tributaries occurred at one period. The highest point was situated twelve hundred feet above the level of the sea, at Montauk. The treatment consisted chiefly in moving the bowels, particularly by calomel, and then quinine as a sheet-anchor.

The discussion which followed was lengthy, of a general nature, particularly with regard to the treatment of diphtheria, and was participated in by Drs. Peters, Kneeland, Colvin, Garrish, Cronyn and Pomeroy.

#### REMOVAL OF AN ENTEROLITH; PRESENTATION OF THE SPECIMEN.

DR. W. B. SABIN read the paper which had first been read at the Saratoga meeting of the Branch Association.

#### COMMERCIAL PRESCRIPTIONS.

DR. HENRY VAN ZANDT, the author of the paper, was of opinion that physicians should write their own prescriptions and have their medicines compounded by the druggist or do the compounding themselves, and not depend upon the preparations coming from commercial houses, and regarding the exact nature of which they must necessarily be more or less in doubt.

#### PROPHYLAXIS.

DR. ISAAC DE ZOUHE closed this subject for a paper, in which he pointed out the advantages of preventive over curative measures.

The authors of the following papers were not present to read them:—

#### THE RELATION OF DRINK TO INSANITY.

By DR. C. Alder Blumer.

#### TUMORS OF THE JAW.

By DR. H. S. Tremaine.

#### THE TREATMENT OF INCONTINENCE OF URINE IN WOMEN RESULTING FROM HYPERPLASIA AND PARALYSIS OF THE URETHRA.

By NATHAN BOZEMAN, M.D.

#### SKIN FLAPS IN AMPUTATIONS.

By DR. U. C. Lynde; also by the same author.

#### UMBILICAL HÆMORRHAGE IN INFANTS.

#### THIRD DAY.—MORNING SESSION.

The President, DR. GRAY, in the chair.

The number of members registered was a little over two hundred and twenty. The total fellowship for the entire State is about five hundred and fourteen.

The nominating committee had named for president, Dr. E. M. Moore, of Rochester; vice-presidents, according to districts, Dr. William Gillis of the first, Dr. H. Van Zandt, of the second, Dr. Frederick Hyde of the third, Dr. Desautel Gunsey of the fifth; for council, members from different districts, Drs. E. M. Lyon, Ira H. Abell, Thomas Wilson, F. W. Ross, S. T. Clark, E. S. F. Arnold.

The secretary was instructed to cast the ballot of the association, which he did in the affirmative, and the president declared the gentlemen named elected.

DR. FELL, of Erie County, then read a paper on,

#### SOME ETIOLOGICAL FACTORS IN THE ACNEFORM DISEASES.

Dr. Fell, of Erie County, read a paper in which he described some cases of rebellious acne which had come under his observation and which had finally yielded to treatment, the cure, he believed, bidding fair to be of a permanent nature. This opinion was founded on his views regarding the possible or probable etiology of the disease. It was true his views were new, but as far as his own observation had gone, they were substantiated by facts. In a large number of examinations of the contents of the little acne tumors he had always been enabled to find the demodex folliculorum, usually from six to ten in number, while the presence of this mite in the skin was not of unusual occurrence, and though long known, it had not been regarded as the cause of acneform disease. He had found them in the pus or oil globule, and not in the indurated matter. While their presence in few numbers might not give rise to apparent disease of the skin, he thought that when large numbers existed they might stand in the relation of etiological factors of considerable importance.

The committee of three, appointed by the president to report on the communication from the American Medical Association, recommending that a uniform law be pressed for passage by the various State legislatures, reported that it was inexpedient for the society to enter upon the discussion of the subject at the present time.

#### OXYGEN IN THE TREATMENT OF PNEUMONIA.

DR. JANEWAY, by request, made some remarks on this subject before proceeding to read his address in pathology. According to his experience, oxygen inhalation in pneumonia was of marked benefit. It was especially serviceable in commencing cyanosis, or just previous to this symptom; its use should not be delayed until cyanosis had become well marked. If employed at the proper time it would often be found to tide life over the critical point and lead the patient on to recovery.

DR. JANEWAY would also add to the discussion on pneumonia that he had seen one case of pneumonia, in which the patient had a relapse at the end of a week,

it being as much a case of relapse as are cases of relapse of typhoid fever. He said further that he had seen a number of cases in which tuberculosis of the upper lobe of the lung had occurred in patients who had suffered from pneumonia, and he was of opinion that the attack of pneumonia had left the lung in a weakened state, fitting the soil for the development of tubercle bacilli.

Dr. Janeway then proceeded to read his address on pathology, which was devoted largely to the mention of the advances made in pathology, particularly during the past few years, and the relation of pathology to exact diagnosis and etiology of disease. The importance of culture methods adopted by Koch, the value of the discoveries of Pasteur regarding anthrax and hydrophobia, etc., received attention. The field for labor and new discoveries was still great, and offered excellent opportunities for able and progressive young men. The backwardness of this country in new scientific discovery was attributed in large part to want of government aid, such as was given in Germany and other countries of Europe. Special paths for investigation were offered in tetanus, anæmia, malignant tumors, lithæmia, etc. Dr. Janeway thought vaccination should be done, if possible, before the third day after exposure to small-pox, if it were desired to abort the attack; otherwise, it might be too late.

The Library Committee made its report, by which it appeared that a room had been secured in the Carnegie Laboratory. The entire number of volumes was about 3,150, and more than 1,000 pamphlets had been received. Some interesting specimens had been presented which it was hoped would form the nucleus of a museum in connection with the library.

### THIRD DAY, — AFTERNOON SESSION.

DARWIN COLVIN, M.D., Vice-President, in the Chair.

A CASE OF POISONING BY TWO GRAINS OF STRYCHNIA: TREATMENT, CHLORAL HYDRATE AND COFFEE.

By WILLIAM FITCH, M.D. Read by title.

A CASE OF GALL STONES, PATENT AND CONCEALED: EXPLORATORY LAPAROTOMY, WITH AUTOPSY EIGHT WEEKS LATER.

Dr. W. W. SEYMOUR gave the history of a case of gall stone, in which the usual symptoms were present, but the gall bladder could not be felt through the abdominal walls. Nevertheless, the patient's sufferings were such and her health so reduced, that an incision was made for the purpose of removing the supposed stone or stones. The gall bladder was found empty; there was a hard nodule involving the cystic and hepatic ducts, and believing that the patient's symptoms were due to malignant disease, the abdominal wound was closed. Eight weeks later the patient died, markedly emaciated and jaundiced. In the upper margin of the right lobe of the liver, was the cancerous patch; the gall bladder was empty; the common duct impervious; the junction of the cystic and hepatic ducts were involved in the hard mass, which was of the size of a hen's egg, and continuous with the right lobe of the liver. The hepatic duct was enormously dilated, and filled with gall stones the size of a peach nut; an ulcerative opening led from the upper part of the hepatic duct into an abscess cavity, an inch and a half in diameter, in the right lobe of the liver, where a gall stone was found. The hard mass was cancer.

Dr. NELSON L. NORTH then read a paper on

THE THERAPY OF THE CHLORIDES: ANTISEPSIS A PROMINENT AND IMPORTANT FACTOR IN THEIR MEDICINAL ACTION.

The following papers were read by title:

THE TREATMENT OF ABSCESS.

By Dr. J. D. Rushton.

CHRONIC CATARRHAL GASTRITIS: FATAL FROM COMPLICATION OF SUDDEN ENLARGEMENT OF THE THYROID GLAND.

By Dr. William H. Thayer.

THE PROPER DISPOSITION OF STREET SWEEPINGS, ASHES, SWILL, AND GARBAGE IN OUR CITIES.

By Dr. Albert H. Briggs.

ERGOT: ITS USES AND MISUSES.

By Dr. J. K. Leaning.

NUTRITION IN LITHÆMIA.

By Dr. Charles G. Stockton.

Dr. ROBERT NEWMAN then read a paper on

CAUSES OF FAILURE IN THE TREATMENT OF URETHRAL STRICTURE BY ELECTROLYSIS.

The author said this method of treatment had been so successful in his own hands that he was not aware of any failures until his attention had been drawn to a paper on the subject quite recently. He then made some inquiries and found that failures did sometimes occur in the hands of those of little experience with the method. The cause of failures could be given in two words — bad management. This could be classed under three heads — incompetence on the part of the operator; error in diagnosis, and faulty instruments. These headings were treated of at considerable length, the points being sustained by reference to letters, cases, and instruments.

Dr. G. C. H. MEIER corroborated the statements of the author from his own experience, and testified to the excellent results obtained by this harmless method of treatment when properly carried out. It was true that it was not until he had assisted Dr. Newman in his public and private practice for some time that he was enabled alone to give the patient the full benefit of the treatment of urethral stricture by electrolysis. The paper was also discussed by Dr. Manley.

Dr. W. W. SEYMOUR read a paper which he had read at the Branch meeting at Saratoga, on

PELVIC HÆMATOCELE: ITS DIAGNOSIS AND TREATMENT.

A great many cases had occurred in his own and in his father's practice, going to show that pelvic hæmatocele was of much more frequent occurrence than was stated by most authorities. Speaking of treatment, he said that where there was a tendency to increase or to interfere with the function of neighboring organs, aspiration might give prompt relief. Aspiration failing, and suppurative taking place, he was disposed to make incision per vaginam and irrigate.

A short session was held at night at the Carnegie Laboratory, where Dr. Frederick S. Dennis read a paper on

THE ACTION OF MICRO-ORGANISMS UPON SURGICAL WOUNDS, — WITH DEMONSTRATIONS.

The author drew a diagram, classifying bacteria, and

pictured an operating room to be disinfected before use by throwing into it hot steam. The Society adjourned to partake of a banquet at the Murray Hill Hotel.

#### FOURTH DAY.—MORNING SESSION.

Dr. William Gillis in the Chair.

DR. SAMUEL W. SMITH read a paper entitled

#### THE HISTORY AND TREATMENT OF THIRTY CASES OF DIPHTHERIA.

The great mortality from diphtheria was shown by figures obtained at the Board of Health for this city, from which it appeared that out of an average of about 2,500 cases yearly for several years past, there had been a mortality of nearly fifty per cent., the rate of mortality varying slightly from year to year. In order to test the value of a given method of treatment, Dr. Smith employed that adopted by Dr. Billington, described in a paper read before a Section of the New York Academy of Medicine. It consisted in syringing the nose and pharynx every two hours with a solution of chloride of sodium, a teaspoonful to a pint of warm water, and to which Dr. Smith added a teaspoonful of borax. The syringing should be done in a very thorough manner. In addition, the throat was sprayed with a solution of lime water and carbolic acid, and tincture of chloride of iron and glycerine administered, alternated with chlorate of potash. Of the thirty cases, there were five deaths.

#### REMARKS ON PERI-UTERINE HÆMATOMA.

Dr. George T. Harrison read the paper, gave the history of a case, and treated of peri-uterine hæmatoma in a general way, taking up the questions of diagnosis, treatment, etc.

#### A CASE OF CANCER OF THE KIDNEYS.—REMARKS.

DR. JOHN SHREADY read a paper in which he described a case of cancer of the kidney occurring in a child, and which had been reported in the proceedings of the New York Pathological Society. The differential diagnosis was considered. In the child, the diagnosis was comparatively easy to make, but the rarity of the affection might cause the physician to overlook the true nature of the case.

The following papers were read by title:

#### THE MODERN ASPECT OF THERAPEUTICS.

By Dr. T. H. Manley.

#### THE VICIS IN CROSS-BIRTHS; ALSO, PESSARIES AND THEIR USES.

By Dr. Jacob Hartmann.

#### NOTES ON CONTRACTURE OF THE BLADDER CONSEQUENT UPON CYSTITIS.

By Dr. J. W. S. Gouley.

#### FOURTH DAY.—AFTERNOON SESSION.

#### ON THE TREATMENT OF SPONDYLITIS OR CARIES OF THE SPINE BY PARTIAL SUSPENSION AND THE PLASTER-OF-PARIS JACKET, AND THE TREATMENT OF ROTARY LATERAL CURVATURE BY GYMNASTICS AND PARTIAL SUSPENSION AND THE PLASTER-OF-PARIS CORSET. DEMONSTRATIONS BY PRACTICAL APPLICATION TO CASES.

By Lewis A. Sayre, M.D.

The Society then adjourned, to meet in New York on the third Tuesday in November, 1886.

## Recent Literature.

*An Introduction to the Study of the Diseases of the Nervous System; being Lectures Delivered in the University of Edinburgh during the Tercentenary Year.* By THOMAS GRAINGER STEWART, M.D. Philadelphia: J. B. Lippincott Co. 1885. pp. xvi-237.

These lectures were published at the request of the class to whom they were delivered. The object of the lecturer is to give a connected description of the anatomy and physiology of the nervous system in relation to symptomatology. Attention is also given to methods of examining patients.

The object the author has in view is attained, and he has produced a book which will give valuable assistance to both student and practitioner. In it are found nearly all the facts and data contained in the more bulky volumes of Ross, of course without the clinical descriptions. We can recommend the book as a safe and valuable guide.

The chapters in which the anatomy is considered and those devoted to sensory and motor functions give the facts briefly and intelligently. Occasionally there is a lack of fullness in some sections, as in regard to organic reflexes, especially those of the bladder.

Sometimes the common English name is given in place of one which is quite as common, as perforating ulcers instead of *mal perforant*, the latter name not appearing anywhere even as a synonyme.

The chapters on cerebral and mental functions are too brief and lack in clearness, being in these respects much inferior to the rest of the book. The chapter on treatment is not satisfactory, and might have been omitted without loss. Electricity, massage, Swedish movement-cure cannot be described in three or four pages.

The illustrations add greatly to the value of this book, and renders the descriptions much more intelligible to the student. A better cut showing the cerebral convolutions would have been one following Ecker. The nomenclature of convolutions is erroneous in regard to the angular gyrus, which should be represented as passing around the end of the fissure, named mid. temporo-sphenoidal in Fig. 22.

*The Principles and Practice of Surgery.* By JOHN ASHURST, JR., M.D., Professor of Clinical Surgery in the University of Pennsylvania; Senior Surgeon to the Children's Hospital; Consulting Surgeon to the Women's Hospital, etc.; Fourth Edition, enlarged and thoroughly revised. 8vo. pp. 1118. Philadelphia: Lea Bros. & Co., 1885.

With the fourth edition of this excellent work, over fifty new pages appear; a necessary addition to keep pace with the rapid advances in surgical science. To what bulky dimensions will our text-books of the future attain, if their authors are obliged to keep on adding extra pages with every new edition, in spite of their endeavors to keep within reasonable limits. How this difficulty may be met is hard to determine, unless it be by gradually dropping out special subjects, such as of the eye and ear, of which an example has been already set in some of the later editions of the larger text-books.

The author has refrained from giving undue promi-

nence to any one or more subjects to the detriment of others, a tendency difficult to combat in all works of the kind.

Of the illustrations, many are new, the rest are largely and well selected from the works of Erichsen, Bryant, Liston, Drutt, Fergusson and others.

Though the work is necessarily less exhaustive and argumentative than the larger works or monographs, and cannot therefore be of the same service to the practising surgeon, yet it is written with so much conciseness and impartiality, that it is to be highly commended to all those who wish to obtain an unbiased view of modern surgery from an American standpoint.

*Lectures on the Principles of House Drainage*, delivered before the Suffolk District Medical Society, (Section for Clinical Medicine, Pathology, and Hygiene) and the Boston Society of Architects. By J. PICKERING PUTNAM, Architect. Boston: Ticknor & Co., 1886. pp. 125.

The author of these lectures has given careful attention to many of the defects existing in the ordinary forms of fixtures employed in the plumbing of houses both private and public, and as a result of his experience, these lectures were delivered during the past season.

The subjects treated are mainly, traps, fixtures, and soil-pipes, in all of which the author has devised valuable modifications and appliances. The subject of trap-siphonage is fully treated and the necessity of means for its prevention are clearly set forth. The book is illustrated with seventy cuts.

*The Pedigree of Disease. Being Six Lectures on Temperament, Idiocy and Mania, and Diathesis*. Delivered in the Theatre of the Royal College of Surgeons in the session of 1881. By Jonathan Hutchinson, F. R. S., Late Professor of Surgery and Pathology in the college, etc. New York: Wm. Wood & Co. 1885.

We have already favorably noticed these lectures in the English edition, and are glad to see that an American publisher has placed them within easy reach of the profession upon this side of the water.

*A Practical Treatise on Diseases of the Kidneys and Urinary Derangements*. By CHARLES HENRY KALKE, M. D., (Cantab.), etc. With illustrations. Philadelphia: P. Blakiston, Son & Co. 1885.

We think the author of this 16mo. volume of 570 pages has accomplished the object, which his preface tells us he aimed at — of presenting the student and practitioner with a clear, concise and systematic account of urinary pathology and therapeutics, based upon the latest ascertained facts, and supported by the best authorities. The student will find in these pages all necessary instruction upon the subjects indicated in the title imparted in a candid and not dogmatic manner, and the practitioner will find a ready and convenient reference book. The author's previous book on the "Morbid Conditions of the Urine dependent upon Derangements of Digestion," published in London in 1882, is now out of print; such portions of it as seemed desirable, have been incorporated in this volume, and it will not be republished.

This American edition, belonging to the "Practical Series" of P. Blakiston, Son & Co., although of a very convenient form, is marked by some unnecessary errors and indistinctness of type.

## Medical and Surgical Journal.

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### THE HEALTH OF WOMEN COLLEGE GRADUATES.

THE question as to whether the so-called "higher education of women" involves an impairment of her physiological equilibrium, which question from its collateral relations with important problems of social science, political economy, not to mention politics, has been debated with considerable activity, has been sought to be answered by the statistical method through the endeavors of some members of the class most directly concerned, namely, the college alumna themselves. Some three years ago a committee appointed by the association of collegiate alumnae prepared a lengthy schedule embracing about forty questions under various divisions, which include conditions of childhood, individual health, family health, college conditions, post-graduation conditions, and others. These circulars were sent to the graduates of all colleges in the United States open to women, numbering twelve. The graduates from these institutions up to 1882, numbered 1,290. Replies were received from 705 women. The Vassar alumnae furnished nearly half (311) of these returns, as indeed their total numbers were largely in excess of those of any other college. We remark in passing, that eight, or two-thirds of these colleges had at the time of this inquiry been organized less than seventeen years. These replies were placed at the disposal of the Massachusetts Bureau of Statistics of Labor, which by a justifiable extension of its legally established functions, undertook the tabulation of the data, and embodied these results in its Sixteenth Annual Report.

The reports made by these women contain many points of interest to the medical mind, and we may say that the general impressions which they convey of the physical state of these college women coincide with what observation has inclined us to believe, — namely, that the bodily health of these graduates is probably as good on the average as that of non-collegiate women of similar social grades, and that it will compare favorably with that of American women in general. Certainly there seems little reason to suppose that judicious mental work will necessarily prove more in-

jurious than the labors either of the woman of fashionable society on the one hand, or of the shop girl on the other.

With no disposition, then, to depreciate the useful work of these ladies, we venture to suggest some criticisms that might be made upon their methods of investigation. The most obvious of these is in regard to the definiteness of the classification which they make of certain conditions which have not the sharpness of outline that they would give them. We are inclined to regard the discrepant faculty, from its demands upon the observation and the judgment, as one of the highest of the human mind. The accurate classification of any series of objects or facts presupposes not only a thorough knowledge of the subject, but certain common canons of discrimination which if possible should be applied by a single mind. Yet on the important subject of the state of physical health, the classification is made by over 700 observers, who even if thoroughly cognizant of the facts cannot possibly have any fixed standard whereby to govern their decision. Thus 272 report themselves as in excellent health, 277 as in good health, 85 as in indifferent, and 35 as in poor health, while 36 who declined to classify themselves under any of the foregoing categories are "averaged" by the committee under the term "fair." Now, it must be evident to any physician that a state of health which to one person would seem to warrant the term good, might to another appear only indifferent, while a third of more cheerful temperament, a less vivid recollection of discomforts passed or a wider experience with sick people, might speak of her own health as excellent. In spite of periodical headaches one woman might be in "excellent" general health, while because of them her classmate might be in but indifferent health. On such an uncertain foundation as this is based the statement that 3 per cent. more women were in indifferent or poor health on entering college than on leaving it, and hence the deduction that the "college training . . . can be counted as a positive physical beneficence." An even finer mathematical expression is that of a diminution of .29 per cent. in good health from the time of entering college to that of the investigation.

The same criticism can be made upon the information furnished in regard to other points, as for instance, upon whether the amount of study exceeded "the bounds of discretion." Just 11 per cent. outstepped this limit. Yet 28.22 per cent. studied "severely." What is severe study? and just where does it border upon moderate study, or "moderately to severe" study? And how is one who was oblivious at the time to overstepping the bounds of discretion in study to arrive at that consciousness later except through the supposed evil consequences of such transgression? It appears from the tables that among the severe students the classes in good and fair health increased during the college course, while the classes in excellent, indifferent, and poor health, diminished in comparison with their respective numbers before entering college.

The worriers and the non-worriers are also defined with a sharpness of diagnosis which excites envy in

the mind of the physician. 172 women worried over their studies, 89 worried over their personal affairs, and 131 over both, while 313 worried over neither. Whether a certain number of units of worry are allowed, below which one is classed as a non-worrier, or whether, as seems to be implied, this class includes only those who never had a worry (*sgu.*, (Webster) perplexity, trouble, vexation), is not stated with equal definiteness. If the latter is the criterion adopted, it certainly follows, as claimed by the committee, that "the broader culture resulting from a college education carries with it the only specific for this evil."

The causes of such disorders as existed were sought for and in the majority of cases were given. 135 claimed a constitutional tendency to such troubles, 73 traced their weakness to emotional strain, 47 to physical accident, 81 to intellectual overwork, and a like number to bad sanitary conditions. There were, however, some sufferers (141) who did not feel certain of the cause of their trouble.

Though one may fail to be convinced of the absolute reliability of some of the foregoing statistics, there are collected some interesting facts which do admit of more or less definite numerical expression. 411 out of the 705 women were brought up in the country, and only 165 entered college from the cities; about 124 had passed their lives in both city and country. The health figures (computed as above related) seem to show a somewhat better condition of health among the city than among the country girls.

The average first age of study was five and one-half years, while the average age at entering college was 18.35, the latter being a little in excess, we presume, of the age at which most boys enter college.

The facts regarding menstruation are of interest: 198 girls began this function at the age of 13, 192 at 14, 94 at 12, 90 at 15; 1 each is reported at 9 and at 20 years. While in college 239 abstained from physical exercise during the menstrual period, and 2 from mental work only; 73 abstained from both, while 391 do not answer this question. The conditions during menstruation are given for the various periods, developmental, collegiate, and post-collegiate, whereby it appears that only 169 have had no trouble, while the rest have suffered from irregularities, uterine and reflex pain, one or all. We notice that the number who were free from menstrual trouble during college life is nearly 100 less than of those thus exempt during the period of development. A table which would have been of great value in addition to the comparative tables that are published is one showing the relation between the various menstrual disorders and the cessation of physical and mental work during the menstrual periods. Instead of this we have merely one giving the general "health" compared with the interval between the establishment of menstruation and entering college.

The vast majority of the girls, it is noted (92 per cent.) entered society during college life either none at all or very little.

Other subjects mentioned, such as the amount and

kind of daily exercise, and the number and character of the disorders reported are more or less suggestive, but space forbids allusion to them.

We take leave, however, to refer to one additional point of some importance. The average period since graduation of these women has been 6.2 years. Of the 705 women but 196, being 27.8 per cent., are married. We are told with an earnestness which savors a little of the humorous, that this small proportion of marriages is due to the deliberate choice of the alumnae themselves who from the training of their reflective powers are not the victims of sudden impulse, but subject their actions to the test of much cool reflection, being thereby exempt from the considerations of interest and of conventionality which are the usual inducements to marriage. Moreover, that late marriages are becoming an indispensable feature of our modern life, so that it is believed that at the age of 60, one-half of these women will have married.

Now it is doubtless true that late marriages are becoming more necessary, but this is due to those business competitions which delay the ability to earn a support, and which effect chiefly the bread-winners of the household, the male sex. Yet on taking up the report of a class in Harvard College, selected quite at random, we find that in six and two-tenths years after graduation (the same period since these women left college) about 30 per cent. had married. But these were the years in which these men were studying their professions and beginning to earn a livelihood for themselves and their families. Of the same class at the end of their first decennium, 50 per cent. were married. If of these alumnae, even the small proportion of one-half are to be married (they now averaging 28 years of age) in the course of the next 32 years, as is claimed, it is certain that that proportion must be nearly reached in the next seven years.

That the committee do not themselves count with much confidence on the likelihood of late marriages for their associates is shown by their admission that "college women are not as prone to enter upon married life as the majority of women." The old-time slur that men are loth to marry women who may equal if not exceed them in mental power, amounts to little. One of the keenest philosophers of the present day has said, "The truth is that out of the many elements uniting in various proportions to produce in a man's breast that complex emotion which we call love, the strongest are those produced by physical attractions; the next in order of strength are those produced by moral attractions; the weakest are those produced by intellectual attractions; and even these are dependent much less upon acquired knowledge than on natural faculty, quickness, wit, insight. If any think the assertion a derogatory one and inveigh against the masculine character for being thus swayed, we reply that they little know what they say when they thus call in question the divine ordinations."

We confess ourselves to be of the number of those who hold the old-fashioned belief that woman must

happily fill the niche which nature intended her for, in occupying the relations of wife and mother. And while we admit that those whose tastes lead them to the "higher education," may by attention to hygienic principles accomplish their aim without compromising their health, we find ourselves able to quote with approval the words of the committee itself: "If it is shown that their (the colleges') permanent tendency is toward celibacy their influence will not extend beyond the small circle of women who resolve early in life to follow professional pursuits."

#### A NEW HYPNOTIC.

DOCTORS Dujardin-Beaumetz and Bardet have announced to the profession the discovery of a new hypnotic, to which has been given the name of *phényl-méthyl-acétone*, or *acétophénon*. It is a mixed acetone, having for its chemical formula  $C_{11}H_{14}O$ . The physiological properties have been studied by Popof and Nencki. These experimenters have demonstrated that this product undergoes transformation in the organism into carbonic and benzoic acids, and is finally eliminated in the urine in the state of hippurates.

Dujardin-Beaumetz and Bardet have continued these researches and have signalized very powerful hypnotic properties in this new chemical body. They have proposed to substitute for the cumbersome name of phenyl-methyl-acetone, the simpler designation of *hypnone*, a name based on its ascertained physiological properties.

Administered to the adult in doses of from five to fifteen centigrammes mixed with a little glycerine, and given in capsules of gelatine, phenyl-methyl-acetone causes a profound sleep, and this hypnotic action is especially marked in cases of insomnia from alcoholism; it has seemed to the French clinicians to be superior as a sleep-producer to chloral and paraldehyde.

This hypnotic was given to nine patients for fifteen days without any symptoms indicating intolerance. The odor of the breath became offensive by reason of the elimination of acetone by the lungs.

When the substance was injected under the skin of young animals (guinea pigs and hares), in the dose of from five to fifteen drops, a marked hypnotic stupor followed, ending in a profound coma, to which the animals succumbed in five or six hours. Phenyl-methyl-acetone is a product of the oxidation of ethyl benzene, treated by chromic acid in presence of acetic acid; it is also obtained by the dry distillation of a mixture of acetate and benzoate of lime.

It is a liquid body at the ordinary temperature of 60° to 70° F., crystallizing below this temperature in the form of beautiful white needles. Its odor is very penetrating, resembling both that of bitter almond and orange flowers. It is so intense as to be disagreeable to the patient, and hence the hypnotic is better administered in pill form or in capsules than in any other way.

## SHALL PHYSICIANS REPORT CONTAGIOUS DISEASES?

It really seems as if the medical practitioner was likely to find himself between the upper and the nether millstone in regard to the question of reporting cases of infectious and contagious diseases to his board of health. In our issue of November 19th, we published a very temperate note from the Chairman of the Boston Board of Health, reminding physicians gently but firmly of their neglect of duty under the act ordering the reporting of contagious diseases, to which the text of the act was appended.

In this issue of the JOURNAL, among the New York notes, our readers will find an account of steps taken at a meeting of the New York County Medical Society protesting against the treatment of two members, Drs. A. E. M. and A. S. Purdy, at the hands of the law, and providing for their defense in the Court of Appeal. In brief, the Drs. Purdy reported what they considered a case of varioloid to the New York Board of Health; the Board sent its inspector, who saw the patient and ordered her removal to the Riverside Small-pox Hospital. The case proved to be a light one, and the question was subsequently raised whether it had really been small-pox at all. The patient, a milliner, recovered perfectly and comfortably in a short time, but lately brought suit against the Drs. Purdy for \$10,000 damages to her business, pleading that she did not have varioloid. The jury awarded her \$500 damages.

The County Medical Society has very properly made the case its own. The question as to whether the woman actually had varioloid or not seems to have remained in doubt. There was, however, no doubt that the inspector of the Board of Health saw her and ordered her removal to the hospital, and at this point the responsibility of the attending physicians really ceased, whatever the view of the intelligent jury.

It is very important for the welfare of the community that physicians should report cases of contagious disease to the board of health, and should report them promptly; moreover the duty is in some States imposed by law. This is, however, one of many gratuitous services expected of doctors by their fellow citizens. If their fellow citizens make it more expensive to report than the rigor of the law would make it not to report, we imagine doctors will either abstain from reporting their contagious cases altogether or will not report them until they cease to have any element of doubt.

We hope this case in New York may be the means of bringing the law and common sense, or her sister, equity, nearer together.

## MEDICAL NOTES.

—According to the latest bulletin of the Secretary of the Maine State Board of Health (November 28th) there have been only three cases of small-pox in that State during the summer and autumn, of which one was fatal and the other two were light varioloid.

—Dr. Squibb suggests as a means of disguising the taste of bitter and nauseous salines a mouthful of ice-water just before and just after the dose; the saline itself to be taken in a wine-glass full of ice water between them.

—The German Imperial Government has ordered the establishment of chairs for hygiene and bacteriology at all universities of the empire.

—Prof. C. A. Lindsley, M. D., has resigned the position of Dean of the Medical Department of Yale College, and Dr. Herbert E. Smith has been appointed his successor.

BOSTON.

—In the suit brought against Dr. W. H. Baker of this city, and the Free Hospital for Women, to which reference was made in a previous issue of the JOURNAL, the jury disagreed.

—The "hemorrhage man" to whom reference was made in these columns last week ran into the jaws of fate in quite a remarkable manner recently, and though it could not be said that he met with justice, he at least met with mercy in a quality that was not strained and a quantity that must have been rather overpowering. In front of an asylum in the suburbs of the city, whose artistic edifice he apparently took for the abode of some wealthy citizen, he fell and had his hemorrhage in full view of the occupants. Instantly there flocked forth an array of nurses trained in all the arts of first aid to the injured, with the accessories and extraordinary appliances for emergencies which the resources of an asylum might afford. His head was laid low, his chest covered with ice, salt, ice-water and ergot administered in generous quantities, and nothing omitted which lovely women in the enthusiasm of saving a life, could think of. Such as they had they gave freely, and the net results to the victim were much more abundant in treatment than in cash. It is surmised that henceforward he will shun anything that by any possibility could prove to be an asylum.

NEW YORK.

—At the meeting of the New York County Society held November 23d, a recommendation was made by the *Comitia Minora* that the Society should request Drs. A. E. M. and A. S. Purdy to appeal in a case in which they had been defendants. They had reported to the Board of Health a case of what they believed to be varioloid, and the patient was sent to the small-pox hospital, by the inspector of the Board. She has recently sued them for \$10,000 damages, on the plea that she did not have the disease, and the jury rendered a verdict awarding her \$500 damages. The *Comitia* also recommended that \$500, if necessary, should be appropriated to aid in the proceedings. On motion of Dr. C. R. Agnew, who, with others, expressed much chagrin that a physician should be fined for obeying the law in reporting contagious or suspicious cases of disease, the matter was referred to the *Comitia Minora* with power. Dr. Daniel Lewis,

who was re-elected President at the annual meeting in October, delivered his inaugural address, in the course of which he strongly advocated the establishment of a State Board of medical examiners. Dr. M. J. Roberts read a paper on the "Mechanical and Operative Treatment of Knock-knee and Bow-leg."

—The State Board of Health held its quarterly meeting in New York on the 16th of November. The report of the Executive Committee showed that the expenses for the year ending Sept. 30, 1885, were \$25,719.55. The work of bringing up averages in vital statistics has been satisfactorily continued throughout the year, and 51,800 certificates of births, deaths, and marriages have been thereby recorded. The Secretary, Dr. Carroll, reported what means had been adopted to ward off the introduction of small-pox from Canada; the principal efforts being made in the direction of calling into active existence the local health boards along the northern frontier of the State and insisting upon the immediate vaccination and revaccination of all unprotected at all exposed points within their jurisdiction. So successful have been the measures adopted, that small-pox has been reported in only eight localities outside of the cities of New York, Brooklyn, Albany and Yonkers, which are by law exempt from the control of the State Board. The only instance in any of these in which the disease was communicated to a second individual was one in which a nurse not properly protected by vaccination took it. The Board, as an additional means of protection, availed itself of the aid offered by the National Government through its Marine Hospital Service, and National inspectors have been placed along the frontier to inspect trains and other public conveyances coming from Canada, the undertaking being in charge of Dr. Austin, of the Marine Hospital Service, in consultation with the State authorities.

—At a meeting of the Medico-Legal Society held November 18, Prof. R. Ogden Doremus reported what he believed to be a case of fatal poisoning from the application of cocaine to an aching tooth. Dr. F. M. Thomas, a graduate of Bellevue College, had written him an account of the case, in which he found the patient, a woman, unconscious and dying from the effects of a medicine which she had been using for toothache. He also sent on to New York what was left of the drug, and on examination, it had proved to be hydrochlorate of cocaine. A general discussion of the effects of the remedy followed.

—The meeting held November 20 at the Academy of Medicine, under the auspices of the Charity Organization Society, for the purpose of devising measures to limit free hospital and dispensary treatment exclusively to the poor, was attended by a large number of prominent physicians and others interested in charitable work. Resolutions were adopted urging all the hospitals and dispensaries in the city to co-operate with the Charity Organization in weeding out undeserving patients, and a committee of six appointed to attend personally to the matter. On the Committee are three

physicians, Drs. S. O. Vanderpoel, J. West Roosevelt, and J. H. Emerson.

—The New York Post-Graduate School has fitted up a ward for sick infants in its building on East 20th Street, where it is designed to treat acute cases under two years of age. The ward will not be opened, however, until a sufficient sum has been subscribed to maintain twelve beds for two years.

—At a meeting of the Board of Managers of the Sanitary Aid Society for the Tenth Ward, the report of a lodging-house under the control of the Society showed that the number of lodgers for October was no less than 2,383. The cost of running the house is \$220 per month; but, notwithstanding the fact that much cleaner and more healthful accommodations are provided than is done by the ordinary cheap lodging houses, it is entirely self-supporting, and now yields a profit of seven per cent. on the original cost of fitting it up. It is contemplated by the Society to establish several other lodging-houses for men, and one for women.

—Dr. Wm. M. Smith, the Health officer of the Port, has been appointed to represent the Health Department of New York at the conference of health boards to be held at Washington December 8th.

—Typhoid fever is said to be unusually prevalent in certain portions of Brooklyn, the special cause for which does not seem to have been distinctly determined.

—Dr. Wm. Frothingham, a physician of large practice at Washington Heights, in the upper part of the city, and universally beloved and respected in the community where he lived, accidentally shot himself while cleaning a pistol on the 19th of November. He was fifty-five years of age, and graduated from the College of Physicians and Surgeons in 1851. After serving as an intern at Bellevue Hospital, he went abroad and further prosecuted his medical studies in France and Germany for three years. During the late war, he was surgeon of the Forty-fourth State Volunteers, Col. Ellsworth's regiment, and served as brigade surgeon under Generals Butterfield and Devin. For twenty years he practised at Washington Heights, and the funeral services were held at the Presbyterian church there. Among the pall bearers were Drs. Sands, Draper and Alexander, and the attendance was so large that the services of several policemen were required to keep the crowds back.

## --- Miscellany.

### --- THE BOY AND THE BONE SETTER.

SPEAKING of bone setters recalls a good story which occurred in the north of Scotland, where one of them had risen to great fame and no small fortune by his skill. A country lad, residing a few miles off, had got his leg hurt at one of the local factories, and had been treated for some time by the local medical man without any good result. His mother, who had great faith in the neighboring bonesetter, wanted the lad to go

to him, which he declined, preferring, as he said, the "reglar faculty." Eventually, however, his mother's persuasions prevailed, and he agreed to allow himself to be taken to see Daniel R., the bone-setter. A bed for the invalid was extemporized on a cart, and, accompanied by his anxious mother, he was, after a painful journey, taken to the town where the bone-setter resided. The leg was duly examined, and it was found necessary to haul it very severely in order, as the bone-setter said, "to get the bone in." The lad was liberal with his screams while this was going on, but eventually the bone was "got in," and he was told to go home, and in a few days he would be all right and fit for his work. He was lifted upon the cart again, and with his mother seated beside him, set off for their home. "Didn't Danny do the thing well?" said the joyous old lady. "Yes, he did, mother," said the lad, "but I was na sic a fool as to gie him the sair leg!" The "reglar faculty" will, we have no doubt, appreciate the story. — *Whitehall Review*.

#### THE OPERATIVE TREATMENT OF CEREBRAL CLOTS.

A CASE of interest with reference to the proper treatment to have been pursued, is given in a paper, by Dr. C. B. Witherle, in the *Northwestern Lancet*, November 15th. The case was of a man who, while somewhat under the influence of liquor, fell from the driver's seat of a truck, striking his head on a wheel as he fell. He walked a short distance and then became unconscious. He was taken to the hospital with symptoms of compression. There was no discharge from the ears. There was a scalp wound, but no depression of the skull was to be felt, though a crack was detected. Temperature 104°, pulse 80, hard, full and regular. A consultation of the staff was held and an exploratory incision being advised, the wound in the scalp was enlarged by a crucial incision and the bone freely exposed. The crack in the skull was found to extend forwards nearly in a straight line, across the coronal suture, being about four inches in length so far as exposed. There was no depression of the outer table, and it appeared evident that compression was produced by a clot. With the advice of the consultants the trephine was applied at a point about opposite the centre of the crack, and close to it on the side towards the the median line. On removing the button a drachm or two of coagulated blood escaped from trephine hole, and was followed by a trickling of bright fluid blood. Careful exploration with a probe showed that a clot several inches in diameter and about half an inch in thickness remained. The only apparent effects of the operation were that the pulse rose to 120 and became softer, and that the Cheyne-Stokes respiration became more marked.

The practical question now came up as to removal of the clot. It was the opinion of the consultants that no further operative interference was advisable. It was argued that the pressure on the brain might be gradually relieved through the opening already made, and that any attempt to remove the clot would be likely to result in fatal hæmorrhage from the wounded vessel. A bad prognosis was given, as there was held to be the probability of damage to the base of the skull by contre-coup. The author favored as a last resort the making of more openings, the removal of

enough bone so that the clot could be lifted out, and the attempt to stop the hæmorrhage by ligature thermo-cautery, or otherwise. As this was not favored by the consultants, nothing further was done. The patient died the next day.

The autopsy showed an oval clot, six inches long and closely adherent to the dura, which was intact beneath it. The hæmorrhage was discovered to have occurred from a branch of the middle meningeal artery. Underneath the dura just beneath the external clot was a clot of the size of an almond. There was no fracture at the base, or other lesion, except flattening of the convolutions from pressure.

In view of the results of the autopsy it seems possible that more radical operative interference might have saved the patient's life.

Dr. John B. Roberts, of Philadelphia, in his paper on "The Surgery of the Human Brain," lays down the following, as one of the articles of his creed: "Accidental or operative injuries to the cerebral meninges, meningeal arteries or venous sinuses should be treated as are similar lesions of similar structures in other localities." Bull, Parkes, Hopkins, Sands, Brinton and Nanerode are quoted as having had cases which support the truth of Dr. Roberts' assertion. In cases like the one related above, the most radical treatment appears justifiable, if it holds out the slightest prospect of success.

An interesting point in the case is that the Cheyne-Stokes respiration was apparently produced by transmitted pressure from the clot on the vertex. It is a common impression that this form of respiration indicates injury to the base of the brain, and that it contra-indicates operative interference.

Dr. Roberts in his paper already quoted mentions the Cheyne-Stokes respiration as a contra-indication to exploratory operation. He admits, however, in answer to a letter of inquiry addressed to him by Dr. Witherle that the wording is inaccurate, and that his meaning is "that if symptoms showed lesion to be in interior or at base of brain, operation was not indicated for that lesion. If there were an apparent fracture or subcranial clot, I should at once proceed to operate, as it would remove one of the possible causes of death."

Dr. Roberts, on commenting on the above case, of which the author sent him a brief account, says: "I would have enlarged the trephine opening and cleansed out all the clot."

#### Correspondence.

##### IMPORTANCE VS. IMPOTENCE.

PARIS, November 15, 1885.

MR. EDITOR. — The mistakes of printer and proof-reader during the past four hundred and forty years have undoubtedly caused as much amusement and vexation as any other known error of an innocent nature. In the majority of instances it is wise for writers to possess their souls in patience, but when a printer sets up *impotence* for *importance* and the proof-reader allows the word to stand, the writer sees the *importance* of overcoming the *impotence* which in such cases usually leaves him without resource, it being generally useless to correct a printer's mistake by a note to the journal, in which the error has occurred, after the article involved has been read and forgotten. In my case, however, I feel it to be due to Professor Weissmann, that the title of this fine dissertation which he read at the recent Congress in Strassburg be correctly given. Especially

so because the printer's error in question wholly reverses and destroys the meaning of the terms which Weissmann used. In my letter on the Strassburg Congress (see JOURNAL for October 29th), I mentioned Weissmann's paper on "The Importance of Generic Reproduction in the Theory of Selection." It is hardly necessary to say that the appearance in print of the word "impotence" in place of *importance* was (on behalf of Professor Weissmann, at least) somewhat amazing. "Impotence" is not only a very strong term, but, in its relation to the other words of the title of Professor Weissmann's paper is more than deserving of correction. In the original said title was: *Ueber die Bedeutung der geschlechtlichen Fortpflanzung für die Selectionstheorie.*

If Professor Weissmann believed sexual propagation *impotent* in its relations to the theory of selection, probably he would not have been invited to write this paper.

Yours very truly,

H. O.

At the time this mistake of our printers occurred, now more than a month ago, it proved both deplorable and laughable to ourselves and some of our intelligent readers, who by reference to the original title of Professor Weissmann's address anticipated our unfortunate correspondent's correction. We then felt that so palpable a mistake would be its own antidote, and also were impressed with our own impotence in the premises as an efficient alternative. — Ed.

# REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 21, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	557	181	18.36	15.54	2.88	1.98	7.96
Philadelphia	927,955	292	89	17.68	17.34	—	3.74	10.88
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,100	—	—	—	—	—	—	—
Boston	390,406	169	56	15.35	15.35	4.13	1.18	8.85
Baltimore	408,520	135	35	14.06	13.32	—	1.48	7.40
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	81	26	23.37	15.19	7.38	2.46	9.84
New Orleans	234,000	102	33	15.68	13.72	2.94	—	5.88
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	—	—	—	—	—	—	—
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	46	9	—	—	—	—	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	21	6	10.52	14.28	10.52	—	—
Charleston	52,286	32	7	6.25	15.65	—	3.13	3.13
Lowell	64,051	20	5	30.00	5.00	10.00	10.00	10.00
Worcester	68,383	23	6	14.80	13.05	—	8.70	26.10
Fall River	56,863	16	5	12.50	12.50	—	—	—
Cambridge	59,660	22	6	18.20	22.75	—	—	9.10
Lawrence	38,825	8	2	12.50	12.50	12.50	—	—
Lynn	45,871	9	2	11.11	22.22	11.11	—	—
Springfield	37,577	—	—	—	—	—	—	—
Somerville	29,992	—	—	—	—	—	—	—
Holyoke	27,894	4	3	25.00	—	—	—	25.00
New Bedford	33,363	1	1	—	42.84	—	—	—
Salem	28,084	8	1	12.50	—	12.50	—	—
Chelsea	25,709	5	—	—	40.00	—	—	—
Taunton	23,674	6	—	—	50.00	—	—	—
Gloucester	21,713	6	3	52.00	16.66	—	—	50.00
Haverhill	21,725	3	—	42.84	28.56	—	—	14.28
Newton	19,759	2	—	—	50.00	—	—	—
Brookton	20,783	11	2	—	27.27	—	—	—
Malden	16,407	3	—	—	—	—	—	—
Newburyport	13,716	7	4	14.28	14.28	—	—	14.28
Waltham	14,009	5	1	20.00	—	—	—	20.00
Fitchburg	15,375	4	1	50.00	—	—	25.00	25.00
Northampton	12,896	0	—	—	—	—	—	—
86 Massachusetts Towns	—	29	2	17.25	31.05	6.90	6.90	3.45

Deaths reported 1,637; under five years of age 509; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 282, consumption 265, lung diseases 117, diphtheria and croup 135, diarrhoeal diseases 41, typhoid fever 36, scarlet fever 17, malarial fever 16, whooping-cough nine, erysipelas eight, measles seven, cerebro-spinal meningitis seven, small-pox three, typhus fever two, puerperal fever one. From scarlet fever, New York six, Philadelphia four, Cincinnati three, Cambridge two, Haverhill and Brockton one each. From malarial fever, New Orleans six, Baltimore five, New York three, Philadelphia two. From whooping-cough, New York six, Philadelphia, Baltimore and New Orleans one each. From erysipelas, New York four, Providence two, Philadelphia and Boston one each. From measles, New York four, Boston, Baltimore and Haverhill, one each. From cerebro-spinal meningitis, New York four, Fall River two, Philadelphia one. From small-pox, New York three. From typhus fever, New York two. From puerperal fever, New York one.

Cases reported in Boston: diphtheria 13, scarlet fever 36, typhoid fever 17, and measles five.

In 108 cities and towns of Massachusetts, with a population of 1,290,794 (population of the State 1,911,365), the total death-rate for the week was 11.94 against 16.26 and 15.08 for the previous two weeks.

For the week ending November 7th, in the Swiss towns, there were 27 deaths from consumption, 149 diseases 21, diphtheria and croup nine, whooping-cough five, measles two, small-pox one.

The death-rates were, at Geneva 18.3; Zurich 17.5; Basle 18.1; Bern 20.7.

In the 28 greater towns of England and Wales, with an estimated population of 8,246,146, for the week ending November 7th, the death-rate was 19.9. Deaths reported 3,389. Infants under one year of age 812, acute diseases of the respiratory organs (London), 391, measles 84, scarlet fever 18, whooping-cough 42, fever 12, diarrhoea 38, diphtheria 30, small-pox (London and Liverpool one each) two.

The death-rates ranged from 13.5 in Halifax to 33.3 in Preston; Birkenhead 23.5, Birmingham 16.3, Blackburn 24.6, Hull 16.2, Leeds 18.6, Leicester 15.7, Liverpool 24.1, London 18.9, Manchester 27.1, Nottingham 20.0, Sheffield 19.6, Edinburgh 11.06, Glasgow 24.2, Dublin 23.5.

The meteorological record for week ending November 21st, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barom- eter.		Thermometer.		Relative Humidity.		Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
Saturday, Nov. 21, 1885,	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Mins.	Amount in Inches.
Sunday, . . . 15	29.699	39.9	45.8	36.2	62.0	36.0	51.0	49.7	W.	W.	W.	12	12	14	C.	C.	—
Monday, . . . 16	29.938	39.9	45.0	33.3	65.0	44.0	53.0	54.0	W.	N.W.	W.	15	21	12	C.	F.	—
Tuesday, . . . 17	29.962	44.3	52.1	40.7	56.0	41.0	69.0	55.3	W.	N.W.	W.	12	16	8	C.	C.	—
Wednesday, . . 18	29.923	48.5	54.3	37.7	68.0	50.0	81.0	67.3	W.	S.W.	S.W.	8	8	10	O.	O.	—
Thursday, . . 19	29.634	45.3	56.4	35.4	92.0	94.0	78.0	88.0	S.W.	N.	N.	6	13	15	O.	R.	—
Friday, . . . 20	29.825	36.2	45.0	29.5	71.0	50.0	77.0	66.0	N.	N.W.	N.W.	8	4	2	C.	C.	—
Saturday, . . 21	29.772	36.4	40.0	30.1	80.0	77.0	79.0	78.9	N.	N.	N.	9	14	15	O.	R.	1 3/4
Mean, the Week.	29.733	41.5	48.1	34.4				65.6									

<sup>1</sup>O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 21, 1885, TO NOVEMBER 27, 1885.

HEGAR, ANTHONY, surgeon and major. Member of the Army Medical Examining Board now in session in New York City, is relieved from the additional duty of attending surgeon in that city, to take effect when Lieutenant Colonel Jos. R. Smith, surgeon, shall have arrived in New York and entered upon that duty. S. O. 367, A. G. O., November 19, 1885.

REED, WALTER, assistant surgeon and captain. Granted leave of absence for one month, with permission to apply for one month's extension, to take effect about December 1, 1885. S. O. 115, Department of Platte, November 18, 1885.

TAYLOR, ARTHUR W., assistant surgeon and captain. Granted leave of absence for one month, to take effect December 5, 1885. S. O. 116, Department of Platte, November 20, 1885.

CHAPIN, A. R., assistant surgeon and first lieutenant. Ordered for temporary duty at Fort Robinson, Neb. S. O. 115, Department of Platte, November 18, 1885.

SIMONS, JAMES, lieutenant colonel (retired), died November 11, 1885, at Baltimore, Md.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING NOVEMBER 28, 1885.

MARMION, R. A., surgeon. Detached from Marine Barracks, Washington, D. C., December 7, and wait orders.

MOORE, A. M., surgeon. Ordered to Marine Barracks, Washington, D. C., December 7, 1885.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDING NOVEMBER 21, 1885.

YEMANS, H. W., passed assistant surgeon. Promoted to be passed assistant surgeon from November 1, 1885, November 11, 1885. Re-assigned to duty at San Francisco, Cal., November 16, 1885.

McINTOSH, W. P., assistant surgeon. Appointed an assistant surgeon, November 1, 1885. Assigned to duty at New Orleans, La., November 16, 1885.

#### SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION. — A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, December 7th, 1885, at 7.45, P. M. Readers: Dr. S. W. Driver, "Non-Infernal Uterine Hemorrhage, with a List of Cases, treated by a New Remedy." Dr. R. H. Fitz, "Inflammation of the Vermiform Appendix." Balloting on Candidates for Associate Membership at 9 P. M.

H. L. BURDELL, Secretary.

MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. — The Section for Clinical Medicine, Pathology and Hygiene will meet at 19 Boylston Place, on Wednesday, December 9th, at 7.45 o'clock. Papers: Dr. G. M. Garland, "Some Cases of Reflex Neurosis." Dr. H. C. Haven, "The Etiology of Rickets." Dr. F. B. Harrington, "Pulmonary Complications in Typhoid Fever." F. I. KNIGHT, M.D., Chairman.

ALBERT N. BLODGETT, Secretary, 138 Boylston St.

GYNECOLOGICAL SOCIETY OF BOSTON. — The next regular meeting will be held at the Medical Library Rooms, No. 19 Boylston Place, on December 10th, at 4 o'clock, P. M. A paper communicated by Dr. A. Martin, of Berlin, on "Clauteries in the Cervix, and Roof of the Vagina," will be read by Dr. E. W. Cushing.

H. J. HARRIMAN, Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

Aids to the Obstetrics (Double Part). By Samuel Hall, B.A., M.D., Cantab. etc. New York and London: G. P. Putnam's Sons. 1885.

Intubation of the Larynx, with History of Cases. By F. E. Waxham, M.D., professor of Diseases of Children, College of Physicians and Surgeons of Chicago. Read before the Chicago Medical Society, October 5, 1885.

Elements of Organic Chemistry, Descriptive and Qualitative. By James H. Shepard, Instructor in Chemistry, Ypsilanti High School. Boston: Published by D. C. Heath & Co. 1885.

Transactions of the American Otological Society. Eighteenth Annual Meeting. Requet House, New London, Conn., July 14, 1885. Vol. III, Part 4.

The Principles and Practice of Medicine. By the late Charles Hilton Fagge, M.D., F.R.C.P., Physician to and Lecturer on Pathology at Guy's Hospital, etc., including a Section on Cutaneous Diseases, by P. H. Pye-Smith, M.D., F.R.C.S. Chapters on Cardiac Diseases by Samuel Wilkes, M.D., F.R.S., and Complete Indexes by Robert Edmund Carrington, M.D. Vol. I. Philadelphia: P. Blakiston, Son & Co. 1886.

An Atlas of Clinical Microscopy. By Alexander Peyer, M.D. Translated and Edited by Alfred C. Girard, M.D., Assistant Surgeon, United States Army. First American, from the Manuscript of the Second German Edition, with Additions. New York: D. Appleton & Co. 1885.

Lectures on the Diseases of the Nose and Throat. Delivered during the Spring Session of Jefferson Medical College by Charles E. Sajous, M.D., Illustrated. Philadelphia: F. A. Davis, Att'y, Publisher. 1885.

The Metric System in Medicine. By Llewellyn Eliot, M.D. Washington, D. C. (Reprint from Medical Record, October 17, 1885.)

Report of the Surgeon General of the Navy for the Year 1885. Washington Government Printing Office. 1885.

Ueber Varicen von Dr. L. Von Lesser Privat Dozenten für Chirurgie in Leipzig. (Separatabdruck aus Virchow's Archiv für Pathologische, Anatomie und Physiologie, und für Klinische Medizin. 101 Band. 1885.)

A Manual of Microscopical Technology for Use in the Investigations of Medicine and Pathological Anatomy. By Dr. Carl Friedländer, Berlin. Translated with the Express Permission of the Author from the Second Enlarged and Corrected Edition. By Stephen Yates Howell, M.A., M.D., Buffalo, N.Y. New York and London: G. P. Putnam's Sons. 1885.

Psychiatry: a Clinical Treatise on Diseases of the Fore-brain. Based on a Study of its Structure, Function and Nutrition. By Theodor Meynert, M.D., Vienna. Translated under Authority of the Author, by B. Sachs, M.D., Instructor in Diseases of the Mind and Nervous System in the New York Polytechnic. Part I. The Anatomy, Physiology, and Chemistry of the Brain. New York and London: G. P. Putnam's Sons. 1885.

Facts and Mysteries of Spiritism: Learned by a Seven Years' Experience and Investigation, with a Sequel. By Joseph Hartmann. Philadelphia: Thomas W. Hartley & Co. 1885.

## Original Articles.

THE SPECIFIC AND INFECTIOUS CHARACTER OF TUBERCULOSIS, WITH EXHIBITION OF THE BACILLI OF TUBERCULOSIS, AND THOSE OF MALIGNANT PUSTULE (ANTHRAX).<sup>1</sup>

BY E. W. CUSHING, M.D., OF BOSTON.

In considering the etiology of tuberculosis, facts have often been observed suggesting that it is infectious, and, in fact, the question was discussed here some years ago, when many cases were related, supporting this theory. But, although this view is very old, and has long been popular in some countries, especially in Italy, yet it certainly never took firm root in the profession until recently, when Professor Koch furnished proof of the directly infectious nature of the disease. I have been asked to give a summary of the evidence on which his decision rests, and shall therefore make a free use of his work on the subject, published in the last communications of the German Imperial Health Office. Although the question will seem rather threadbare to many of you, the importance of the subject is so great that I ask you to bear with me while I go over this ground, as requested.

To determine this question of infectiousness there are three courses possible, either first to rely on clinical facts — and these have never been clear enough to convince the profession; second, to study the subject in the light of pathological anatomy; and third, to try to get light from experiments. The second method has given us many facts, notably, that miliary tuberculosis generally can be traced to preëxisting caseous deposits, showing an auto-infection; in some cases the direct manner of the general dispersion of the tubercles can be seen, as shown by Ponfick, to depend on the introduction of tuberculous matter into the thoracic duct, or as observed by Weigert, where similarly the wall of a bloodvessel allowed a direct introduction of caseous deposits into the general circulation. An auto-infection was thus demonstrated, but the cause of the original disease was not explained.

The method of experiment was used by Klenke in 1843, to show that rabbits could be made tuberculous by inoculating into them the sputa, or fragments from the lungs, of tuberculous patients, and these experiments were improved and extended by Villenin, Klebs, and others. But, on the other hand, it was shown that animals died from similar affections after the injection of fragments of powdered glass, etc., and it was long before it was demonstrated that in such cases where the creatures were really tuberculous, it was owing to the contamination of the matters injected with the virus of other tubercular animals, or to the infection derived from keeping them in confined localities with other creatures already affected, or in cages where such had been affected with the disease.

It is now well known that no animal can be made tuberculous by substances which have been properly sterilized, and which are inoculated under proper antiseptic conditions.

The clearest and prettiest example of infection was furnished by the experiments of Cohnheim and Salomonsen, who inoculated the anterior chamber of the eye in rabbits with material from tuberculous subjects.

This experiment has the great advantage that spontaneous tuberculosis of the eye in rabbits never occurs, and that the whole process can be watched, as the little tubercles form on the iris, become caseous, and infect the whole eye; then they creep along the lymphatic vessels, and infect the glands of the neck, and thence the liver, lungs, spleen, etc. No substance not from a tubercular source, or which has been sterilized, will do this, and the demonstration of infection is complete.

That chapter is closed, and it remains to find out the nature and properties of the cause of the infection.

This might either be something formed in or from the body, organized or unorganized, or a parasite from without, living in the diseased tissues, and reproducing itself there.

As no one had ever been able to find or demonstrate a virus of the first kind, it seemed reasonable to search for one of the second, and it is the great honor and service of Koch to have solved this problem.

He was led up to his discovery by the analogy of infectious processes everywhere, as best exemplified by anthrax or malignant pustule. As this is the very type and sample of infectious diseases I will be somewhat more explicit.

If the blood or organs of an animal dead of anthrax be examined with a reasonably good microscope, it is found to swarm with little rods, single or jointed together, but having no proper motion. This is an invariable accompaniment of the disease, but not therefore necessarily its cause. It is found, however, that they grow readily on gelatine mixture, or boiled potato, and by various processes of coloring the cultures so produced, these rods are seen to enclose spores.

Now the smallest scratch on a healthy animal if inoculated with the blood of one suffering with anthrax, will set up the disease in the former, if of a species susceptible of it, and with fatal effect, and when it dies, the rods are found in its blood, or organs, as I here show you, having lost none of its peculiarities. Still it might be said that the rods did not cause the disease, but some other product contained in the blood set up the infection, and rendered the infected animal a fit soil for the growth of harmless parasites. But if these rods be bred, say on potato, from one generation to another, taking each time a very minute portion on a needle for seed, it is plain that after a few generations nothing is left except the bacilli, and not even any of those which came from the first diseased animal, but only their remote posterity or descendants. Here I show the rods in a pure culture, many times removed from the first, and showing a network of chain-like rods, jointed together like chains, and containing spores which do not take the color.

Now the smallest portion of a culture like this inoculated into an animal, of a susceptible species, will set up the disease in all its original virulence, showing that the bacilli or rods are the cause and not merely the accompaniment of the disease. The actual poisoning is supposed to come from a chemical virus which they excrete, but the exact manner of their action is not essential: we say they cause death as we say that a bullet causes death when shot into the chest, without necessarily knowing the exact way in which it acts. Practically no one doubts this virulent activity in the case of anthrax; it cannot be explained away, there is no chance for error, and it naturally points the proper course for experiments with other diseases.

<sup>1</sup>Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, November 11, 1885.

Koch, therefore, set himself to find out whether there exist in the blood, organs, or sputa of the tuberculous any formed elements not belonging to the body, or derivable from its tissues.

If such were found, to determine whether they had motion, or other signs of life, such as reproduction, subdivision, formation of spores, etc.

Whether they could be cultivated outside the body, and isolated by repeated cultures, and, if so, whether they alone are capable of causing the disease, as the bacillus anthracis causes anthrax.

Now Koch was not the first who had thought of this: many had looked for bacteria in tuberculosis, but had not found them. A common microscope would scarcely show them, when stained, far less find them uncolored among the morbid tissues.

Remembering that the addition of potash to aniline dyes facilitates the coloring of certain bacteria, he tried an alkaline solution of methylene blue, and was fortunate enough to get the bacilli tuberculosis faintly stained, and found that, very luckily, when the preparation is put into a brown solution of vesuvin, the bacilli stay blue and the other substances present become brown. The process of staining was afterwards modified and improved by Ehrlich, Weigert, and others, and carried to the precision of a chemical reaction, so as to distinguish infallibly between the tubercle bacilli and any others yet discovered.

The only bacilli liable to cause confusion are those of lepra and of syphilis, and where doubt might exist, which is very seldom, there are means of distinguishing them, which we need not enter on here.

The method at present recommended by Koch, probably the surest, is as follows: aniline water is prepared fresh by shaking five cm. of pure aniline oil with 100 cm. of distilled water, and filtering well through a wet filter paper, to make a clear solution. To 100 cm. of this is added 11 cm. saturated alcoholic solution of methyl violet or of fuchsine and 10 cm. of absolute alcohol. This solution will keep for about ten days if well stoppered. In this solution fine sections of organs hardened in absolute alcohol must lie twelve hours or more; fluids dried and baked on to cover glasses can be stained in ten or fifteen minutes by heating the solution nearly to boiling. The preparations are then put for a few seconds in a twenty-five per cent. solution of nitric acid, until they lose most of their color, and well washed in sixty per cent. alcohol. They are then stained in a dilute solution of vesuvin (for methyl violet) or of methylene blue (for fuchsine) washed again in sixty per cent. alcohol, have the water taken out by absolute alcohol, are cleared up by cedar oil, and can then be examined microscopically, or if desired can be preserved in Canada balsam.

There is nothing very difficult in all this for one who has a moderate skill in using a microscope and making preparations, but of course it takes a little time, and some patience to learn to handle the colors properly, so as not to decolorize too much, nor smother the bacilli in the contrasting color.

Sputa can be kept in a stoppered vial for weeks, if necessary, without injuring the bacilli, or can be dried in a thin layer upon covering glasses, by squeezing a drop between two glasses, sliding them apart and drying them well. They can thus be kept for a long time until occasion offers for a proper examination. But even when stained and prepared it requires a good microscope to see them, and especially to find them in

tissues. To work at all satisfactorily a microscope is necessary, having a large condensing lens underneath, which concentrates a flood of light from all sides on the colored bacilli, at the same time rendering all the tissues indistinct and hazy by abolishing all shadows.

Moreover, it is desirable to have a good oil immersion object-glass of one-twelfth or one-sixteenth, giving a magnifying power of 700 to 1000. With such a microscope I show you bacilli from tuberculous sputum and from the secretion of a little cavity in a lung, also in the tissue of the same lung, and in a tuberculous larynx.

In the lung I show you, with a power of only fifty, the bacilli lying in a mass so dense as to give a red blot on the pale blue ground, and by a higher power you can see the individual bacilli; a slight motion of the adjusting screw causes them to appear to squirm as various layers rapidly pass into and out of the focus.

I exhibit also the plates of the work of the Imperial German Health Office above referred to, showing how they lie singly, or a few together, in the giant cells, which have long been noticed as characteristic of tubercle, apparently imprisoned there; how they lie in dense masses in the walls of cavities, around small arteries, in the kidneys, etc. You also see here representations of the organs of animals dead of acute general tuberculosis, from inoculation or inhalation, of which I will speak presently.

Here, then, is our specific bacillus; it remains to see first, if it is always present; second, if it can be bred and isolated; third, if it can cause the disease; and fourth, if anything else can set up tuberculosis. To settle these points long series of experiments have been carried on, covering years of precise and conscientious labor, of which I can only cite a few from the book you have in your hands, merely stating that I have seen many of them repeated, and have repeated some myself, and I heartily believe in their entire accuracy and fairness.

To detail even a fraction of the experiments connected with this investigation, would take me far beyond the limits of this paper; I can only sketch methods and results, referring you to the original reports for judgment as to the thoroughness and accuracy with which they are made.

The bacilli were sought and found in all manner of tubercular products both in man and in animals. They are from one-fourth to one-half the diameter of a red blood corpuscle in length, and relatively in thickness about in the ratio of pieces of a common lead pencil which has been cut into three or four pieces. But absolutely it is the length and not the thickness of the bacilli which varies. They carry spores from four to six in each bacillus, when they occur, but they are not always found. In cheesy masses they are seldom found, either because they are not there, or because like the spores, which never take up the color, they cannot be stained. That the spores at least are present in the cheesy masses is shown by the highly infectious properties of the latter when inoculated into animals.

It is interesting to find that the bacilli are always precisely similar, whether found in man or animals, in miliary tubercles, in sputum, or in cavities, in scrofulous glands, so called, or in tuberculous joints. Even in lupus, the bacillus is in no way different, and can be bred in cultures, and when so bred and inoculated into animals it promptly sets up general tuberculosis.

The bacilli have no proper motion, and in their migrations they are carried along by wander-cells and so pass into the lymphatic system. The cells which carry them soon lose their properties, and either are arrested and surrounded by epithelioid cells, or, as Koch thinks more probable, they are deformed and changed to giant cells, enclosing their bacilli.

I will not weary you by rehearsing the different kinds of cases of phthisis, and scrofula, in which bacilli have been demonstrated. Koch describes the examination of nineteen cases of miliary tuberculosis of various organs, in all of which bacilli were found, and in no case were they wanting. In twenty-nine cases of pulmonary phthisis examined they were in no case absent, and this fact is of great importance as opposed to the view of those who hold that a large class of cases of phthisis are independent of bacilli, and that the latter are only an accidental complication of an existing disease.

Of course the fact that bacilli are not found in the sputa is no evidence that they are not present in some parts of the lung, not opening directly into a bronchus. Even in a post-mortem examination it requires a real expert in a doubtful case, to select the portions of lung to be searched microscopically, and even in the same little piece not every cut may have bacilli.

But admitting that cases do occur where phthisis exists and no bacilli can be found in the sputa, they are *very rare* when due diligence is used, and, on the other hand, where the bacilli are found it is a clear proof of tuberculosis.

In scrofulous glands and joints, which show the characteristics of tubercle, namely, collections of epithelioid cells or giant cells, the bacilli were found in all cases examined, namely: twenty-one cases of scrofulous glands and thirteen of scrofulous joints.

This does not deny that the glands may undergo enlargement from other causes and microscopically simulate scrofula. In four cases of lupus where sections of the skin were examined, the bacilli were always present, although in one case twenty-seven cuts, and in another forty-three cuts, had to be searched in order to find the bacilli. Even in one of these cases pure cultures were bred in serum, which, when inoculated into animals in the anterior chamber of the eye, set up tuberculosis, as likewise did the fresh matter in every one of seven cases.

From the various cases mentioned above, and from many others occurring in man or animals, there were inoculated, or infected, a total of five hundred and nine small animals, of various genera, which died tuberculous, and in these, without exception, the bacilli were found in the tubercles.

In general, then, in all cases, human or animal, which showed both in their history and on microscopic examination, that they were truly tubercular, there were found characteristic bacilli, showing a peculiar and distinctive reaction with aniline colors. The whole number was so large that this could not be accidental. To be precise, there were two cases in the whole number in which the bacilli could not be found directly, namely, the pus of a nephritic abscess, and the pus of an abscess arising from caries of the vertebra. In both these cases, however, the pus caused tuberculosis when inoculated into animals, and, doubtless, if the kidney or the vertebra could have been searched, the bacilli would have been found in them. Moreover, all sorts of diseases in men and animals were carefully

studied, but in none were the above bacilli found except in true tubercular processes.

*Secondly.* The presence of the bacilli characterizes the inception of the disease, it is the first step in the formation of the tubercle; it is found that the first collection of epithelioid cells, and of a giant cell, coincides with the deposit of a bacillus, the caseation comes later.

*Thirdly,* where the disease is active, the bacilli are numerous, and vice versa. When the phthisis is chronic they are few and scattered, when it ceases, and the lesions heal, the bacilli disappear, both from the sputum and tissues.

Koch insists that these three facts, namely: "that the tubercle bacilli invariably and exclusively accompany tuberculosis; that, both in locality and time, they precede all the peculiar pathological changes of that disease; and that their number, their presence, and their disappearance, stand in direct relation to the course of the tuberculosis — that these facts permit us to conclude, with great probability, that the bacilli tuberculosis are no accidental accompaniment of tuberculosis, but that they stand in a *causal* connection to it.

But the question is so important that I shall ask you to listen to the further experiments made, as before suggested, in order to cultivate and isolate the bacillus, and to ascertain, with full certainty, its infectious properties.

Of course the first attempts to cultivate the bacilli were made with the ordinary mixture of meat, water, peptone and gelatine. But they did not grow because the temperature at which the gelatine mixture ceases to be solid is far below that necessary for their development. Blood serum, however, when heated to 65° C., becomes solid and yet is transparent, or nearly so. First, however, it must be heated daily for five consecutive days to 58° C. for an hour, to kill all bacteria present as they come out of the condition of spores. On the surface of the serum, the particles of suspected tissue are laid, and the bacilli soon spread out in a thin white layer. Of this a minute particle is taken on a platinum wire, which has been heated previously to redness and then cooled, and is quickly laid on the surface of another layer of serum in a test tube, and this is then stoppered with cotton; after a few such transplantings it is certain that practically none of the original material is left. Koch gives a table of forty-eight sets of cultures derived from all possible sources in tubercular men and animals.

There are also long series of experiments on animals made by inoculating the tuberculous tissues or cultures, or mixtures of them, with water, into the eye, veins, peritoneal cavity, under the skin, etc., also infections by feeding and by inhalation. I will not detain you with these. In general, I may say that the lymphatic glands nearest the point of inoculation became swollen and caseous, and from them in time arose a miliary tuberculosis of the liver, spleen, kidneys, lungs, etc.

In the plates you will see the organs represented, covered with the miliary tubercles. I will only describe one experiment by inhalation, as this is the form of infection to which man is most exposed; it will also show the thoroughness with which the experiments were carried on. Culture No. 1 was obtained from human pulmonary phthisis, first by inoculation of a guinea-pig, thence planted in serum and carried to fifteen months in twenty-three transplantations. This was rubbed with distilled water and diluted until it

seemed nearly clear. The upper clear part was decanted and used for inhalations by atomizing daily for three consecutive days, each time for a half hour, fifty cubic centimeters, into a cage containing eight rabbits, ten guinea-pigs, four rats, four mice. As it would have been too dangerous to do this in a house or to be in close proximity to the spray, the cage was placed in an open garden and the air was forced to the atomizer through a small lead tube run in through the casing of a window which was kept shut. After the inhalation, the animals were separated and put alone in roomy cages.

In ten days some of the animals had dyspnoea, between the fourteenth and twenty-fifth days three rabbits and four guinea-pigs died. All the other animals were killed on the twenty-eighth day.

Every one of the twenty-six animals had tubercles in the lungs, and those who died latest or were killed had them also in their livers and spleens. The rats and mice being less susceptible had less abundant lesions, but there was no doubt about any of them. I show a picture from the lung of one of the rabbits, showing a cheesy pneumonia, quite similar to the spontaneous tuberculosis so-called of these animals which is really an infection by inhalation.

From these various animals, tuberculous matter was taken and inoculated subcutaneously on the bellies of twenty-two guinea-pigs. They all soon had swelling of the inguinal glands and all died tuberculous in from five to eight weeks.

In the various inoculations and inhalations all the animals used, of susceptible species, two hundred and seventeen in number, became infected and died. A large number of other animals had similar inoculations performed with fluids free from the tubercle bacillus and none were affected; nothing else produced the specific disease except the tubercular matter, or cultures from it, the latter working more promptly.

All sorts of other bacteria were tried, with negative results, all errors were avoided, every care taken.

There is no escape from the conclusion that the third and fourth of the above mentioned questions are satisfactorily answered. Tuberculosis is to be classed in the category of infectious diseases, as much as anthrax. The bacilli tuberculosis are as much the cause of the former as the bacilli anthracis are of the latter.

The next point to consider is the manner in which bacilli are reproduced, and how they enter the body to produce infection. Now as they will not breed at a temperature less than 30 C. or 80 F., it is evident that they cannot find this temperature enduring for weeks together, combined with moisture and an animal substance to serve for nourishment, except in the animal body during life. They are not, therefore, like the germs of anthrax and erysipelas, which are capable of living and breeding entirely separate from any animal organism. Every tubercular infection must come directly from some previously diseased person or animal. This can occur in three ways: *First*, by inhaling the bacilli or their spores, either in spray or dust derived from the sputa of the phthisical. *Second*, by inoculating wounds or scratches with similar material, causing a glandular tuberculosis or scrofula, which, when the original abrasion has healed, seems to have arisen spontaneously. *Third*, by swallowing meat or milk coming from tubercular animals.

In support of this view it is only necessary to recall the vast amount of matter expectorated by the phthis-

ical, who comprise nearly one-seventh of civilized humanity. Experiments show that the bacilli do not lose their virulence in sputa which has been allowed to stand and putrefy for seven weeks, that when dry, they are infectious after six months. They have been demonstrated in the milk and even in the blood of diseased animals, and it is proved that tuberculosis can be induced in animals by feeding them with milk and other material from tuberculous animals. A case is on record where a phthisical wet nurse gave tuberculosis to three successive infants which she suckled.

All this, however, it will at once be observed, proves too much; why do we not all become infected, since we must all be exposed?

In regard to the milk and meat question, it is because cows' milk rarely becomes tuberculous unless the udder is diseased, and it so happens that this is seldom the case, for the tubercular nodules are usually confined to the lungs, or at least to parts not used as food, because rejected when manifestly diseased. Moreover, the healthy stomach seems able to destroy the bacilli, even when not previously killed by cooking of the meat eaten. The bacilli, also, do not, as a rule, remain long enough in the intestines to acquire a lodgment. In phthisical persons, however, who swallow their own sputa to a certain extent, it not infrequently happens that the intestines become tuberculous by a real autoinfection.

As for infection from scratches, the great safety lies again in the long time required for the development of the tubercle bacillus, and perhaps in the low temperature of the outermost layers of the most exposed portions of skin. The question is not yet sufficiently examined to make it worth while to discuss it at length here.

However desirable it may be then to reform our meat and milk supply by proper inspection and regulation, practically the great source of tubercular infection is by inhalation, as is evident from the fact that the lungs are first attacked in the great majority of cases.

Here, again, the principal objection to accepting the theory of infection is the fact that we do not all die of the disease. But in the first place a great many do so die, so many that a scare over a little small-pox or even cholera seems absurd in view of the fearful mortality of one in seven from phthisis.

Why do the rest escape? Because not only the seed is requisite, but the soil must be adapted to it; in other words, there must be a predisposition, or, at least, a susceptibility.

Just as some species of animals are far less liable to "take" an infection than others, and individuals of the same species vary more or less, so in man certain persons and certain families, even certain races, show a marked immunity as compared with others who seem predestined for infection.

Not every child "takes" scarlet fever when exposed, nor measles, nor vaccination, so not every person "takes" tuberculosis. It must be remembered that the living and healthy organism fights against infections of all kinds of bacteria; it is not like a test-tube of serum; it has its own proper vital defences. Some of these we understand, some we do not. In regard to this specific infection, we observe at once the great advantage that it is to us that the bacilli do not reproduce themselves for ten or fifteen days, so that if

the lungs are healthy, there is every chance that they will be caught and passed upwards by the ciliated epithelium until they can be coughed out: on the other hand, we see why infection so readily occurs when the cilia are damaged or lost, as after measles or catarrhal conditions, or when, for any reason, there are collections of secretions retained in the lungs, forming a nidus for the bacilli, or when, owing to imperfect development or deformity of the thorax, or pleuritic adhesions, the movements of the lungs are so restrained that foreign particles and catarrhal secretions are imperfectly and slowly removed.

Practically, therefore, it is found that infection usually only takes place where there is family predisposition, abnormal pulmonary or thoracic development, or pre-existing disease of the bronchial mucous membrane.

The other predisposing causes are apt to be intolerance, weakness, hunger, or close confinement in workshops or dwellings, where the system of previously healthy persons is reduced and they are rendered susceptible to infection. Of course, if in addition to close quarters there is the presence of a tuberculous person continually coughing bacilli into the air, and covering the floor and furniture with spores which are frequently stirred up as dust, we have pretty accurately reproduced the experiment of the cage and atomizer to which I referred above. Who can wonder that under these circumstances the infection spreads in families and workshops?

But if a bacillus gains a lodgment and begins to breed, what follows? In susceptible cases, the same process goes on which we have followed in the rabbit's eye. The infection creeps along, carried by wander-cells from point to point, from gland to gland; the carrying cells are deformed to giant cells, surrounded by epithelioid cells. These become cheesy, large nodules form, caseate, break down, open into a bronchus and are expectorated, forming a cavity; often some of the secretion is aspirated into neighboring parts, and wherever it comes, sets up a cheesy pneumonia; sometimes, by passing into the bloodvessels or thoracic duct, the bacilli pass into the general circulation and set up a general acute miliary tuberculosis.

But all cases do not take this dismal course: sometimes nature triumphs over the invader. Man is not a rabbit or a guinea pig. In resistance to tubercular infection, as well as in other characteristics, he partakes of the peculiarities and privileges of his friend, the dog. In many cases then, the bacilli find that they are in an unfruitful soil. The wander-cells bearing bacilli are arrested, headed off by a general concurrence of leucocytes; a barrier is formed around the budding tubercles, and they stay imprisoned until the bacilli die; or, if the mass is larger and caseates, and is expectorated, the boundary contracts, the bacilli diminish in numbers, fewer and fewer, and finally none are found in the sputa, and the patient recovers, bearing in his lungs the scars that are so often found on autopsy.

From the frequency with which these cicatrices are observed, these cases of recovery must be very common, and often occur where tuberculosis was not suspected or diagnosed, or where, because the patient got well, the physician has been blamed for mistaking the nature of the malady, when he might have deserved praise for curing a case of consumption.

You all know how, in a broken-down cachectic subject, a common micrococcal infection will spread in the

subcutaneous tissue, causing a wide-spread, perhaps fatal cellulitis, whereas, in a healthy subject, the intruders are fenced off by a wall, a pyogenic membrane as it is used to be called, holding them back until they die or are eliminated. Quite analogous to this is the action of the tissues in fighting and fencing out the tubercle bacillus, and hence the explanation of the fact, long known and acted on, that general treatment, good food, pure air, out-door life, etc., etc., are the great aids in combating the disease.

I will say nothing here as to the means of treatment suggested by the discovery of the true nature of tuberculosis, merely remarking that this is no empty theory, but will bear fruits in the actual treatment of disease.

I have a few words, however, to say in regard to the sputa. It is evident that these should be carefully disinfected and rendered harmless. A thoroughly exhaustive series of experiments by Schill and Fischeer, show that the best means for disinfecting the fresh sputa is to have in the spit-cup a quantity of five per cent. solution of carbolic acid equal in amount to that of the sputa. Sublimite solution is not sufficient, because it acts only on the outside of the lumps of sputum, cooking them, so to speak, but not killing the bacilli on the inside. Baking or boiling of handkerchiefs or clothes which have been soiled will kill the bacilli in an hour, even when the clothes are thick.

I submit that an organized public opinion ought to be brought to bear against the disgusting habit of spitting on the floor of horse-cars and public places, and physicians certainly ought to attend to such matters in prescribing the hygiene and mode of life of their patients, especially among the poor and ignorant.

The frequent examination of the sputa is of the utmost importance in establishing the diagnosis, and very useful in watching the progress of the disease. There is no doubt that bacilli can almost always be found before the tuberculosis has made much progress, and the gradual diminution of their frequency and their final disappearance is the surest token of recovery. Galkfy has published the results of the investigation of fourteen cases, examined microscopically daily for some three months; of twelve patients' sputa, there were in all nine hundred and eighty-two examinations, each time of one slide from each patient daily. Bacilli were found nine hundred and thirty-eight times, and not found forty-four times. Most were severe cases, but some were without fever and had only slight infiltration of the apices, yet the bacilli were found in the latter.

In two cases, the bacilli diminished, were absent, returned, and finally disappeared altogether; one of these was discharged apparently cured; the other died of perforative peritonitis caused by swallowing eighteen plum-stones. The lungs showed no cavities or cheesy deposits, but a calcified spot as large as a cherry stone, and slate-colored, fibrous induration of the apices.

I will only insist, on closing, on the great necessity for the disinfection of tuberculous sputa; for proper precautions to prevent infection of relatives or attendants of the phthisical, of the careful examination of our meat and milk supply, and of carefully treating any catarrhal conditions of the air-passages, as well as of generally keeping the system of those up to par who have any inherited disposition to tuberculosis.

Of the regular examination of tuberculous or suspected sputum, I will only say that it must become more and more common, like auscultation and percus-

sion, until it becomes an essential part of every examination of the chest, making any pretence to thoroughness or scientific precision in patients suspected of tuberculosis.

# A CASE OF PHTHISIS WITH NUMEROUS BACILLI. COMPLETE ARREST OF THE DISEASE.<sup>1</sup>

BY VINCENT V. BOWDITCH, M.D.

OWING to the universal discussions which have been carried on in the medical world during the past year or two over the bacillus tuberculosis, the following case will, I think, be of interest to you this evening, and if I present it to you rather in detail, I trust I may be pardoned, as it is for the purpose of seeing, if possible, what deductions can be drawn from it as to the significance of bacilli in the sputa of phthisical patients.

On June 20, 1883, I was called to see Miss H—, a young lady aged twenty-three, who gave the following history: Always remarkably strong and well, with the exception of a severe "congestion of the lungs of short duration when a baby." All of the bodily functions had been perfectly regular. The father, mother and the whole family were healthy people without history of lung trouble in any branch. During the previous winter the patient had interested herself greatly in photography and had had one or two severe headaches which increased in number and severity during the few weeks previous to my visit, and four or five weeks before, a slight hacking cough had begun with greenish sputa. A rapid and marked loss of appetite, flesh and strength together with feverishness, occasional night sweats, and increasing languor, after a visit to the seashore, so alarmed her mother that she felt a physician must be consulted immediately.

The patient was tall, of fine physique, the face somewhat pale, with a languid expression, the whole appearance being that of one accustomed to robust health, but temporarily indisposed. The voice was slightly hoarse. Upon physical examination I found very marked dullness at the right apex above and below the clavicle extending down to about the second intercostal space, and auscultation revealed very numerous loud, moist mucous râles, with prolonged expiratory murmur and decided "nearness of voice" in the region of dullness. Once or twice there was a suspicion of a "squeak" in the left apex. Elsewhere in the chest the physical signs were normal. The temperature was 100.2 and the pulse 94.

Nourishment was ordered in the form of milk to be given every two hours with Murdock's Food, and the patient was told to take Fellows' Syrup of the Hypophosphites, to paint over the region of dullness with Tincture of Iodine for several weeks, and to inhale once or twice a day a mixture of equal parts of Tincture of Opium, Tincture of Hyoscyamus and Tincture of Conium, the inhaler to be placed in a bowl of hot water.

On June 26th, a consultation was held with Dr. Henry I. Bowditch, and, on examination, dullness, moist râles and bronchial breathing were noticed above and below the right clavicle, the râles being not quite so numerous as before. Temperature and pulse were normal. The patient was able to eat more, felt stronger and coughed less. The sputa were unimulated, green-

ish, and once or twice during the week had had a reddish tinge.

June 27th. Sputa examined by Dr. W. W. Gannett, who reported that *the specimen contained numerous bacilli*.

June 30th. Examination showed that the signs were certainly less marked but still distinct in the right apex and the patient reported, "No headache for two weeks." I prescribed, as a residence for the summer, Bethlehem, N. H., having refused to allow the family to go to the seashore as proposed, and ordered the same medicines to be continued, with instructions that the patient should be in the open air every moment possible during the day, to be back by sunset at the hotel and never to remain outside the house after eight p.m.; to take no long fatiguing excursions and to eat all the nourishing food possible.

One month later, the mother of the patient wrote that her daughter's health had steadily improved from the first day of their arrival, and that she was beginning to take active exercise without the slightest fatigue. The patient, however, complained of a slight pain in the right side near the axilla. The cough had nearly disappeared; the menses had appeared within a day or two of the normal time, and improvement was so marked that all medication except painting the chest with iodine had been discontinued. I recommended a simple liniment to be rubbed on the chest over the seat of pain, and ordered the Hypophosphites to be continued.

Three months later the mother again wrote enthusiastically of her daughter's gain. The patient had gained seven pounds in six weeks, played lawn tennis and took long walks without the slightest fatigue, slept all night like a child, and only had a slight "hemming" through the day. The record of the morning and evening temperature for five days at this time showed it to be normal; the pain in the chest had ceased and the patient looked "the picture of health."

In spite of the continued favorable reports, I was skeptical as to the permanent restoration of health, and thought it to be probably but a temporary gain to be followed soon by a renewal of the symptoms.

About the middle of September, after a stay of two and a half months in Bethlehem, the family returned to Boston for a few days en route for Texas, a part of the country I should not have selected as a winter resort, but which for various urgent reasons seemed the best place for the patient, whom I would not allow to remain in Boston for the winter.

Upon examination, the general appearance was of excellent health, the patient being much stouter than in the early summer.

A slight huskiness of the voice was noticeable, however, and an occasional clearing of the throat and slight cough after laughing were enough to strengthen my suspicions that there was still trouble left. No sputa could be obtained at any time for examination. The patient complained of occasional slight "stitches" in the chest, but no localized pain, and felt perfectly well.

Physical examination showed dullness still present in the right apex. Râles of a finer, drier quality, and much fewer in number than before, were heard in this region and the coarser râles had disappeared. The expiratory murmur was marked, with slight bronchophony. Respiration in the left apex normal. Pulse 68, temperature 97.8. During the stay of a few days

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, November 11, 1885.

in Boston, as the patient's appetite failed and the slight cough increased. I hastened her departure as much as possible.

For the next eight months, which were spent in various parts of Texas, I continued to receive enthusiastic accounts of the daughter's health from both parents, with one exception, when, having been subjected late in the winter to very heavy fogs in Galveston, the patient complained of a great sense of oppression in the chest, and of general debility, symptoms which speedily disappeared upon her going to San Antonio, where she remained until the following spring, the early part of the winter having been spent in the interior of the State, where, in spite of great household discomforts and exposure to the blasts of the so-called "Northerners," icy winds, which suddenly rush over that region in winter, she remained perfectly well, while other members of her family suffered with severe colds and coughs. A slight clearing of the throat was occasionally noticed, but so slight that her mother remarked that had it not been for the previous summer's experience, a second thought would never have been given it and was no more than had been present at times ever since childhood, and the patient weighed more than ever in her life before, namely, one hundred and fifty-five pounds.

On May 19, 1884, nearly one year after my first examination, the patient returned by sea to New York and thence to Boston, where she arrived with a heavy cold taken in New York during a violent rain storm. Headache, with a return of slight pain occasionally noticed in the upper right chest, were also present, but in a few days all these symptoms disappeared.

Examination showed upon inspection a slight hollow under the right clavicle. Dullness noticed as before. The respiratory murmur was less pure than on the left, but it was almost impossible to get any definite râle, even after cough, but occasionally an indistinct "click" could be heard. Voice rather nearer than on left. Temperature 99.

The patient remained in Boston until the last of June and then went at my recommendation to spend the summer near Lake Champlain and in the Adirondack region, a spot which had seemed to me peculiarly suited for such a case. Here she remained by my advice, in spite of the adverse criticism of many of her friends, who insisted upon her absolute health, until the following spring, and then returned to Boston the picture of robust health, and declaring that, with the exception of an occasional neuralgic headache, she felt absolutely well; that the pains in the chest had disappeared, that long walks and rough climbing caused no shortness of breath, but merely a healthy fatigue, in short, giving a description of as perfect health as one could desire. All medication had been given up several months before.

Examination of the chest showed a return to its normal contour, the hollow under the right clavicle having disappeared. The percussion note revealed little difference between the two sides, although at the upper right there was still very slight dullness and a feeling of inelasticity was marked. The respiratory murmur in this region was rather harsh, and after a slight cough under the right clavicle a faint "crackle" was occasionally heard, but the moist coarse râles heard in the examination of two years before, had entirely disappeared, while the "nearness of voice" at the upper right, was not quite so marked as before.

Considering it wiser for the moral effect upon the patient that she should be told, at the end of my examination, of her recovery, and thus be relieved from the depressing effect of a constant watch upon her symptoms, I bade her, although recognizing in my own mind the possibility of a renewal of the morbid process in the future, to forget that she had ever needed a physician, merely cautioning her against foolishly exposing herself in any way in the future. Up to the present time I have had no reason to think my advice unwise, and in my occasional interviews with the patient during the past few months, I have watched in vain for any symptom, apart from those to be noticed only in a physical examination, which to the medical eye and ear would suggest anything other than a condition of perfect health.

We have, then, the history of a young lady, previously strong and well, seized with sudden and alarming symptoms of acute tubercular disease in the apex of one lung, followed in a few months by a cessation or "drying up," as it were, of the morbid process and consequent shrinking of the lung substance in the affected region, and, so far as outward appearance are concerned, a complete renewal of the patient's health.

What have we to learn from this case?

Two facts of marked importance, it seems to me: first, that the rapidity of the fatal result in phthisical cases is not *always*, as thought by some, in direct ratio to the number of bacilli found in the sputa, (that is, the greater the number of bacilli, the more rapid the course of the disease,) and second, that the presence of even numerous bacilli in phthisical sputa is not inconsistent with complete arrest of the morbid process and subsequent renewal of the patient's health.

One case like the above, as proof of these assertions, is, of course, of great value to us in making our prognosis, in similar instances when, following the teachings of those whose opinions we respect, we are led to give the gravest prognosis and feel no hope for the recovery of our patient whose sputa reveal the presence of the bacillus tuberculosis.

In an article entitled "The Pathological and Practical Relations of the Doctrine of the Bacillus Tuberculosis," printed in the *Philadelphia Medical News* of January 19, 1884, Prof. Austin Flint writes, "So far as my experience goes, an abundance of bacilli in the sputa of phthisical patients is evidence of active progress of the disease, and vice versa," and in a conversation with him last spring, he stated that although unable to say absolutely that he had ever so expressed himself in writing, his decided impression was that the presence of bacilli in large quantities in phthisical sputa was a sign of a rapidly fatal termination of the disease, an opinion which, coming from such a source, we are bound to respect and make the case in question of still greater importance.

I have used the term "complete arrest of the disease," rather than the word "recovery," in this case to satisfy those who with justice claim that we have no right to use the latter term unless the part affected shall have resumed its normal condition. The use of the former term, however, is justifiable, inasmuch as it does not preclude the possibility of a renewal of the trouble at some future time.

—The President has appointed Andrew H. Ward to be special examiner of drugs, medicines and chemicals in the district of Boston and Charlestown.

THE INOCULATION, PROPAGATION AND PRESERVATION OF THE VIRUS OF ANIMAL VACCINE, WITH A DESCRIPTION OF THE APPEARANCES OF KINE POX, AND DEMONSTRATION OF THE VACCINE VESICLE UPON HEIFERS.<sup>1</sup>

BY S. C. MARTIN, M.D., OF Roxbury.

WHEN, in response to an invitation by your secretary, gentlemen, received a short time since, I promised to address this society upon the subject of animal vaccination, I had in contemplation merely the preparation and reading of a paper upon that subject. Afterwards, however, at his earnest solicitation, and because, on reflection, I appreciated that it would serve to usefully supplement and illustrate my remarks, I decided to present for your inspection to-night an animal at present undergoing the disease. I trust that the opportunity I am thus able to afford you of observing the appearance of cow-pox, as artificially produced, will be productive of sufficient interest to you, to warrant the very considerable trouble and inconvenience which this has necessarily caused me. I will allude to this animal later on.

I do not propose to treat you to any extended remarks in regard to the comparison of vaccinia produced by heifer-transmitted virus, and that from the human subject after many years transmission from arm to arm, that is, humanized virus. This subject has been fully and convincingly presented to the profession by my late father, in his Report on Animal Vaccination, made to the American Medical Association in 1877, and published in the transactions of that year; and abroad by Bonsquet, Steinbreuner, Estlin, and a host of others. Those of you who were in practice fifteen years ago, and tried the experiment which my father urged upon all, of vaccinating a child upon one arm with the old humanized virus, and upon the other with the cow-pox of Beaugency, and watched the progress of the vesicles on the two arms throughout their entire course, certainly do not need to have the differences described. It is no longer possible here to observe the effects of long-humanized virus. There is probably now none of it in the country; that which passes under that name being but a few human removes from the cow. Which of the two forms of the disease would *à priori* appear, and has shown itself to be, the better protection against small-pox, is to my mind, a matter upon which there is no room for difference of opinion. I have here for your inspection the very interesting plates of Bonsquet and Decanteleu, illustrating most clearly the differences in the action of the long-humanized and original cow-pox virus.

Before entering upon the more practical part of my remarks, it is important to define just what true animal vaccination is. I know of no better definition than that by my father: "The inoculation of a young selected animal of the bovine species from an original spontaneous case of cow-pox, from this others, and so on, in continuous and endless series, as the source and the only source of virus for the protection of the human race against variolous disease." This alone is true animal vaccination. Retro-vaccination, or the inoculation of animals with humanized virus, is an entirely different matter and has nothing to recommend it.

A few words in regard to some of the various stocks of cow-pox. On March 28, 1866, the famous case at Beaugency, France, was discovered. From virus derived from inoculation from this, Professor Depaul continued the propagation of animal virus at Paris, under the auspices of the Academy of Medicine. This was the stock introduced into this country by my father in 1870. Various other cases of spontaneous cow-pox have been discovered from time to time in Europe, with virus from which animal vaccination has been and is still carried on in a number of establishments, notably at Brussels, Amsterdam, Rotterdam and the Hague.

After the first experimental inoculation of two calves, animal vaccination was not carried on at Beaugency, but was immediately transferred to Paris, and to that city the practice of the method in France was confined. A knowledge of this fact may, perhaps, in the future prevent a repetition of the ludicrous mistakes which we occasionally see in print, that various individuals have from time to time imported animal virus into this country from Beaugency.

When in Paris in 1873, my father was assured by Professor Depaul that the Beaugency virus, sent to him in 1870, was the last which left the city before the siege in that year, and that during the siege, the "stock" was lost. The animal virus employed since the Franco-Prussian war, is from other stocks, discovered since that of Beaugency.

In February, 1881, a case of suspected cow-pox was reported to this society by Dr. E. W. Cushing, and was immediately referred to my father, who accompanied Dr. Cushing to his brother's farm at Cohasset. He there found several cows suffering from an eruption on their teats and udders. With virus from these, my father and myself inoculated several animals as well as children, obtaining undoubted typical vaccinal effect. This stock I have continued uninterruptedly since, and, as far as I know, it is the only authentic case of cow-pox in this country which has been preserved.

I keep up three different stocks continuously, namely, the Beaugency, Cohasset, and the Esneaux stock imported from Dr. Warlomont of Brussels; reserving the upper flank of the animal for the Cohasset, the lower flank for the Belgian, and the belly for the Beaugency, thus keeping the three stocks entirely distinct, and issuing the virus from all indifferently. They appear to be all equally typical in appearance and results.

It goes without saying that the animal to be vaccinated should be in perfect health and condition. This must be preserved by proper sanitary measures not necessary to detail here. The animals should be from six to eighteen months old. Too young animals are troublesome to care for and manage, and those too old and large are not only difficult to control, but, notably in the case of those which have borne calves, are probably not free from danger of tuberculosis. I use bulls and heifers indifferently. The animal is secured upon the operating table in the same manner as the one now before you. Portions of the flanks and belly are cleanly shaved, as you observe. Scarifications are then made in precisely the same manner as in the human subject, not deep, but merely sufficient to produce a slight appearance of serum tinged with blood. These I make some three-quarters of an inch by half an inch in size, and place them at intervals of at least

<sup>1</sup> Read before the Section for Clinical Medicine, Pathology and Hygiene of the Suffolk District Medical Society, November 11, 1885.

an inch and a half apart. The fluid virus taken directly from an animal, in which the disease has matured and lying upon an adjoining table, is then thoroughly rubbed into these scarifications. The disease matures at about the seventh day. In this, however, experience and careful inspection of the vesicles is necessary to determine the precise time, it depending somewhat on the condition of the animal and climatic influences. During the progress of the disease, the animal is but little affected, the temperature rarely rising more than two or three degrees. Occasionally in a very fine development of the disease, the animal may lose its appetite for a day or two.

The vesicle on being opened, is wiped clean of any blood or pus, and gentle pressure is then applied. The fluid contained in the vesicle is of a light amber color, and should have an unctuous, smooth character. In animals where the disease is accompanied by excessive action, as shown by much tumefaction of the surrounding tissues, a large amount of this, almost colorless fluid is poured out, due to an admixture of an excessive flow of serum with the virus itself. I shall allude to this matter more at length in a moment. In some calves, from the finest vesicles it is impossible to obtain lymph without a certain tinge of color, due to the admixture of a minute quantity of blood. This, it can be readily seen, is not of the slightest importance in virus taken from the animal. It was always my father's custom, and is my own, to use those points most tinged, not only for vaccinating other animals, but also for human vaccinations. The sharp end of the ivory points is charged on both sides with the fluid virus as it exudes from the vesicle. When dried, the points are wrapped in cotton in packages of convenient size, then in paper, and finally, are hermetically sealed in gutta-percha tissue.

This effectually guards against moisture, and if care is taken to keep them cool as well, they will retain their efficacy for a considerable time. I have myself made vaccinations with points so kept for over a year, and have obtained perfectly good and typical results. This, however, is not recommended. Points should be ordered only in small quantities as required, and used within a few days or weeks. In this, and also in all the details of propagation, it is not what may perhaps suffice, but what experience has shown is safe and good beyond peradventure.

As to the form of virus, I recommend nothing but fluid lymph dried upon ivory points, prepared as above described. Crusts are liable to prove inert, and, unless used with the greatest care, may cause very bad results from partial decomposition ensuing after the crust has been moistened. They are apt also to encourage highly undesirable methods, such as inserting the dry, pulverized crust, or portions of the crust itself into punctures; also mixing with water, and allowing the mixture to remain too long exposed to the air. This was one very serious objection to the "solid lymph cones," formerly sold in large quantities, but now it is believed, no longer in the market. These were composed of crusts and fragments of crusts, powdered, moistened, and molded into cone-shaped masses. They were not only open to all the objections applying to crusts, but the mode of their manufacture rendered them peculiarly liable to dangers evident to any intelligent physician. Storing fluid lymph in glass capillary tubes has been found very unsatisfactory. It was at one time much in vogue, but experience has shown that

virus so stored is extremely liable to prove inert, and unless sealed perfectly tightly, may become decomposed and dangerous. One great merit of points is, that it is well nigh impossible to have serious complications attending their use, if they are charged with pure, active lymph in the first instance. They either produce typical vaccinia, or, at the worst, prove inert owing to some accidental cause subsequent to charging. In distributing any form of virus, we must bear in mind that among so large a body of men as compose the medical profession, some will be found who will not use proper care on all occasions, and it is most important to issue only that form with which it is impossible to go wrong.

The propagation of animal virus, and its distribution to physicians, are at present, in several ways, in an unsatisfactory state. The *New York Medical Record*, in its issue of October 24th, 1885, editorially says: "At present in all large centres, bovine virus in vaccinating is mainly used, and the steadily increasing demand for this, has led to the formation of companies who undertake to cultivate and sell it, with a view primarily, to making money. These companies are not, as a rule, under any official supervision, and are at perfect liberty to disseminate worthless crusts or septic poison among the people. We learn, as an illustration, that, with a lot of bovine virus recently sent to Montreal, there were one hundred and two trials and one hundred and two failures, while other specimens have produced badly inflamed arms. Here, surely, is a most anomalous condition of things. It is apparent at once that the cultivation and selling of virus should always be under some official supervision. Most States indirectly compel the vaccination of children, and they should in all justice, see that this vaccination be made with pure and efficient material. But the public supervision of vaccine companies is not yet carried out as it should be, although it is a measure most imperatively needed for the security of the people."

The suggestion is most timely, and I hope it may some day be properly carried out. An attempt at an examination and report upon the various propagating establishments was made in 1882 by the National Board of Health, but was productive of no marked beneficial result. Some of the men detailed for the duty of examination were ludicrously incompetent, their reports showing on their face an ignorance of even the elements of the subject. The only efficient examination and report of which I have any knowledge, was made by the private enterprise of the *Medical News* of Philadelphia. Dr. W. M. Welch, of Philadelphia, the well-known writer and authority on small-pox and vaccination, was employed for the task, and the results were published in the numbers of the *Medical News* from April 15th to May 27th, inclusive, 1882.

Great commercial competition has arisen in the matter of supplying animal virus. The country is flooded with circulars, frequently illustrated with heads of heifers, and gentlemen in spectacles vaccinating calves, or adorned with fanciful mottoes, such as "National Standard" and the like. One ingenious propagator advertises that his virus was imported direct from the "vast herds of the Duke of Beaugency," doubtless a bucolic French noble, who, it is believed, thus appears in history for the first time.

Seriously, gentlemen, this does not show a promising condition of things. A regular physician, agent for the sale of vaccine virus, in a recent number of the

*Boston Medical and Surgical Journal*, after saying that he does not know whether the propagator for whom he is agent is a physician or not, but *does* know that he is a liberal business man, continues, "Animal vaccination and the supply of vaccine virus is a business or trade. There is no mystery about it, etc., etc." I trust, and am sure, that this is not the prevailing opinion among the profession. I desire most earnestly and emphatically to record my protest against such views. The advertising and puffing of vaccine virus, as too often carried on, is a "business or trade," and a pretty low one at that; but I insist and reiterate that the propagation of animal virus, worthy of the name, requires accurate professional knowledge, long experience, the utmost care, and I may add, *honesty*.

The distribution of virus to physicians is now largely done through druggists and instrument makers. My father and myself for several years refused to supply virus except directly to physicians, or through the hands of local agents in Boston for the convenience of the profession. We continued this rule until it became evident that physicians would not take the trouble to procure it direct, but preferred to rely on the nearest druggist. This is all wrong. Vaccine virus is not a substance to pass through three or four intermediate hands before reaching the physician. It is peculiarly liable to deterioration, and, furthermore, the physician should know just who propagates the virus he uses. I fear that in many cases, he is entirely in the dark as to this. Many propagators do not do business under their own names. Large numbers of "Companies" are advertising widely. Possibly, some of these are regularly incorporated companies and are conducted by competent men; but it is believed that some of them adopt the title merely as a convenient *nom de guerre*, like those of certain "Institutes" composed of a "Board of Physicians," in whose spacious laboratories skilled chemists and *savans* compound precious elixirs for the relief of noble but erring youths. I wish to emphasize this matter somewhat for the reason that physicians have become far too careless as to the source of their vaccine supply. The druggist naturally will sell the virus on which he can make the most profit. Animal virus, properly and honestly propagated, is not cheap. By improper methods it can be produced in immense quantities. The temptation to do this, particularly in times of great demand, is irresistible to men who have no professional reputation to sustain, and who look upon the matter as a "business or trade."

Let me call attention to a case which has come to my notice. Dr. —, a reputable and competent propagator in the West, and whose virus had become identified with the name of the town where he lived, had the following experience:—

A homoeopathic physician came to the town, assumed the name of the — Vaccine Co., and secured a powerful drug-house as his agents. He propagated no virus himself but gave to a number of ignorant farmers in the neighborhood, two cents a point for charging the points with some sort of fluid, which they managed to get from their calves. It being in a time of great demand, these points were sold in great quantities by his agents, as virus from the town named. They naturally produced far from satisfactory results, and much of the blame fell upon Dr. —; physicians supposing it to be his virus. He exposed the fraud in the local paper. The selling agents of the "Company"

threatened him with a suit for heavy damages, but on investigation concluded to let the matter drop, and to close their connection with the "Company" in question.

The above is a good illustration of the propagation of virus as a "business or trade."

I have described and shown you what I consider the proper method of inoculating the animal and preparing the virus. My father and myself after many experiments, found it to be the best. The number of points which an animal vaccinated in this manner, will yield, is comparatively small; but I consider that any attempt to increase the yield is fraught with certain dangers. In times of great demand (the time above all when only what is *known* to be the best should be practiced) certain propagators have found this method far too old-fashioned and "unbusinesslike" for their views. An animal must be made to yield 15,000 to 20,000 points, or more. To accomplish this the following expedient has been adopted. A full-grown cow is usually selected on account of its size. Scarifications from two and one-half to three inches in length by some two to three inches in width are made on the flanks at intervals of about an inch apart. These produce large inflamed surfaces, often coalescing, so that at the end of seven days, one large sore will often occupy the whole escutcheon of the animal. Upon this being opened, an immense flow of *colorless* fluid results, with which points are charged. I state the method to you, and say frankly that I utterly disapprove of it. Such extensive scarifications with the great attendant inflammation, must necessarily produce an excessive flow of serum, and it would be a bold man indeed, who would confidently pronounce the resulting fluid free from the products of inflammation. It will readily be seen that such immense sores will yield an almost unlimited supply of this fluid. It seems to me that the practice is fraught with dangers, evident to any intelligent physician. Suppose the only possible trouble to be apprehended from such virus was either failure to produce typical vaccinia, or the production of vaccinia, *plus* a certain amount of inflammatory action, greater or less.

Surely, there being a better way, it should be practiced in preference, even if not so profitable, and even if it did not allow the propagator to be so "liberal" to agents and boards of health.

The wholesale propagation and distribution of improperly prepared virus, have done infinite harm to the reputation of animal vaccination. My father introduced the method as an improvement on the existing state of things. It *is* an improvement, and a great reform, if properly and honestly carried on; but many reports, a few of which I read to you, tend to show that from certain causes it is capable of becoming the very reverse of a reform.

The Board of Health of Louisiana writes, May 16, 1882:—

"Failure with bovine points during the present season has been the rule rather than the exception."

The Secretary of the State Board of Health of Arkansas writes, April 28, 1882:—

"The trouble in this State has been not so much from the bad effects derived from bovine virus, but rather, from obtaining no effects at all. Reports have reached me from all parts of the State in regard to the worthless character of much of the bovine virus employed."

The Secretary of the Medical Association of Alabama, writes, April 30, 1882:—

"To sum up the whole in brief, the profession here to a man, prefer humanized virus to the bovine lymph in any form, and have long since abandoned it."

The State Board of Health of Minnesota, writes, April 28, 1882:—

"There has been much complaint in all directions."

Dr. E. L. Grillin, of Fond du Lac, Mich., an intelligent and able propagator of virus, writes, February 8, 1882:—

"I fully sympathize with your views on what is being done during the boom to supply the demand, and greatly fear that animal vaccination will get a bad set-back from the experience of this season."

The same gentleman writes, March 6, 1882:—

"Those infernal 'cones' have done infinite mischief, I believe, in the West. The other day I got a sharp letter from the Secretary of the Board of Health of a neighboring city, upbraiding me on the quality of my virus, saying that it did not give typical developments of pock, but produced enormous sloughs and sore arms, etc., and wished to know what I was going to do about it. Upon inquiry by correspondence, I found that they had been using cones, obtained from a druggist in Chicago, and that the stuff was represented as coming from me."

Dr. D. A. McLean, of Stanton, Mich., writes, May 8, 1882, in regard to his experience with points from the notable vaccine company before referred to, whose virus was propagated by farmers. This virus he procured through a druggist, supposing it to be that propagated by the gentleman who exposed the fraud, as detailed before. Dr. McLean writes:—

"The remaining 1,400 cases were vaccinated with points obtained from that institution. A large proportion of these cases were very severe, the fever high and very frequently confining them to the house for a week or more. The local manifestations were great swelling, redness, pain, in fact all the symptoms of vaccinia greatly intensified, and frequently resulting in a deep, foul, and very offensive ulcer. These were very slow to heal; in fact, at this date, nearly three months after the vaccination, I am told that some are not healed. In a large number of cases, I am satisfied that no true vaccine pustule was formed, merely a septic sore, and these were the worst cases to heal, and the constitutional disturbances were the greatest. From my experience I am led to believe that the virus was not pure, that is, proper care had not been used in propagating and preparing it: that pus from ordinary suppurating sores had been used to charge the points, or at least, had become mixed with the vaccine virus."

Dr. Benj. McCluer, of Dubuque, Iowa, writes, July 7, 1882:—

"I used one 'cone' during my vaccinations last December and January. I became fearful of them, as also of the points. The vaccinations were so severe in development, such immense ulcerations occurred in apparently healthy children, that I became doubtful in regard to the propriety of vaccination at all. In fact I lost all confidence in the integrity of the parties dealing in vaccine matter, and felt that they were actually trifling with the health and lives of the community, as well as the character and honor of the profession which was procuring the supply of vaccine matter from them. I do hope that some way may be devel-

oped by which in the future the profession may be able to secure pure vaccine."

Dr. John B. Weston, of Chester, Pa., writes, October 6, 1882:—

"Part of the time I used a cone which came in a metal box with a file. Part of the time I used a crust. My experience with the cone was vexations in the extreme. Erysipelas was not infrequent, and I am afraid that the fever and disturbance in one case, if not in two, caused a child's death. The sores in most cases were horrible, and many told me that they would rather have variola itself than what they had gone through. It was not due to any carelessness on my part, for I did not use any a second time, or mix one day's filings with another, so I know the fault was not mine."

Dr. T. S. Hopkins, of Thomasville, Ga., writes to the *National Board of Health Bulletin* of March 4, 1882, describing the effects of vaccination with virus in the form of "cones":—

"The result has been fearful. Nearly every one vaccinated has suffered severely from erythema, or erysipelas, the arm swollen from shoulder to wrist, and the point of puncture presenting the appearance of a sloughing ulcer discharging freely sanious pus. Many of the cases have been confined to bed with high fever from five to ten days, requiring the constant application of poultices, and the free use of morphia for the relief of pain. It (the virus) 'takes' in all cases, regardless of previous vaccination as shown by well-pitted mark, and the inflammation begins frequently on the second day. Those who have tried it tell me they would much prefer to have small-pox."

I have reports of many more similar groups of cases, but will not prolong my quotations to a tedious length. The above are merely selected as being well-marked instances, showing clearly the symptoms of septic poisoning in a greater or less degree. It will be observed that the above are groups of cases, showing precisely similar symptoms in a large proportion of the persons vaccinated.

Single isolated cases of even severe complications, the result of accident, or in unsound or sickly subjects, prove nothing; but such instances as given above are unmistakable.

The vaccinia, induced by heifer transmitted virus, is characterized by a certain intensity of action which might be startling to one accustomed to seeing only the effects of the enfeebled virus of long humanization; but this intensity is not to be deplored, and is only what is necessary for proper protection against variola. It should run a regular course, the vesicle should not break down except through exposure to violence, and, finally, the crust should fall, leaving a healthy, thoroughly healed cicatrix.

In speaking of these various abuses, being a propagator of vaccine virus, I am placed in a somewhat delicate position, and one in which my motives may be easily misunderstood and wilfully misrepresented; but I should be remiss in my duty if I did not present to your notice, as forcibly as I can, the matter of all others connected with my subject, which has to-day become of the most vital practical importance to the profession.

My father having introduced the method into this country, and having advocated it through good and evil report, stands in relation to it very much as Waterhouse, in earlier days, did to vaccination. Any

failure or complications attending it are indirectly laid to his charge.

The complications spoken of above, as well as the woful lack of success, are not due to the *practice*, but to the *malpractice* of animal vaccination. With animal virus properly and honestly propagated, the chances of failure or serious complications are exceedingly small.

Practically the only guarantee which the physician has that the substance on the end of an ivory point is pure virus, or indeed, that it is vaccine virus at all, is the reputation, skill and honesty of the propagator. So long as physicians and boards of health will buy, and recommend virus simply because it is cheap and produces a "sore arm," utterly regardless of the source of supply, or whether the propagator is a physician or not, so long may we expect a reckless increase in production, the keenest and most dishonest competition, and such results as I have shown above.

Animal vaccination is too efficient a safeguard against a loathsome disease, to have its good name injured by ignorance or knavery. The remedy is in the hands of physicians. They should inform themselves of the source of supply of the virus they use, and if abuses arise, should denounce them fearlessly, and not leave the disagreeable task to persons, whose pecuniary interest in the matter, renders their motives liable to misconstruction and wilful misrepresentation.

## Reports of Societies.

### MASSACHUSETTS MEDICAL SOCIETY, SUFFOLK DISTRICT. SECTION FOR CLINICAL MEDICINE, PATHOLOGY AND HYGIENE.

ALFRED N. BLODGETT, M.D., SECRETARY.

NOVEMBER 11th, 1885. Meeting called to order at 8 o'clock, Dr. F. L. KNIGHT in the Chair. The records of the last meeting were read in summary and approved. There being no incidental business, the Chairman announced the first paper by Dr. S. C. MARTIN, of Roxbury, entitled

#### THE INOCULATION, PROPAGATION, AND PRESERVATION OF THE VIRUS OF ANIMAL VACCINE, WITH A DESCRIPTION OF THE APPEARANCES OF KINEPUS, AND DEMONSTRATION OF THE VACCINE VIRUS UPON HUIFERS.<sup>1</sup>

The essay was attentively listened to by a very large audience, who warmly applauded the various recommendations for securing the purity of the vaccine supply, and for a proper professional and financial system of conducting the business element connected with the propagation of vaccine virus. Upon a large and heavy oaken table in front of the audience was a living heifer about eighteen months old, and weighing about six hundred pounds. The animal had been inoculated some days previously with three separate and distinct stocks or varieties of vaccine derived from three independent and widely separated sources. In the discovery of the vaccine disease in so-called "contagious" development in a single animal at each place. The heifer had been inoculated at about seventy-five separate points, and presented a large

number of well-formed vesicles, from which lymph was taken and ivory points were charged as is ordinarily done for the commercial supply.

The discussion was opened by Dr. S. W. ABBOTT, of Wakefield, Chairman of the Massachusetts State Board of Health, who stated that he had been interested in the subject of vaccination as a protection from small-pox for many years. During the late Civil War, the source of the virus obtained for the army was from retrovaccination from the human species to the bovine, and from this source many thousands of soldiers acquired immunity from small-pox. Dr. Abbott entirely agrees with Dr. Martin in the necessity of the greatest care to preserve the purity of the bovine virus, and in the importance to the medical profession and to the entire people that the business of propagating vaccine virus should be entrusted only to such persons as are well known, responsible, and honest; besides possessing the necessary medical knowledge required for the safe and scrupulous management of so delicate a pathological process as is that of the vaccine disease in cattle.

The virus of vaccine is subject to many dangers even when most carefully produced and most thoroughly protected. From the moment the lymph leaves the parent vesicle in which it was formed, it is undergoing a process of constant deterioration. Under some conditions, the best virus may become quite useless as a protection against the ravages of small-pox. I have known this to be the case in many parts of the United States, and to some persons, it has been the cause of a loss of confidence in the utility of vaccination as a prophylactic measure. Dr. Griffin, who is one of the pioneers of vaccination in the West, has observed the same failure in regard to protective power in the virus, which he traces to the following causes: *First*, the great distance from the source of the virus, which necessarily exposes this delicate material to many undesirable changes of temperature, and to a longer period of time between its production and the time of its use for protective inoculation. All virus is exceedingly perishable, and is constantly suffering from the moment it leaves the heifer. There is no doubt that ivory points are much to be preferred for the preservation of the virus, as they are smooth, shapely and convenient, and are, beyond question, the most useful carrier ever employed.

The use of crusts resulting from vaccine vesicles, or any portion of the dried scab, should be utterly abolished, and these substances should be entirely discarded in the protective and prophylactic treatment of variolous diseases. Many accidents have occurred from their use for purposes of vaccination, and not a few unfortunate complications, such as erysipelas, abscess, sloughing of the skin of the arm, and occasionally, septicaemia and death, have followed the introduction of the scab, or crust, or the so-called "cones," or parts of these substances into the human system. Of all these materials for inoculation, the "cones," which were formerly more extensively employed than now, are undoubtedly the most dangerous, as they were manufactured from scabs, crusts, and other products of the vaccine process, together with the frequent admixture of manure and other forms of filth and decomposition.

The proper time for preserving the virus for inoculation is at a period before the crust is formed. After this time, the contents of the vesicle become purulent,

<sup>1</sup> Published page 560 of the Journal.

and the resulting scab or crust is formed, in part at least, of the dried and changed pus of the later stages of the vaccine sore. When a scab is used, the pus is introduced into the system. The results of infection of the system with the products of septic suppuration are too well known and of too grave a character to warrant the employment of a method involving the needless exposure of human beings to the unnecessary perils of so grave and unscientific a procedure under the guise of hygienic protection from a loathsome infective disorder.

The use of capillary glass tubes containing lymph is also to be discouraged, as the fluid contents are very easily decomposed and may be already in a putrid condition when employed for vaccination. The tubes may also contain many foreign germs, which certainly contaminate the virus and may entirely pervert its usefulness. The content of the tubes is also often diluted with glycerine or some other fluid, sometimes, no doubt, as a means of preserving the virus, but frequently, also, it is to be feared for purposes of fraud in "extending" the virus. Dr. Abbott spoke of the incongruity of terms designating variola in the cow as a "spontaneous" disease. When we ask ourselves, "what is a 'spontaneous' disease," it seems hardly logical to include among such diseases one so highly infectious, so thoroughly marked and so definitely limited as is cow-pox. Is it, indeed, possible that an infectious disease can arise spontaneously?

Dr. Abbott states that he has seen no less than twenty cases of cow-pox among the cattle belonging to farmers in this Commonwealth. True vaccination will not "take" on animals which have had this disease during at least two years. Those milking such diseased cows will frequently acquire the disease upon the hand, from contact with the cow's udder. One cow has often proved a source of infection for others of the same herd, by transmission of virus from one to another by means of the hands of the milkers. This has been successfully prevented by the simple precaution of milking the diseased animal after the others.

Such cases among domestic cattle have been observed in Lexington, Woburn, Scituate, and some other towns, and were considered both by the farmers and the State Board of Health to be undoubted cases of cow-pox.

The production of animal virus is accompanied by much sacrifice of time and money, and much disappointment and vexation, owing to the spasmodic character of the demand for it as a protection against variola. During the times of epidemic small-pox, the demand for virus is very large, while in time of absence of the disease, the demand for virus is almost nil. It is therefore highly important that the production of vaccine virus should be in the hands of trustworthy and responsible men, in order to insure the integrity of its propagation in time of peace, as well as the integrity of quality in periods of epidemic small-pox.

The medical profession of the United States should recognize the laudable efforts of Dr. Martin to maintain and propagate pure and efficient virus, and support him in his beneficent work as they supported his father before him.

Vaccination can be made thorough and protective only by observing accurate methods in its employment. One of the chief disappointments in vaccination is due to the advanced age and consequent deterioration of the virus employed. A comment was recently made by a physician in a distant part of the State, that the vac-

cine obtained for use in that town was quite worthless; and produced no appreciable result in any case. Investigation revealed the fact that the physician derived his vaccine from the local druggist, who had obtained a supply some time before from a wholesale drug store in Boston. In this case the virus had passed through several hands before it reached the physician, and much time had elapsed between the charging of the points from the bluffer and the vaccination for protection from variola. It would be desirable if all packages were dated, so the physician might be sure that the virus was of recent production. Otherwise the whole process of inoculation as a protection from small-pox might be justly described in the words of a distinguished French physician who said, "Vaccination is a deceptive operation performed with hypothetical virus."

It may be added, that if due attention were given to the source from which the virus is obtained, and proper care is exercised in the operation of vaccination, there would probably be much less, or none at all, of the excited sentiment and frequently also open opposition to preventive inoculation for small-pox; and anti-vaccination riots would be no longer known.

Dr. J. H. McCollom, City Physician of Boston, stated that he entirely agreed with Dr. Abbott in the importance of employing only the virus procured from well known and honorable sources, as we otherwise have no guarantee of its power as a protective, or of its freedom from foreign and dangerous contamination. Dr. McCollom has used virus procured from Dr. Martin as well as that coming from other sources. He has occasionally seen the virus produce very sore arms but has never observed bad results. He now unqualifiedly recommends bovine virus. His virus was formerly very generally employed, and this too without any bad results, but the protective power of humanized virus is infinitely less than that of bovine virus. One of the greatest curiosities in vaccination is the influence of the vaccine disease upon true variola. This was recently illustrated in the case of a man who was exposed to small-pox, and two days later was vaccinated with cow-pox. The eruption of variola appeared, as did also the vesicles from the vaccination. The two diseases progressed, but the vesicles of small-pox never became pustular. The entire disease was checked at the vesicular stage.

The importance of vaccination after exposure to small-pox is therefore even greater, if possible, than before exposure to that disease. The virus obtained from the inoculation of young calves is preferable to that from cows, owing to the liability of the latter to tuberculous disease. In the light of our studies in tuberculosis it is important to avoid the possibility of infecting the human skin with the germs of this disease.

Dr. S. L. Axtell, who was the experimenter of the present communication, in connection with bovine virus is fortunate in securing virus procured. In many cases there is much constitutional disturbance. It is possible that the constitution of the subject at this time plays an essential function in the system after vaccination.

Dr. Moxley replied that true animal virus is characterized by a constant tendency to become more than is observed from humanized virus. I should not recall a case which ran its whole course in human skin, which gave a well marked disease which may last from twenty-one

to thirty-two days. The areola appears at the ninth to tenth day, and the fever also appears at that time. The process affects the entire thickness of the skin and not simply the epidermis. The intensity of the reaction is a valuable indication of the protective power of the virus. Indeed the earlier observers of this process judged the success of the inoculation from the degree of fever produced. The bovine virus induces a distinct disease which protects the system from an invasion by small-pox, which humanized virus does not. The arms of servants and laborers are more sore on account of their occupation which necessitates exposure of the limbs to various injuries as well as to sudden change of temperature, both of which doubtless cause increased severity in the vaccine disease. The term "spontaneous" cow-pox is certainly a misnomer. It is used simply as a convenient expression in cases where the source of infection of the cow cannot be traced. "Spontaneous" infective disease is doubtless derived from some tangible source, but it is impossible to discover its origin. If Dr. Abbott has seen so large a number of cases of genuine cow-pox, he has certainly been far luckier than Dr. Martin. There may be isolated cases, but they are certainly not generally known. The only indisputable case now recognized as occurring in this country is the Cohasset case which has since been propagated by Dr. Martin in uninterrupted succession. There are many known cases of spurious disease which make the hands of the milkers sore. Such cases have long been observed, and were reported by so old an authority as Edward Jenner himself, but this disease is not cow-pox, nor has it any similarity to the true disease in the way of protection against small-pox.

The Section then repaired to the small hall, where Dr. E. W. Cushing exhibited a series of microscopic preparations showing the Bacillus of Tuberculosis and that of Anthrax (Malignant Pustule).

Dr. Cushing then read a paper on

#### THE SPECIFIC AND INFECTIOUS CHARACTER OF TUBERCULOSIS.<sup>2</sup>

which was followed by a paper by Dr. VINCENT Y. BOWDITCH upon

#### A CASE OF PHTHISIS WITH BACILLI. COMPLETE ARREST OF THE DISEASE.<sup>3</sup>

The discussion of both papers was opened by Dr. Henry I. Bowditch, who stated that practically he had for many years considered consumption to be a contagious disease under certain conditions. He always advises husband and wife to sleep in separate beds, and he much prefers them to occupy different rooms. There is no longer a reasonable doubt that the bacillary organisms found associated with tuberculosis have the power to produce that disease. The many and careful series of experiments so extensively performed and reported in Europe, are convincing upon this point. The main question now seems to be this: "What influence is the presence of bacillary organisms to exert upon our opinions in diagnosis and in prognosis? Where do we stand in relation to these bodies in the actual treatment of tuberculous diseases? When the bacillus was first discovered in connection with tuberculosis we were inclined to look upon its presence as a sign of the gravest significance. These first opin-

ions are at present undergoing a modification as we observe cases in which the undeniable presence of the bacillus is not necessarily followed by a fatal course of the disease.

The case reported at this time, as well as others recently published, show that we need not feel entirely discouraged when bacilli are present, and conversely, we should not be so highly encouraged when they are absent. We do not yet know the absolute value or the entire relation of the bacillary organisms to the course or termination of diseased conditions, nor their full bearing and influence upon diagnosis or prognosis.

Dr. KNIGHT said that he had seen a case in the early summer of 1884, in consultation with a practitioner of a neighboring city, in which the symptoms were quite acute, and in which the fears of rapid future progress were increased by finding numerous bacilli in the sputa. Contrary to expectation, however, the patient, who was a young lady, soon began to improve, and at last accounts had no cough, considered herself well, and had every appearance of being so.

Dr. Knight said that such cases in reality only confirm what we knew before, that is, that arrest may take place in pulmonary tuberculosis. Perhaps hitherto, in cases of arrest, we have been inclined to doubt the tuberculous nature of the disease. We can no longer feel this doubt.

Dr. CUSHING stated that the higher degree of infectiousness of tuberculosis among animals who were subjected to experiment was no doubt due in some measure to the fact that the healthy animals are frequently placed in pens which have been occupied by diseased animals; and that quite possibly the cages themselves may contain the germs of tuberculosis and thus render the animals confined therein more liable to tuberculosis. It is a very suggestive fact that in the experiments to determine the infectiousness of tubercle germs when suspended in vapor, the spray was conducted out of the building in which the laboratory was situated, to cages some feet away, and the windows and doors of the laboratory were kept carefully closed during the experiment. Every one of the animals thus exposed to the tuberculous spray became affected with general tuberculosis. This fact should be a sufficient indication for all possible care in averting contagion in the human tuberculosis. The disease is clearly to be classed not only as communicable, but as a highly infectious one.

Adjourned at 10.30 P.M.

#### NEW YORK COUNTY MEDICAL ASSOCIATION.

STATED MEETING, November 16th, 1885.

#### A DEMONSTRATION OF PHOTOGRAPHS OF PATHOLOGICAL SPECIMENS, TAKEN WHILE THE SPECIMENS WERE IMMERSSED IN WATER.

was made by Dr. J. M. GOLLEY. The specimens were of various diseased conditions of the bladder, penis, urethra, and prostate. For the purpose of being photographed they were carefully fastened upon black boards by means of pins and sunk in a tank of clear water, and the great advantage of immersing them in a fluid of the density of water was stated to be, that all the irregularities of the surface, instead of lying flat, were made to float. The result was extremely successful.

Dr. AUSTIN FLINT read a paper on

<sup>2</sup> See page 553.  
<sup>3</sup> See page 558.

## ELEMENTS OF PROGNOSIS IN BRIGHT'S DISEASE.

Having alluded to the prevalent notion that the fact of an individual having Bright's disease was equivalent to a sentence of death by a legal tribunal, he stated that there are a number of circumstances which might greatly modify a too unfavorable prognosis in many instances. Thus, the progress of the disease might perhaps be arrested entirely. Again, the disease might be progressive, but the progress made by it be so slow that the patient might continue comparatively free from danger; though some intercurrent affection, in consequence of the impaired condition of the kidneys, might prove fatal. Still further, the chronic disease might continue indefinitely in about the same state, and so, under favorable circumstances, not prove fatal.

The prognosis in Bright's disease was often of great importance to a patient as regards his business and family affairs, as well as his future health, and a number of points were to be borne in mind in the consideration of this subject. Acute diffuse, tubular or desquamative nephritis was not, as a rule, followed by the chronic form of the disease, or characterized by any renal lesion. The same facts were also true of sub-acute nephritis, such as follows scarlatina, for instance. It was to be remembered also that an acute, diffuse, tubular, or desquamative nephritis might be met with as an intercurrent disorder in the course of chronic Bright's disease. Under such circumstances a problem was presented which could not at once be definitely settled, since it was not certain whether the grave symptoms noted were connected with the chronic trouble, or whether they were significant of an acute attack of nephritis which would soon subside, and leave the patient in the same general conditions as before. When an acute attack of this kind did occur, however, it was very apt to leave the patient with a tendency to recurrent trouble of similar character.

In chronic Bright's disease the affection might remain latent for a long time. In order that the prognosis might be a comparatively favorable one, when it had declared itself, it was necessary that the kidneys should not be damaged beyond a certain point, and that the important organs of the body other than the kidneys should be capable of satisfactorily performing their functions. Also that the laws of health in general should be observed. If these conditions were maintained, even though the kidneys were damaged to the extent of one-half, the patient might continue to live in a fair state of health. Chronic Bright's disease might exist, without discomfort to the patient, for years, and then at length the pathological process in the kidneys involve the organs to such an extent, that they could no longer perform their functions; or, the necessary conditions might become sufficiently changed to give rise to serious trouble. Cardiac hypertrophy, it was to be noted, was frequently a result of this affection. But so long as the damage to the kidneys was limited, and the necessary conditions were favorable, the disease would produce little or no disturbance.

The object of treatment, then, was to prevent further progress of the disease in the kidneys, and to maintain favorable accessory conditions. In view of these facts, it could be readily seen how important it was to make an early diagnosis. The diagnosis made, the essential point was to see that a sufficient elimination of excrementitious products was carried on by the

kidneys. It was very easy to determine whether the elimination was sufficient or not by simply ascertaining the quantity of urine passed in the twenty-four hours, and testing the specific quantity with the urinometer. If it was found that there was renal adequacy the indication for diuretics, sudorifics, and hydrogogue cathartics was not present, and they would only do harm.

The diminution of excrementitious elimination was not a necessary indication of danger from uræmia, because vicarious elimination might take place, and tolerance thus be established. The prognosis of uræmic coma was naturally grave; but at the same time patients not infrequently recovered from it. It might possibly be due to an intercurrent acute attack of nephritis, or to the fact that tolerance was not established in the system. When there was pulmonary oedema and dyspnoea there was a chance of the patient's surviving; but if there were present what is known as renal asthma, which is not due to any condition of the lungs whatever, but in all probability, to the effect of a poison upon the nerve centres, Dr. Flint said he had found it invariably of fatal import.

In the discussion which followed the reading of the paper, Dr. George L. Peabody said that he could corroborate all the conclusions of Dr. Flint, and that he would like to emphasize, perhaps, even more strongly than he had done, the fact that chronic Bright's disease might continue indefinitely without causing serious troubles in individuals whose condition in life was such that no stress was brought to bear upon any particular organ by their mode of living. It had been his experience in quite a number of instances to find at *post-mortem* examinations an advanced stage of Bright's disease in cases when the presence of the affection had never been even suspected. In most of these it had no doubt existed for many years. He also appreciated the importance of looking at the manner in which the kidneys performed their functions. Another element in the prognosis was the situation in life in which the patient finds himself. If he could surround himself with all the care that was necessary, he had a chance of living for a number of years; while those who were exposed to bad hygienic conditions, hardships of diet, etc., would be likely to succumb in a comparatively short space of time.

DR. EDWARD G. JANEWAY thought, like Dr. Peabody, that for individuals in the poor condition of life, the prognosis of Bright's disease was of the gloomiest kind; but if the patient was so situated that he was able to go to warm climates in winter, and take every possible care of himself, he could probably live for a number of years in comfort. In many instances there was an intermittent element which had to be taken into consideration, albumen and casts remaining entirely absent from the urine for considerable periods at a time, and then returning again. He mentioned two cases now under his observation, in one of which the disease had already lasted for eleven years, and in the other for five years; but in both of them the most careful attention was constantly paid to every circumstance of the patient's condition, and any slight disturbance of the health corrected as promptly as possible. He had also one gentleman under observation who was told seventeen years ago that he had incurable Bright's disease. Personally, he had first seen him five years ago, when he had a second attack. The prospect then looked gloomy, but the patient had now to a great ex-

tent recovered from this second attack. While too dark a view might be taken of cases of Bright's disease, on the other hand, too favorable a prognosis should not be given. If no albumen or casts were found at the time of an examination, it was very important that the examination should be repeated. Rigidity of the arteries and hypertrophy of the left ventricle of the heart constituted grave elements in the prognosis.

Dr. E. M. MOORE, of Rochester, said that it was his belief that there were cases of albuminuria which go on for months, which do not get well and finally terminate in loss of life, and yet which at the end of a year, had not produced any change in the condition of the kidneys. He said there would be a great many such cases if they were less interfered with, and mentioned the instance of a young soldier during the late war who had had albuminuria for a number of months when he came under observation. He then took medicine every day for a year, during which time the albuminuria persisted. At the end of the year, however, this condition disappeared, and since that the patient had never had any trouble. He felt convinced in this instance, as in many others, that but for the persevering treatment, the kidney disorder would have progressed until the organs had become irremediably damaged and a fatal result would have ensued.

Dr. C. S. WOOD said that he agreed with Dr. Moore that cases occur in which albumen and casts are found for a long time in the urine, and then disappear, after which the patient goes on to live for years. He related the case of a gentleman sixty years of age, a captain in the United States Marine Corps, who, five years ago, was pronounced to have Bright's disease. After this, he had casts and albumen in his urine more or less constantly until two years ago, when he came under Dr. Wood's care. At that time, the specific gravity of the urine ranged from 1000 to 1001, and he was reduced in flesh. After treatment for a year, however, he had gained over forty pounds, and was now as well as ever. The albumen and casts had disappeared; the specific gravity of the urine was from 1010 to 1020, and he had every appearance of perfect health. In this case, it was but just to say that in early life the patient had been addicted to the use of intoxicating drinks, but that since he had begun to be troubled with albuminuria, he had given them up. The important point was, whether these cases past middle life ever recover. It was his own belief that this was the case more often than was generally supposed, and that more caution should be employed in giving an unfavorable prognosis before the patient's friends.

Dr. FLINT said that he had met with cases similar to those referred to by Drs. Moore and Wood, and the explanation of these, he thought, was this: In the cirrhotic or contracted kidney it was not uncommon for all the symptoms to disappear for a time, and they might disappear permanently. The kidneys had received a certain amount of damage; but if this did not exceed one-half of their extent, they could perform their functions sufficiently well under favorable conditions. Recovery might then take place in a certain sense, but the kidneys would always remain impaired, just as the lungs did after recovery in tuberculosis.

Dr. T. R. VARICK, of Jersey City, said that in the prognosis it was of service to consider whether the trouble was simple and uncomplicated, or secondary to cardiac disease, poisoning by lead or other toxic agent, the excessive use of alcohol, or to some other patho-

logical factor. Then, the natural tendency and the method of termination of the disease ought to be taken into consideration. Some cases ended in apoplectic coma, some in pulmonary oedema, and others in heart-failure. All these various circumstances had an important bearing on the prognosis. In many instances, albuminuria was merely symptomatic of other conditions besides disease of the kidney, as, for instance, of the presence of a gravid uterus. It should not be forgotten that it is not a disease itself. Dr. Varick spoke of the intermittent character of albuminuria, and in this connection mentioned the following case: The patient suffered from asthma for a year, but there had never before been any suspicion of kidney trouble. Previously, he had had an attack of acute rheumatism, which left him with mitral insufficiency. The quantity of urine passed in the twenty-four hours was down to four ounces, and it was found that it was over one-half albumen. There was pulmonary oedema and anasarca of the lower extremities. Yet, notwithstanding this discouraging state of affairs, the patient improved under treatment, and was now very much better in every way. At times, there was a complete absence of albumen from the urine, and then again it would recur; the reason for which was, no doubt, the continuance of the cardiac trouble.

Dr. H. F. QUACKENBOS said that ten years ago, a patient of his contracted disease of the kidneys. In six weeks after the discovery of the trouble the condition became so alarming that he called in Professor Flint in consultation. The patient was confined to bed with the most extensive oedema, and looked like a piece of wax. Dr. Flint saw him four times and expressed his approval of the treatment which had been adopted. The trouble gradually subsided, the albumen disappearing from the urine within four weeks, and to-day the patient was entirely well. Dr. Quackenbos also related another somewhat similar case.

Dr. E. G. JANEWAY presented the spleen and small intestine of a patient who died of

#### TYPHOID FEVER FOLLOWING CHILD-BIRTH.

The woman was admitted to the hospital under the supposition that she was suffering from puerperal mania. She had been confined three weeks before admission, and fourteen hours after the birth of the child fever had set in, which continued up to the time of her death. It was learned that she had had an attack of malarial fever two months before confinement. The autopsy revealed the characteristic lesions of typhoid fever in the intestines and also marked pigmentation of the liver and spleen from the recent malarial trouble. During her stay in the hospital, the patient exhibited great irregularities in temperature, and she died on the twenty-first day from the commencement of the attack.

It might have been supposed that this was a case of typho-malarial trouble, but from the light thrown on it by the history and the autopsy, there could be little doubt that it was one of true typhoid. The history showed that the malarial poisoning, of which the marked pigmentation of the liver and spleen afforded plain evidence, had occurred two months before the beginning of the typhoid fever. In connection with the latter there was some bronchitis and broncho-pneumonia, as shown by the post-mortem. The six or seven lower patches in the small intestine were ulcerated out, and a few typhoid bacilli were also found in the intestinal tract. Dr. Janeway had met with two

other cases, (in one of which an autopsy was made and in the other not), in which typhoid fever, rather than puerperal sepsis followed confinement. The pigmented spleen, as exhibited, was of a dark chocolate hue, and greatly enlarged.

### Recent Literature.

*The Science and Art of Surgery.* By JOHN ERIC ERICHSEN, F.R.S., LL.D., F.R.C.S. Eighth edition. Revised and edited by Marcus Beck, M.S. and M.B., (London) F.R.C.S. Volume II. Philadelphia: Lea Bros. & Co. 1885.

That the character of this great work upon surgery is widely known and appreciated is shown by the appearance now of an eighth edition. No pains is spared to make it a success. The present volume alone contains nine hundred and eighty-four wood-cuts.

It is essentially an English system of surgery, and, as may be noticed in many English surgical books, the work of the surgeons of other nations is often overlooked and sometimes when mentioned is misunderstood and erroneously described.

The clumsy figure of Taylor's Spinal Support appears almost like a caricature of the extremely neat splint which Taylor uses and which is so efficient in his hands. We are told regarding it that it tends to separate the vertebrae when applied early in the disease, and that, therefore, in the first stages of caries, it is only a source of inconvenience, if not of positive danger. Such a misconception of its action contrasts strongly with the unqualified approval of Sayre's Plaster-Jacket, and one involuntarily wonders whether, in some of his visits abroad, Sayre may not have made more than a due impression upon the editorial mind of Mr. Beck. This conjecture gains probability when it is further found that the only extension splint for the hip, which is described, is the inefficient short splint of Sayre, while the valuable long splint used by Taylor is not even mentioned.

American Gynaecology is also accorded but slight notice. The names of such men as Sims and Emmet are barely spoken of, and much of their most important work is not alluded to. Sims' Speculum is figured as a "duckbilled speculum."

The chapter on Lithotripsy contains mistakes and failures of comprehension which are even more inexcusable.

In describing the operation of Litholapaxy a figure of an instrument, which was laid aside by its author years ago, is introduced as illustrating Dr. Bigelow's present method of operating; while his last "Simplified Evacuator" is shown (Fig. 898), as "Sir Henry Thompson's Early Evacuator." This mistake is the more flagrant, as the figure has evidently been copied directly from Dr. Bigelow's published cut of his instrument. In view of the various attitudes of Sir Henry Thompson towards the American discovery, which he has finally adopted, it is somewhat amusing to find this wood-cut of Dr. Bigelow's Evacuator (that of 1882), which, Dr. Bigelow still thinks, cannot be altered for the better, entitled as if invented and rejected by Sir Henry Thompson.

The editor also falls into the error of supposing that Dr. Bigelow always uses large and heavy lithotrites. This mistake, which is a common one in England, seems to arise from the fact that for cases of large and

hard stones, he devised more powerful instruments than those previously in use—instruments much larger and heavier than he himself uses in ordinary cases.

These sins of omission and commission show a want of familiarity with American surgery, even in those branches in which American surgeons at the present time lead the world, and such mistakes occurring in a work in which our author undertakes to cover the whole field of surgery, furnish a strong argument for, in fact, show, the necessity of the modern plan of encyclopedic medical literature, in which each subject is placed in the hands of a writer who is an expert upon it.

*A Text-Book of Medical Chemistry.* For Medical and Pharmaceutical Students and Practitioners. By ELIAS H. BARTLEY, M.D., Adjunct Professor of Chemistry in Long Island College Hospital, etc. With 40 Illustrations. Philadelphia: P. Blakiston, Son & Co. 1885.

This book is designed especially as a text-book for medical students, and has been prepared to fill a gap which undoubtedly exists between text-books which are too voluminous for the time at the disposal of the medical student and those which are too brief to be of any service to him. The author states that the book is largely a compilation, and he claims little originality in the subject matter it contains, but has used his own judgment in its selection and arrangement.

He has prepared, on the whole, a very satisfactory book. Part I. is devoted to chemical physics so far as is necessary for the proper understanding of the descriptive parts and to explain the theory and use of thermometers, spectroscopes, batteries, etc.; Part II. to theoretical chemistry; Part III. to the elements and their principal compounds, including their physiological and toxicological bearings; Part IV. to organic chemistry. An appendix contains some tables, together with analyses of the various fluids of the body.

Opinions differ so much as to the character of the instruction which a medical student should receive in chemistry, that it would be difficult probably to prepare a text-book on chemistry which would prove acceptable to even a majority of teachers of chemistry. We think, however, that this book is worth looking over by those who have thus far failed to find a satisfactory text-book, and we believe it will be found to meet the wants of a certain number.

*Fowne's Manual of Chemistry, Theoretical and Practical.* A new American from the Twelfth English Edition, embodying Watts' Physical and Inorganic Chemistry. With 168 Illustrations. Philadelphia: Lea Brothers & Co. 1885.

This work is made up of Professor Fowne's Organic Chemistry, together with Watts' Physical and Inorganic Chemistry which is itself based upon that portion of Professor Fowne's work which is devoted to Chemical Physics and Inorganic Chemistry. It is, therefore, essentially a new edition of Fowne's Elementary Chemistry, which is so well and favorably known. It comprises three parts: Part I. is devoted to physics; Part II. to the chemistry of elementary bodies; Part III. to the chemistry of the carbon compounds. The theory of chemistry has received its proper share of attention, and the more important of the late discoveries in the science have been introduced. We can recommend the book as one of the best of the many works on chemistry.

# Medical and Surgical Journal.

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## THE RELATION OF MICRO-ORGANISMS TO TUBERCLE.

ONE of the interesting points of the recent series of lectures by M. Bouley before the Museum of Comparative Pathology at Paris, is his treatment of the pathology of tubercle. According to Bouley, tubercle is a generic name applicable to certain little nodules or tumors formed in the lungs and other viscera as the direct consequence of an irritation, caused at the points where these tumors appear, by a living parasite. Tubercle comprises many species. To begin with the vegetable world, what are those little tumors called galls but *tubercles* determined by the presence in the tissues of the plant of ova which certain insects have deposited there after piercing the part with their terebra? Around these eggs the vegetal tissue under the irritation undergoes proliferation, and a real tuberculous neoplasm, the gall, is the result.

The researches of Professor Cornil tend to show that between tubercle properly so-called (that of phthisis), and the swelling which results from the arrest in a fine arteriole of a nematoid ovum or embryo there is anatomically no difference.<sup>1</sup> Laulanic deduces this conclusion from the histological examination made by him of the nodosity constituted by the irritant action of the ovum of the *strongylus risorum*; "that the specific agent of tuberculosis acts in the same manner as the eggs of the strongylus, and inflicts its first mischief on the blood-vessels in which it has penetrated."<sup>2</sup> It is a striking fact that all viruses by the local inflammatory reactions induced by their presence cause similar results; growths are formed, composed of cells and nuclei, sometimes blocks of protoplasm with many nuclei (giant cells); these neoplasms are always characterized by paucity of bloodvessels and a tendency to ulceration and fatty degeneration. The agamous strongyli, which form in the bronchi or muscular tissue nodules in which they become permanently imbedded, produce morbid growths easily distinguished by the presence of the parasite visible to a low power; the lesions of tuberculosis, of syphilis and of glanders, are not thus readily distinguishable. In fact, the most careful study even with

the help of the microscope (but without special staining processes), of the tubercular neoplasms of these respective specific agencies, fails to determine any absolutely differentiating characteristic. On this point, the most competent histologists are agreed. Other factors must be invoked for the purpose of differentiation, such as the subject of the lesion, the clinical history and known aetiology, the presence or absence of Koch's bacillus.

A striking example of the way viruses work in the animal economy (and by *virus* we now understand *contagium vivum*), is furnished by that familiar disease known as *rouget* in swine. The objective characteristic of this disease is the dissemination on the surface of the skin of red spots and patches more or less diffused. The pathological anatomy of to-day warrants us in considering those patches as the seat of the pullulation in the *rete mucosum* of the skin of the virulent elements of this rapidly fatal disease. Now that the special microbe has been isolated and cultivated, nothing is easier than to obtain the repetition of this disease on healthy animals by inoculation of the remote products of culture: after a few days of incubation there appear on various parts of the integument the red spots which are an expression of the irritating presence and multiplication of the microbe, just as the pustules of small-pox are the expression, under another form, of the pullulation in isolated or confluent places on the derm of the living element of this dire malady.<sup>3</sup>

The same interpretation of symptomatic and anatomical facts is applicable to glanders and other virulent diseases in their relation to the external or internal lesions which accompany them. (we may also cite in this connection trichinosis, caused by the larva of the trichina). After a masterly *résumé* of these data, Bouley, to whom we are indebted for much scientific philosophizing, shows that phthisis and all the tuberculous lesions are amenable to the same explanation. "How is it with true tubercles, those of phthisis—are they also the expression of a local irritant action, determined by a special element which constitutes their nature, like the strongylus or the ovum of the nematoid in its relation to the little tumors of tuberculous appearance of which it forms the central nucleus and is the causal condition? A legitimate induction authorized us to give an affirmative answer to this question before the specific casual agent was found; when it was recognized that tubercle is not histologically different from the neoplasm investing a microscopic strongylus, an ovum or filaria in the small bloodvessels, it was logical to conclude from the known etiology of the latter that the former had a similar etiology. To-day the demonstration is actually made that the tubercle of phthisis, like that of glanders, has the same significance, as an anatomical fact, as that of the *helminthiatic* tuberculosis, that is to say, that it proceeds from a living element which is the bacillus discovered by Robert Koch."

<sup>1</sup> *Lecours de Pathologie Comparée*, Paris, 1884, page 76.

<sup>2</sup> *Ibid.*

<sup>3</sup> Bouley. *Loc. cit.*

## MEDICAL PROGRESS IN JAPAN.

WE find in the *Japan Weekly Mail*, under date of August 15, 1885, an interesting sketch of a report prepared by Dr. W. N. Whitney and published by the Asiatic Society on the "History of Medical Progress in Japan." It shows most vividly the enormous difficulties under which the earnest students of that land found themselves in their search for the light of Western science. These difficulties arose originally from the restrictions placed during two centuries upon European intercourse by the oppressive government of the Shogun (one is irresistibly tempted to read the word as an Oriental misprint for *shotgun*), and the almost hopeless labor in the absence of dictionaries and European assistants in translating the text-books of Europe into the Japanese tongue. The way in which the first such translation came to be made is almost a romance in the history of medicine.

One Sugita was a physician in the service of the Prince of Nakatsu, and apparently a faithful student in the light he had. In 1767, he made a copy of the diagrams contained in a work on surgery (Hastel's?), which he had contrived to borrow; and a few years later, in 1771, he became possessed, through the kindness of a friend at court, of two other books in Dutch, one of which was a work on anatomy (*Pafel Anatomica*, by John Adams Kurumans). In looking over this latter book, his attention was drawn to numerous discrepancies between it and what he had been taught was the anatomy of the human frame. Whereupon, to use his own words, "he was seized with a great desire to make practical observations, and to compare them with the diagrams already copied."

Opportunity offering shortly after in the privilege granted him to witness a dissection at the execution grounds of Kotsu-ga-hara (Plain of Bones), near Asakusa, Tokyo, he joyfully availed himself of it, having first invited his friends Mayeno Riokaku and Nakagawa Kiyowan to accompany him.

The "subject" was an old woman, who had been condemned to undergo decapitation for her crimes. The dissection was conducted by an old executioner, who had had some previous experience in this kind of work, an occasional duty which was at that time performed exclusively by men of his class.

Of the dissection, Sugita says:—

"As the executioner pointed out the different viscera, etc., there being no names written upon these different parts of the human body (as in the tables), we were compelled to be content with what we were told. . . . However, we compared it with the diagrams of the book (which Mayeno had brought with him) and found that there was no difference whatever, while what had been taught in Chinese books as to the six divisions of the lungs, the three divisions of the left liver, and four of the right, as well as the anatomical arrangement of these and other viscera was found to be quite correct." Sugita further tells us, "that Osaka and Fushimi, court physicians, had already witnessed some seven or eight dissections, but had been unable to account for the anatomical differences detected by themselves between the actual dissections and what they had always supposed to be the internal arrangement of these viscera, except upon the ground that the anatomical structures of one race differed thus widely from those of others. Stimulated by a desire to understand more of anatomy, and filled with a sense of shame that men of his

time knew so little of the structure of the human body which they professed to understand, Sugita, with his friends, determined to make a thorough study of Dutch, with the hope that they might be enabled to give to their countrymen a Japanese translation of this work on anatomy. As Sugita knew at this time but little more than the alphabet of Dutch, and Mayeno's Dutch vocabulary embraced but a few hundred words, their progress was necessarily very slow and tedious."

Speaking of some of the difficulties they met with, Sugita says:—

"At that time, we did not know anything about such auxiliary words as *de, het, als, and welk*, and therefore, though we might occasionally meet with words that we knew, we could not make any connected sense out of them; for instance, such a simple sentence as 'the eyebrow is hair growing a little above the eye,' was all confusion; and we had to spend a long spring day, even till dark, thinking and thinking, as hard as we could, over it. One day when we came to the nose, it was said that it was the thing that is *verheven*; we did not then have any dictionary, but in looking over the list of words which Riokaku had brought from Nagasaki, we found that it was said that the tree is *verheven* when a branch is cut off, and also, that when a garden is swept and the dirt is put together, it is *verheven*. As usual, we fell to thinking, but could not make it out. A bright thought came to me, that when the tree whose branch has been cut off, heals, the place is slightly elevated, and again, that the dirt accumulated will, of course, be elevated. Then the word must mean 'elevated.' All agreed that this was quite reasonable, and decided that the word should be translated 'elevated.' The feelings of joy which I experienced then cannot be told. I felt as if I had obtained a whole castle full of precious stones."

Gradually, however, with wonderful perseverance, by meeting six or seven times every month, they became better acquainted with the language; and after a while, were able to translate as many as ten lines in a day.

The whole work took four years for translation, during which time it was re-written eleven times; and was finally published by Sugita under the title of *Kaitai-shin-sho*, "New Work on Anatomy." He had entertained doubts as to the safety of publishing this work at the time, as but a little before a book had been suppressed only on the ground that it contained the Dutch alphabet.

The work, however, was well received, and passed through two editions and a revision. It consisted at first of three volumes, but having been revised some years later by Udagawa Genshin, it was enlarged to thirteen volumes, and was called *Ihan-tekki* (an outline of the principles of medicine). Sugita, together with his friends, Mayeno and the others who had assisted in the work, received many honors, and a great number of students flocked to them from all parts of the country.

## THE MASSACHUSETTS BOARD OF HEALTH, LUNACY, AND CHARITY.

OUR esteemed contemporary, the *Boston Herald*, in its issue of the 4th inst., gives an excellent statement of the reasons why the present Board of Health, Lunacy, and Charity, should be abolished and an independent State Board of Health re-established, quoting the opinions of several persons well informed in the matter, who were also thought to represent the general feeling of the community. We quote from the article as follows:—

"The Board of Health, Lunacy, and Charity is on its last

legs. It has become unwieldy, quarrelsome and inefficient, and it is very probable that the Legislature will put an end to its existence next winter. Public health has become a victim to lunacy and charity. It is time the curtain was rung down."

The above-quoted remark of a well-known physician seems to reflect the opinions of a large proportion of the medical fraternity, and is a view which appears to be entertained by many whose familiarity with the history and the inner workings of the board, as well as their political sagacity, gives to their observations special interest and significance at this time.

Dr. Abbott, health officer of the board, said that he should take his position squarely in favor of division, in the interests of harmony and for securing better work in sanitary directions. "A Board of Health," said he, "could devote its entire energies to this work, and not be obliged to fritter away its time discussing the transfer of insane patients and kindred questions. Almost every State in the Union has its board of health. These boards divide up into a number of committees, and are thus enabled to do an amount and a variety of work which a combined board, like our own, cannot accomplish, and which, in the discussions of mixed questions of health, lunacy, and charity, overlook many important matters."

Dr. Henry P. Walcott, of Cambridge, formerly health officer and later member of the board, said: "I believe that the present board has failed utterly and entirely. It looks as if it will go to pieces this winter. I advocate the reconstitution of the board of health, without any reference to the present organization. Then I think we shall be clear of the politicians, whom sanitarians cannot hope to escape under the existing conditions of things, with the enormous patronage at the disposal of the charity department."

Dr. H. I. Bowditch, formerly member of the board and chairman of the State Board of Health, was most earnest in his advocacy of a division, saying that "practically, the boards were united because of a fear of Butler and his outcry against commissioners, ostensibly for economical reasons, and an imitation of the local government board of England, where a union of health and charity was supposed to be effective. Within a week he had received a letter from an eminent medical man in England, whose name he was not at liberty to use, but which would carry weight, in which he states that 'the sanitary work of England is being entirely upset by this local government board.' The Board of Health, Lunacy and Charity is now virtually without spirit in sanitary matters, and of little value."

Dr. C. F. Folsom, for years connected with the board said: "The present management is far from a success. The health work of the board has deteriorated wonderfully, and this is said with a full appreciation of the efficiency of Dr. Abbott, who does what can be done under the circumstances. None of the board are doing much in this direction, and it is next to impossible that the same set of men should intelligently direct such diverse interests. I think there could be no possible clashing of interests or waste of money if there are two or three separate boards, and the manifest advantage would be in having men who should intelligently direct the work of a single department. I am in favor of a board of health, a board of charities, and a lunacy commission, which should be an advisory board. The present board has virtually driven away one by one all those who have any special knowledge of health matters, with the exception of Dr. Green, who has been recently appointed. I believe that the members of the Legislature will favor this change."

Dr. George B. Shattuck, editor of *The Medical and Surgical Journal*, said: "The boards were consolidated ostensibly for economical reasons. It will be difficult to prove that such economy has been obtained. On a board of this kind it is difficult to get men who have a proper amount of knowledge to work together, and, after you have secured such men, you take up their time in the consideration of a variety of questions, in some of which they do not and cannot be expected to feel an interest, and their task becomes a most thankless one. Those people who are in favor of the present system will claim that it is similar in principle to the local government board of England, which they say works successfully. The comparison is not a just one. In England the board has a large corps of skilful, well-paid, experienced health officers, who divide the country into districts. Our board is anomalous, cumbersome and unwieldy. It transacts public business, if at all, neither harmoniously nor expeditiously. Of course there are always men who can be found to serve for the sake of official position on any kind of a board, but they are

not men who would give time to the serious consideration of the duties involved, and if they should the public would wish they hadn't. The difficulties experienced by the competent medical and scientific men who have been on the board, in their efforts to accomplish anything, is in itself proof sufficient of the undesirability of the present combination. I advocate a board of health as a separate organization. There is plenty of work for it to attend to if it does it thoroughly. The more thickly settled the State becomes, the more essential will it be to have a thoroughly good central sanitary organization, guided and directed by earnest, eager and specially educated men. In view of past experiences, if such men can be induced to give their services, and if they can be protected from the interference of politicians after having entered upon their work, then the people will receive an increased benefit and a protection most striking, by comparison or contrast with what has gone before."

Dr. Samuel Green, ex-mayor of Boston, and a member of the Board of Health, Lunacy and Charity, was next called upon. He said: "I have the highest respect for my associates upon the board, but I have no hesitation in saying that there is not one man among them who is an expert on mental diseases, and yet it is a board of health, lunacy and charity. Furthermore, I object to the system which combines in a single board three interests which do not belong together. Personally, I favor an entire separation, and I think that the great body of physicians are unanimously in favor of a division, and the creation of a board of health made up of experts on sanitary science. Such an organization could command the best medical opinion, would enjoy the confidence of the community, and find a wide field for usefulness. In case a division is effected I have every confidence in the ability and willingness of Gov. Robinson to appoint a board of health which will be entirely satisfactory to the great body of physicians."

Dr. C. D. Homan, president of the Massachusetts Medical Society, expressed himself in a decided manner as being in favor of a separation. The health work had deteriorated greatly since the consolidation.

The opinions above quoted so fully reflect the attitude of other physicians, whose views were sought, that no further citations of opinions are required to establish the practical unanimity of the medical profession.

Mr. John C. Hoadley, the civil engineer, not a physician, a member of the old board of health, and for some three years a member of the Board of Health, Lunacy and Charity, believed that the sanitary work of the board had fallen off greatly since the union. "Meetings," said he, "were occupied in the discussions of all manner of private and petty questions, were prolonged to five, six, or seven hours, and the board, after doing all that it was physically able to do, would have neither time nor strength to consider important sanitary matters; consequently, at these meetings questions of public health have fallen into a subordinate place, almost dropped out of sight. I am in favor of a division. I feel that there is work and scope enough for a board of men of special qualifications, who are willing to devote certain days each month to the promotion of public health. Such matters as the adulteration of milk and food and drugs, the purification of streams, the poison in wall-paper, the sanitary condition of schools, hospitals and prisons, are among the important problems which a board of this kind will have to consider. Upon the board of charities there should be a set of men of leisure, benevolence and pecuniary independence, who would be willing to devote about half of their time to the work. But, perhaps, this work and also the work of the lunacy department, could be better performed by eminently qualified commissioners of charity and lunacy who could devote their entire time to the details of the work, which are now attended to by the entire board, acting as a unit. Thus you see that every man on it, whether well informed or not on a special topic to be considered, is obliged to do the same work which a commissioner would do in less than half the time."

Governor Robinson had stated in October that he was willing to say what he had said months before, that he favored the separation of the State Board of Health from those of lunacy and charity, and that it was his intention to recommend such measures to be taken should he be chosen at the coming election, although he declined to speak on the subject at present.

Mr. F. B. Sanborn talked at length in favor of the present arrangement.

Dr. R. T. Davis, congressman from Fall River, Hon. David L. Webster and Dr. Alfred Hosmer, former members of the Board, and not all medical men, have expressed their very strong objections to the present Board, and at least two distinguished members of the medical profession have declined appointments to it on the ground that they could not serve on such an incongruous Board in a way to do justice either to themselves or to the public.

Massachusetts was the first State in the Union to establish a Board of Health, and the good done by it as shown in its reports, has been a guide and incentive to sanitarians and legislators all over the country, until many other States learned to profit by an example which Massachusetts was wise enough to set and misguided enough to abandon.

It seems as if the time and opportunity for her to re-establish a separate State Board of Health had come, and we hope that the medical profession will use its influence to induce the next legislature to pass the necessary enactments for an efficient Board, having a general supervision of all those questions included under the terms "State" and "Preventive Medicine;" among the most important of which are water supplies and drainage, adulterations of food and drugs, prevention and regulation of epidemic and other diseases, the scientific as well as practical investigation of sanitary problems, the registration and tabulation of vital statistics, the supervision of the reports of medical examiners, etc., etc. In dealing with such questions, there is plenty of work for a separate Board of competent, hard-working men, among whom should be a lawyer and a civil engineer.

The president of the Massachusetts Medical Society, in accordance with a vote passed at the last annual meeting of the council of the society, has appointed a committee of five to further this matter, consisting of the following-named gentlemen: Dr. George B. Shattuck, Boston, chairman; Dr. John M. Harlow, Woburn; Dr. Richard L. Hodgdon, Arlington; Dr. A. H. Johnson, Salem; Dr. S. D. Presbrey, Taunton; Dr. Emerson Warner, Worcester, who will be glad of any assistance or useful suggestions. Already the daily press, the *Transcript* and the *Traveller*, has sounded the alarm that there is a report of a combined effort to emasculate the adulteration-of-drug act by placing its enforcement under the pharmacy commission, composed of druggists, and taking it out of the hands of the health department which has been altogether too efficient to please the adulterators. It were better to repeal such a law altogether than not to enforce it. And with all due respect to the Pharmacy Commission, we should be scarcely more startled at a proposal to place the supervision of milk in the hands of the retailers of that article.

#### MEDICAL NOTES.

—Prof. R. Ogden Doremus reported to the New York Medico-Legal Society a supposed case of poison-

ing by cocaine, which had been applied to allay pain from a decayed tooth. The application was followed by the death of the patient, a woman.

—A young woman who lately took a medical degree in Paris has been appointed medical examiner of girls in the municipal schools of Paris, her duties being to see that the girls are not overworked and that they accomplish their tasks under good sanitary conditions.

—The *Northwestern Lancet* says that a young man fresh from college, whence he came with honors and medals, was sent by his father, a practitioner of fifty years' standing, to attend a woman in labor. On making a digital examination, he found the os uteri undilated. After waiting an hour, there being no improvement, he applied belladonna ointment, and endeavored to make forcible dilatation. At the end of another hour, there was still no dilatation; and, being alarmed, he went to his father for assistance; but before they returned the child was born. On examination, the father found that the child's anus was red and painful, and was liberally besmeared with belladonna ointment. The young practitioner had met with a breech-presentation, and had mistaken the child's anus for an undilated os uteri.

—The composition of the London fog is thus illustrated by the *Lancet*. The behavior of smoke, generally, may be studied by an interesting experiment, easily performed by any smoker of tobacco over his evening cigar or pipe. If he will blow the smoke gently from his mouth into any tall glass or vessel—even a tumbler will do—he will find that he can fill it by degrees as with a dense fog, and in a still atmosphere he may pour the fog from one glass to another without dissipating much of it. Precisely what happens with the tobacco takes place when we have a fog—that is, a cloud of vapor resting on the earth, the bulk of the fog being smoke. There are other fogs than those made of smoke, but it is easy by a series of simple experiments to convince oneself that smoke, whether of coal, tobacco—the lighter probably,—or any other vapor, may be concentrated by falling and drifting until it becomes a "fog" of considerable density, which may be rolled as a cloud along the surface of the water, or passed from place to place almost as a fluid.

#### BOSTON.

—Dr. A. Gaston Roeth, of the Boston Board of Pension Examiners, whose resignation is said to have been asked for a number of times but was never given, has been summarily removed by the Commissioner of Pensions. Dr. Morton Prince has accepted the position vacated. Dr. J. G. Blake has also been appointed to the Board *vice* Dr. Ahearn who is detailed for special duty at Lynn.

—The Inspector of State Charities reports that there are now seventeen insane patients boarded outside the hospitals, and that the new system is very satisfactory in every respect. The law requires that these patients should be visited once in three months, but they are in fact visited much oftener, and receive three times as much watchfulness as the poor in our

city and town almshouses. These private boarding-houses oftentimes serve as an intermediate stage between the hospital and complete convalescence; a place where the patient discharged from the hospital may remain until he can take care of himself. The inspector says that the out-patients are not more likely to suffer from neglect than the inmates in the hospitals, probably not so much, inasmuch as they are visited at frequent and irregular intervals. He says that the patients improve when placed upon a farm, and the people who board them seem to get along very comfortably with the patients.

—Apropos of the remarks in a recent editorial in the *Journal* upon the dangers of coal-gas poisoning, we notice by the daily press that last week a family residing in Everett, met with an experience which was nearly fatal to one of them. They went to bed about 9 o'clock in the evening, after putting a lot of fresh coal on the stove. By some accident the dampers remained closed. The man awoke about 4 o'clock the next morning, and found all the three rooms filled with coal-gas. He was just able to crawl to the hall door and open it, and then fell unconscious. After fifteen or twenty minutes he regained his senses, and found his wife and baby, and his wife's sister, who occupied an adjoining room, all unconscious. Physicians were summoned immediately, and the mother and babe found to be nearly dead. They subsequently revived under treatment. The wife's sister remained unconscious for a long time, but at last accounts was mending slowly.

#### PHILADELPHIA.

—Dr. Henry F. Formad will deliver the Mütter Lectures before the Philadelphia College of Physicians on Tuesday and Friday evenings in December and January, on the following subjects: "Morbid States as Influenced by Embryonal Development, Anomalous Structural Peculiarities, Injuries, and the Effects of Lower Organisms, with special reference to Surgical Pathology."

#### NEW YORK.

—Six school children in Newark, N. J., having been recently bitten by a mad dog, Dr. O'Gorman of that city, has obtained by cable the consent of Pasteur to take charge of them, and has started a subscription to pay the expenses of the trip to Paris for those of the children whose parents cannot afford it. Four of the children are to be sent (the parents of two of them refusing to allow them to go), and it is probable that Dr. F. S. Billings, of New York, will accompany them. In the meanwhile, an active warfare is being carried on against the canine race in general in the vicinity of Newark, where there is considerable excitement on the subject.

The latest intelligence is that Mr. Andrew Carnegie has offered to defray the entire expenses of sending the children to Paris, and that Dr. H. M. Biggs, one of the instructors in the Carnegie Laboratory of Bellevue Hospital Medical College, is also to accompany the party, with a view to making a special study of Pasteur's methods. Dr. Billings has preserved

the brain and spinal cord of the dog which bit the children, with the expectation of obtaining hydrophobia virus from them on his return from Paris.

—W. B. Ruggles, State Superintendent of Public Instruction, has rendered to the State Board of Health an opinion in regard to the controversy between the Board of Health of the city of Lockport and the Board of Education of the same city, in which he arrives at the following conclusions:

(1) In the absence of small-pox among the children of Lockport, and as a purely preventive measure, the power of exclusion of pupils from the school by reason of their not being vaccinated belongs to the School Board, and not to the Health Board.

(2) In such case, it would not be proper for the local Health officer under direction of the Board of Health, without the consent of the Board of Education, to enter the school room during a session of the school, and then and there insist upon inspecting the pupils, or vaccinating them, or notifying them that they would be excluded from the school unless they were vaccinated.

(3) The only condition upon which the Board of Education is authorized, by the act of 1860, to exclude any child or person from the benefits of the schools is that such child or person has not been vaccinated, not that he or she has not been vaccinated within five years. Therefore, although the State Board of Health may very properly recommend that those who have been vaccinated longer ago than five years should be re-vaccinated, a failure of such child or person to be re-vaccinated within five years would not be a legal ground of exclusion from school under the law referred to.

(4) Exposed as Lockport is to invasion by small-pox from points in Canada, sound judgment would seem to require that all possible reasonable efforts should be made by way of vaccination and otherwise by the local health authorities and the school authorities of the city to guard against the spread of the disease in that locality.

(5) By a careful observance of these statutory requirements and a disposition, on each side, to respect the legal rights of the other, the Health Board and School Board need have no difficulty within their respective jurisdictions in co-operating harmoniously in the performance of these important duties imposed upon them for the good of the community.

—Mr. Carnegie has recently made a gift of \$6,000 for the purchase of scientific apparatus for the Carnegie Laboratory, and has also signified his intention to contribute annually for the encouragement of the prosecution of original medical investigation in America.

—The first human body was incinerated in the new Mount Olivet Crematory at Fresh Pond, Long Island, on the 4th of December, and while there was some little delay and unskilful manipulation in carrying out the process, which can easily be avoided in the future, the result was entirely successful. The person whose body was cremated died about a month ago, and it is said that there are about forty other bodies now awaiting cremation here.

— Gen. Alexander Shaler, President of the City Board of Health, has been arrested and required to furnish \$10,000 bail on a charge of bribery. In the indictment found against him by the grand jury, the first count charges that while acting as a member of the Armory Board, he agreed to vote for the selection of certain city lots as a site for the Eighth Regiment Armory, in consideration of receiving \$9,000. The second count charges him with receiving a release from his indebtedness of \$9,000 to the Hackensack Savings Bank as the price for his vote in the Armory Board.

— The Commission appointed by the Legislature to receive some plan for improving the water supply of

Albany have presented the results of their investigations, lasting for about six months, in a report to the Common Council of that city, in which they unanimously recommend the adoption of the driven-well system on the sand plains north of the city, near Pleasure Island, at a cost of \$450,000 for furnishing a million gallons daily. Dr. Albert Vanderveer, of Albany, President of the New York State Medical Society, is one of the members of the Commission.

— At a fancy bazaar just held at Yonkers on the Hudson, for the benefit of St. John's Riverside Hospital of that place, the handsome sum of \$4,000 was realized.

## REPORTED MORTALITY FOR THE WEEK ENDING NOVEMBER 28, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York	1,340,114	566	192	18.02	16.83	1.87	1.02	8.50
Philadelphia	927,995	326	103	16.67	20.46	3.05	3.05	8.37
Brooklyn	644,526	—	—	—	—	—	—	—
Chicago	632,109	—	—	—	—	—	—	—
Boston	391,490	137	47	14.60	21.17	5.11	.73	8.03
Baltimore	408,820	121	42	16.60	18.26	—	1.63	9.96
St. Louis	400,000	—	—	—	—	—	—	—
Cincinnati	272,400	—	—	—	—	—	—	—
New Orleans	234,000	124	36	23.37	14.58	11.34	—	9.72
Buffalo	201,000	—	—	—	—	—	—	—
District of Columbia	194,310	—	—	—	—	—	—	—
Pittsburgh	180,000	64	28	23.40	9.36	—	6.24	7.80
Milwaukee	142,400	—	—	—	—	—	—	—
Providence	119,405	35	9	5.72	8.58	5.72	—	—
New Haven	62,882	—	—	—	—	—	—	—
Nashville	54,400	21	11	19.04	19.04	9.52	—	4.76
Charleston	52,286	37	11	—	—	—	—	—
Lowell	64,051	25	—	24.00	28.00	—	8.00	16.00
Worcester	68,383	21	5	14.28	28.56	4.76	4.76	—
Fall River	56,863	21	7	33.32	4.76	4.76	—	4.76
Cambridge	50,660	9	3	22.22	22.22	—	—	11.11
Lawrence	38,825	—	—	—	—	—	—	—
Lynn	45,861	—	—	—	—	—	—	—
Springfield	37,577	7	—	14.28	28.56	—	14.28	—
Somerville	29,992	—	—	—	—	—	—	—
Holyoke	27,894	7	4	14.28	14.28	14.28	—	—
New Bedford	33,393	11	5	9.09	16.66	—	—	9.09
Salem	28,084	6	1	—	—	—	—	—
Chelsea	25,709	8	—	12.50	12.50	—	—	12.50
Taunton	23,674	16	1	16.66	16.66	—	16.66	—
Glocester	21,713	14	1	25.00	—	—	—	25.00
Haverhill	21,795	8	3	12.50	12.50	—	—	12.50
Newton	19,759	4	1	25.00	50.00	—	—	25.00
Brookton	20,783	—	—	—	—	—	—	—
Malden	16,407	5	2	20.00	—	—	—	20.00
Newburyport	13,716	—	—	—	—	—	—	—
Waltham	14,609	3	—	—	33.33	—	—	—
Fitchburg	15,375	—	—	—	—	—	—	—
Northampton	12,896	35	7	—	20.02	—	—	—
82 Massachusetts Towns	—	—	—	—	—	—	—	—

Deaths reported 1,161; under five years of age 519; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fevers, and diarrheal diseases) 263, consumption 287, lung diseases 161, diphtheria and croup 139, typhoid fever 49, scarlet fever 21, malarial fever 17, whooping-cough ten, cerebro-spinal meningitis eight, measles four, puerperal fever four, small-pox one. From scarlet fever, New York eight, Philadelphia five, Pittsburgh, four, Baltimore, New Orleans, Fall River and Cambridge one each. From malarial fever, New York eight, Philadelphia three, Baltimore, New Orleans and Charleston two each. From cerebro-spinal meningitis, New York and Fall River three each, Philadelphia and Worcester one each. From measles, Baltimore two, New York and Boston one each. From puerperal fever, New York, Philadelphia, Baltimore and Nashville one each. From small-pox, New York one.

In 110 cities and towns of Massachusetts, with a population of 1,228,124 (population of the State 1,941,465), the total death-rate for the week was 18.18 against 11.94 and 16.26 for the previous two weeks.

For the week ending November 14th, in the Swiss towns, there were 29 deaths from consumption, lung diseases 22, diarrheal diseases seven, typhoid fever four, erysipelas two, small-pox and whooping-cough each one.

The death-rates were: at Geneva 11.1; Zurich 13.6; Basle 15.9; Berne 16.4.

In the 28 greater towns of England and Wales, with an estimated population of 8,906,446, for the week ending November 14th, the death-rate was 19.4. Deaths reported 3,301; infants under one year of age 789; acute diseases of the respiratory organs (London), 418, measles 85, whooping-cough 49, scarlet fever 47, diphtheria 38, fever 33, diarrhoea 33, small-pox (Liverpool three, Bristol and London one each) five.

The death-rates ranged from 12.3 in Nottingham to 26.5 in Preston; Birkenhead 15.1; Birmingham 17.7; Blackburn 22.7; Hull 18.8; Leeds 15.8; Leicester 13.4; Liverpool 24.6; London 19.6; Manchester 22.1; Sheffield 17.9; Sunderland 18.7.

In Edinburgh 17.1; Dublin 24.4; Glasgow 20.7.

The meteorological record for week ending November 28th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barom-eter.	Thermometer.				Relative Humidity.				Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration, Hrs. & Min.	Amount in Inches.
Saturday, Nov. 28, 1885.																				
Sunday, ... 22	29.903	39.9	39.6	35.6	79.0	84.0	90.0	82.7	N.	N.E.	N.	10	6	6	O.	R.	R.	—	—	
Monday, ... 23	29.926	36.4	45.2	34.9	91.0	91.0	72.0	88.2	N.E.	N.E.	N.E.	17	22	28	R.	R.	R.	—	—	
Tuesday, ... 24	30.855	40.5	43.0	38.3	71.0	100.0	100.0	84.7	E.	E.	E.	36	35	31	R.	R.	R.	—	—	
Wednesday, ... 25	29.587	43.2	45.9	36.8	100.0	100.0	100.0	100.0	E.	N.E.	N.E.	33	42	36	R.	R.	R.	—	—	
Thursday, ... 26	29.862	31.8	38.0	28.1	81.0	85.0	82.0	91.0	N.	N.	N.	22	24	11	Snow.	O.	O.	—	—	
Friday, ... 27	30.233	32.3	37.8	24.0	68.0	58.0	79.0	74.7	N.	N.	N.W.	10	8	9	C.	C.	C.	—	—	
Saturday, ... 28	30.217	32.5	41.4	25.3	71.0	53.0	77.0	68.3	N.W.	W.	W.	6	6	11	C.	O.	C.	8 5/8	3.55	
Mean, the Week.	29.940	34.8	41.1	31.3	80															

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM NOVEMBER 28, 1885, TO DECEMBER 4, 1885.

VICKERY, R. S., surgeon and major, United States Army. Relieved from the assignment as Acting Medical Director, Department of Colorado, to date the 16th inst. S. O. 200, Department of Colorado, November 23, 1885.

WINNE, C. K., assistant surgeon and captain. Assigned to duty as Post Surgeon, Benicia Barracks, and attending surgeon at Benicia Arsenal, California. S. O. 109, Department of California, November 20, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING DECEMBER 5, 1885.

ATLICK, HAMPTON, surgeon. Ordered to "Alliance" as relief of Surgeon G. P. Bradley.

BRADLEY, GEO. P., surgeon. Ordered to naval hospital, Philadelphia.

STAFFER, JOSEPH, assistant surgeon. Detached from naval hospital, Philadelphia, and ordered to "Minnesota."

GAINEK, J. H., passed assistant surgeon. Detached from naval hospital, Washington, and ordered to the "Dolphin."

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE TWO WEEKS ENDING DECEMBER 5, 1885.

WYMAN, WALTER, surgeon. Granted leave to attend meeting of American Public Health Association, December 3, 1885.

BENSON, J. A., passed assistant surgeon. Granted leave of absence for fifteen days, November 28, 1885.

ARMSTRONG, S. T., passed assistant surgeon. Granted leave of absence for eight days, November 30, 1885.

WASDIN, EUGENE, assistant surgeon. Granted leave of absence for thirty days, November 28, 1885.

WATKINS, R. B., assistant surgeon. To proceed to Galveston, Texas, for temporary duty, November 30, 1885.

#### SOCIETY NOTICES.

SUFFOLK DISTRICT MEDICAL SOCIETY. OBSTETRIC AND GYNECOLOGICAL SECTION. There will be a meeting of this Section at the large Medical Library Room, 19 Boylston Place, on Wednesday evening, December 10th, at 7.15 o'clock. Communications: Dr. O. W. Doe, "The Advisability of Inducing Abortion in Cases of so-called Uncontrollable Vomiting of Pregnancy." Dr. E. W. Cushing, "Exhibition of Preparations of Septic Bacteria, with Observations on Puerperal Septicemia." Drs. Francis Minot, J. P. Reynolds, A. D. Sinclair, W. E. Boardman, C. M. Green, and H. C. Ernst will take part in the discussions. Refreshments after the meeting.

JAMES R. CHADWICK, M.D., Chairman.

ROBERT B. DIXON, M.D., Secretary.

RHODE ISLAND MEDICAL SOCIETY. A quarterly meeting will be held in Lyceum Hall, 62 Westminster Street, on Thursday, December 17, 1885, at 10 o'clock. Papers: Dr. G. F. Keene, "A New Method of Treating Colic Fracture." Dr. F. P. Cushing, "Nasal Catarrh, its Immediate and Remote Effects." Dr. O. C. Wiggins, "Clinical Observations on Typhoid Fever."

G. D. HERSKY, M.D., Recording Secretary.

#### RESIGNATIONS.

Dr. J. P. Reynolds has sent to the Corporation of Harvard University his resignation of the Chair of Obstetrics in the Medical School.

Professor R. A. F. Penrose has resigned the Chair of Obstetrics and Diseases of Women in the University of Pennsylvania.

#### BOOKS AND PAMPHLETS RECEIVED.

A Study of Epilepsy: a Paper read before the American Medical Association. By J. J. Caldwell, M.D., Baltimore.

Basic Aural Dyscrasia and Vascular Deafness: a New System of Aural Therapeutics and Pathology (Reprinted from the Dublin Journal of Medical Science), also, Notes on the Deafness, (Reprinted from the Lancet.) By Robert T. Cooper, M.A., M.D., University, Dublin. London: Baillière, Tindall & Cox. 1885.

The Physiological and Pathological Effects of the Use of Tobacco. By Robert Amory Hare, M.D. (University of Pennsylvania). E. Sc. Fiske Fund Dissertation, No. XXIV. Philadelphia: P. Blakiston, Son & Co. 1885.

Student's Aids Series. Aids to Medicine, Part III (Double Part) Diseases of the Brain and its Membranes, of the Nervous System, of the Spinal Cord and of the Ear. By C. E. Armand Semple, B.A., M.B., Cantab, etc. New York and London: G. P. Putnam's Sons, 1885.

Observations upon the Mutual Relations of the Medical Profession to the State. Address by Donald Maclean, M.D., President of the Michigan State Medical Society. Delivered before the Society at Port Huron, June 10, 1885. Lansing.

A Case of Fatal Ear Diseases, Beginning as a Circumscribed Inflammation in the Outer Half of the External Auditory Canal. By Charles J. Kipp, M.D., of Newark, N. J. (Reprinted from the Transactions of the American Otological Society, 1885).

The Physician's Visiting List. (Lindsay & Blakiston's) for 1886. Thirty-Fifth Year of its Publication. Philadelphia: P. Blakiston, Son & Co.

A Guide to the Practical Examination of Urine. For the Use of Physicians and Students. By James Tyson, M.D. Fifth Edition, Revised and Corrected. With Colored Plates and Wood Engravings. Philadelphia: P. Blakiston, Son & Co. 1886.

Rectal Medications. By D. W. Cathell, M.D. (Reprint from Transactions of the Medical and Chirurgical Faculty of Maryland, 1885).

A Manual of Operative Surgery. By Lewis A. Stimson, B.A., M.D., etc. Second Edition. With 342 Illustrations. Philadelphia: Lea Brothers & Co. 1885.

Annual Report of the Surgeon General, United States Army, 1885.

Organic Materia Medica and Therapeutics. By James Young Simpson, M.D. In Accordance with the Sixth Revision of the United States Pharmacopoeia. New York: J. H. Vail & Co. 1885.

The Friedrichshall Apertin Natural Mineral Water: its composition, Physiological Action, etc. London, 1885.

Five Thousand Facts that Everybody Wants to Know. The Fifth of Many Books. Compiled by W. R. Adams. Chicago: A. H. Andrews & Co. 1885.

Manuel des Injections sous-cutanées par Bourneville, Médecin de Bicêtre et Bricon Docteur en Médecine. Second Edition. Revue et Augmentée. Paris. Librairie du Progrès Médical. 1885.

## Original Articles.

THE PRESENT SYSTEM OF APPOINTMENT OF MEDICAL EXAMINERS BY THE STATE OF MASSACHUSETTS.<sup>1</sup>

BY W. C. B. FIFIELD, M.D.

In an unguarded moment I promised to read before this Society a paper bearing the title expressed on the cards for the evening.

## THE PRESENT SYSTEM OF APPOINTMENT OF MEDICAL EXAMINERS BY THE STATE.

A somewhat extended experience in criminal cases before the courts suggested this paper. I ask the forbearance of my hearers towards this crude and hasty production, and I must most distinctly assert that anything seemingly severe or critical is directed towards the system, and not against the Examiners themselves.

The office of Coroner, now extinct in this State, is of great antiquity, and has been held in high respect for centuries. It still exists in almost all civilized countries. The organization of coronerships varies somewhat in different commonwealths. Some have coroners in each village, town, and city. Independent of every other officer, they are called upon when occasion arises for their services, summon their juries, investigate their cases, and return their findings to the proper authorities. Their duties end when such return is made.

In one country at least, more than this is required. The coroner of a community must, if in his judgment a searching inquest and a thorough post-mortem be required, notify a still higher official, the coroner for the county or province, presumably a man of more advanced education and practical skill and higher judgment. This personage being presented with the facts of the case, proceeds to a careful and searching investigation of all facts bearing on the case, and personally conducts the autopsy, guided by and in strict regard to rules laid down by superior authorities.

Not yet is the paternal government satisfied. The findings of the county coroner must be submitted to a Board sitting at the capital of the State, and representing all the most distinguished medical jurists the country can produce. These findings are winnowed and sifted, and only then is the case delivered over to the representatives of the law, or withdrawn from public notice.

In our own Commonwealth, as I before said, the office of Coroner is extinct. Let us ask why it is gone, and what has come in its place. At once the answer springs to our lips, that the abuses and corruptions of the first demanded that it die, and that the office of Medical Examiner has been born and now has attained some age. Let us again ask whether the time has not now come when this should pass away and give place to something better.

We have said that the abuses and corruptions of the office of coroner brought about its death. What those evils were is shortly told, and are fresh in the minds of men not yet arrived at the period of cackling old age. They were ignorance, avarice, and jealousy. The coroners of country towns were as often as not, chosen from the most ignorant and illiterate of the population. Incapable of distinguishing between fact

and falsehood, often cruel and harsh, because ignorance is always cruel and harsh.

In the great cities, avarice and jealousy took the place of the ignorance of the country town. Coroners constantly ordered post-mortems to be made, often when needless, thereby pleasing their favorite doctor; or the doctor being the coroner, ordered one to please himself. Add to the post-mortems the fact that the same coroner took care to always have nearly the same men on his juries. Add again the astonishing length of time these juries could sit, and you come near the answer, that both coroners and juries gained a comfortable living in this way.

Very jolly and profitable to me in early professional life were these inquests. The kind old coroners who adjourned early, and day by day; toothsome and wholesome the lunches, and soothing the cigars paid for by the county. *Vale. Vale.*

Jealousy also played its part. Coroners had their men out to act as deplorers, or, as a military acquaintance always terms them, deplorers; and rapid were the legs, and nimble the tongues of the deplorers when a body was in sight.

We now come to the second question, whether or not the time has come when the present system of medical examiners as appointed by the State ought to perish and give place to something better. If we argue in the affirmative, we must state the convictions that lead us hither.

The exact number of medical examiners I do not know. Appointed by the State, they undergo no examinations to determine their fitness for the post. They should be in every instance well-bred and well-instructed gentlemen, competent from education and professional training to fill this very responsible post, not to be entered into carelessly and thoughtlessly, but soberly and seriously, well weighing its many obligations; able to make an exhaustive *post-mortem*, with full knowledge of what will be demanded by the law; possessed of sufficient knowledge of chemistry and toxicology to recognize the *post-mortem* appearances produced by ordinary poisons, and to determine their presence by chemical analysis.

Will any one say that the medical examiners in general come up to this standard, or that such standard can be maintained by any means short of a rigid practical examination of each candidate for the office?

I believe that the appointments are not made either by fame or from careful questioning by the Executive or by an expert proxy. I believe that they are made rapidly, perhaps are *sometimes* obtained by the din and clatter of the agents of those who think that a commission would give them consequence in the communities where they live. I do not believe that a careful canvass of the State would show that the medical examiners are invariably the best and most competent of the physicians. Such do not seek the office.

Yet when we reflect for a moment on the tremendous power in the hands of the medical examiner—the power to arouse suspicion, to cast odium never to be removed in country towns; power indirectly to bring about imprisonment and ruin to parties against whom no real evidence exists—we shall begin to demand that the appointing executive shall sit as a refiner at his fire “till fire from dross the silver runs below.”

Moreover, we must bear in mind the great cost to a county of a capital case, or even of cases of murder in the second degree where it is known or suspected that

<sup>1</sup> Read at the Boston Society for Medical Improvement, Nov. 23, 1885.

the report of the medical examiner is deficient or in error. We must think also of high officials, such as attorney-generals, district attorneys, and eminent counsel being led into errors as to indictments, and evidence, exposing them to mortifying exhibitions of themselves before the court and jury, through the incompetence of the medical examiner on whose skill and knowledge they had relied.

Then, and chief of all, the prisoner at the bar, in constant danger of a miscarriage of justice, has he not a right to demand that the arm of the government shall be thrown around him as a shield and defence, as well as for an instrument of punishment. Let him not be stricken down as with a club in the hands of a blind man. Considering these things, should not the office seek the man, seek the best, the most learned, the most upright, the most competent?

Is such the case in this Commonwealth? One cannot but praise a most excellent district attorney for his recent order to medical examiners in his district: "In cases of suspected murder or manslaughter, employ an expert to be with you." Men and women have doubtless languished in jails from suspicion and conviction of crimes which have had no existence save in the minds of untrained and incompetent medical examiners. Per contra, doubtless many criminals escape from the same cause. Matters were surely not much worse in the days of coroners, whose long deliberations certainly gave opportunity for the suspected to employ help, both medical and legal.

I am informed on most credible authority of an action brought to compel the payment of one hundred dollars by a medical man to an agent who should obtain the appointment of medical examiner, and who did procure it. Judgment for the plaintiff; appealed to a higher court. The writer has for many years been employed by the government, and once by the defence, in capital cases, and in those of the second degree, and has been sometimes astonished at the lack of qualification on the part of medical examiners for the duties they had assumed.

So firmly was this fixed in the mind of perhaps one of the ablest district attorneys Massachusetts has ever had, that, in the latter years of his practice at the bar, he absolutely refused to go to the grand jury with a case seen by a medical examiner unless it had been first submitted to an expert's guidance, not late, but early, before the *post-mortem* if possible, at any rate, before the body had lain long enough in the grave to destroy important evidence to be obtained from it. The writer has had such body disinterred hours after it had been examined, and miles away from the spot where the crime had been committed.

I well remember the dismay of the late Charles R. Train on reading the indictment of a famous case of murder containing only one count, namely, that death occurred from a shot in the head, and that the victim had died in a certain town in Norfolk County. Scarcely an organ of the body except the brain had been inspected and the writer set up for the defence the points that the death came from drowning; that it came from suffocation by a scarf tied around the neck; that it came from Bright's disease; that it came from disease of the heart, and that she did not die in the town named, but in another. More than a year ago the writer was sent by the government to investigate a case of supposed murder in Massachusetts. The first medical examiner, on being

called to view the corpse, had, it was told me, thrust his hand beneath the overcoat, and had rendered a verdict that the cause of death was disease of the heart. The second examiner, brought in obedience to popular clamor, made an autopsy, found no disease of the heart, but did find what he honestly believed to be a dislocation of the atlas from the skull. Yet on taking up the body there was no evidence of either fracture or dislocation having ever existed. In this examination, the writer had the advantage of the presence of a most excellent medical examiner employed by the defence.

The supposed murderer had been arrested and had, I think, lain in jail some six weeks. So also had a man and his wife who lived in the house at the time of the supposed murder, and whose evidence it had been thought was too valuable to allow of their being at large.

Not long ago a teamster passing along a somewhat lonely road, perceived a horrible smell which seemed to come from a field near by. Dismounting from his wagon and entering the field he saw lying near the wall the dead body of a man, pretty well advanced in decomposition, for the weather was very hot. He notified the authorities; the medical examiner, who viewed the body, declared no suspicious circumstances existed, and ordered the burial of the body. Days afterwards, in consequence of some information picked up by a constable, the corpse was exhumed, re-examined, and three ribs, and I believe the sternum, were found broken, and either the pericardium or pleura found to contain a quantity of blood. The man was probably killed by his adversary kneeling upon him, or, as one man expressed it "jouncing him." Here the old coroner system would perhaps have worked better. With its delay, and its large jury of neighbors, the suspicious circumstances would most likely have been brought forward. Conviction and sentence of the criminal duly took place.

Only recently the writer was called by the government to read over the report of a medical examiner, who had returned in a case, which it was supposed could be tried as murder in the second degree, that he had reached the following very extraordinary conclusions, namely, "That the deceased had come to her death from typhoid fever, complicated with cerebro-spinal meningitis following a blow struck with a small stick on the right buttock six months before." The skull had not been opened, but the diagnosis of cerebro-spinal meningitis had been founded on the fact that a part of the lumbar vertebra had been chiselled away to a small extent and blood had been seen on (and within?) the dura mater. The Grand Jury found a bill for assault of the man on his daughter because she did not rise early enough in the morning to please him, and fined him one hundred dollars or five months in the House of Correction. He preferred the latter and boarded it out.

At a recent trial that cost the county a great deal, for to the medical examiner there was added four experts and but one was brought forward for the defence, this remarkable verdict was rendered.

"Mark — a jury between the country and the prisoner at the bar. On the first count of the indictment: By striking five mortal wounds of which she died. Not guilty. 2d. By inflicting twenty wounds and exposing her to the weather (thermometer at 8° below zero). Not guilty. 3d. By some means to the jury unknown. Guilty." It is stated that the prisoner smiled, as well

he might. Sentenced to five years in the State Prison.

My thoughts on the present system of appointment of medical examiners by the State are that, it is insufficient for the protection of the citizens of the Commonwealth; that the best, that is, the most highly trained men, are not secured for the office; that even one such man in a county, would be better than one less competent in each town; that the office is sometimes secured by unworthy means; that the payment of the office is insufficient, this goes without saying; that the Commonwealth should appoint a commission composed of the very best medical jurists in the country, who shall thoroughly examine all applicants for the office of medical examiner, and recommend those who pass to the Executive for appointment.

The writer desires to say that whilst such men as Dr. Draper, Dr. Harris, and others are among the medical examiners the evils of incompetence will not be very severely felt, particularly as the order has gone forth, in one district at least, for the employment of experts by medical examiners. A great and instant need for reform and advance is at hand. Any one who has a spark of justice in his heart, or who has feeling for the misfortunes and distress of others must know this need.

The ideal must become real, men must be found who will profoundly study medical jurisprudence in its highest and most lofty conditions wherever it is best taught; in Paris, if need be, where Tardieu did his splendid work; at the Morgue, whose shelves are daily laden with the victims of crime, or sorrow, or of the madness of despair; where a learned professor turns all these to use in his lectures; in the teeming city where Caspar lived and died. All appliances must be possessed by such men with knowledge to use them; these, or a selection from their number, should form a commission of last appeal. In my imagination I see such a Board sitting in judgment and furnishing to the officers of the law sifted truth, each member vying with the other to present all sides of the case with perfect fairness.

I shall see the courts free from experts trying each to serve the master who feeds him, for it is almost as easy for a camel to go through the eye of a needle as to avoid bias. I have heard medical examiners even, asked the question, "Doctor, do you want this prisoner convicted?"

In each shire town I hope to see perhaps a lesser, but not feeble luminary of medical jurisprudence, who shall gather facts from village and hamlet, and submit the same to the Commission. Even so may this come and come quickly.

#### APPENDUM.

As the above may seem Utopian, not to be realized for an age, I would offer the following substitute:

That as occasions offer themselves to the Executive, from the death, or resignation, or removal of medical examiners, their places shall be filled by none except those who shall furnish certificates from professors of colleges holding the position of teachers of Medical Jurisprudence, that they are well fitted for the post.

—The *Medical Record* states that at the recent election in England, eleven cities elected medical men as mayors.

### A CASE WHERE LITHOTOMY WAS TWICE PERFORMED WITHIN FOURTEEN MONTHS, WITH REMARKS ON THE RECURRENCE OF STONE IN THE BLADDER.

BY REGINALD HARRISON, F.R.C.S.,

Surgeon to the *Liverpool Royal Infirmary* and *Lecturer on Clinical Surgery* in the *Victoria University*.

CASES of recurring stone in the bladder requiring removal by lithotomy are sufficiently rare to need no apology for their narration. The particulars of this instance are as follows:

Thomas S., aged sixty-two, was admitted into the Royal Infirmary under my care in July, 1884, suffering from symptoms of stone. On examination the bladder was found to contain more than one stone. The prostate was large and considerably impeded the introduction of the necessary instruments for sounding and exploring the bladder. Under these circumstances, I selected lithotomy with the view not only of removing the stones, but of improving the condition of the prostatic urethra by the method I have already brought under notice.<sup>1</sup>

On July 25, 1884, I performed lateral lithotomy and made a free section of the prostate which, by the elevation of its floor from hypertrophy, rendered access to the bladder somewhat difficult with the forceps. I removed two and a quarter ounces of stone, which broke in removal. Allowing for portions that were lost during this piece-meal extraction, the stones must have weighed about three ounces. The calculi were chiefly phosphatic, with a uric acid nucleus. The bladder was carefully explored both with straight and curved forceps, with the finger, and finally was well washed out from the wound with a Higginson's syringe. The section of the prostate referred to rendered the various manipulations quite easy. One of my bladder drainage tubes was introduced. There was some free oozing after the operation which necessitated a plug of lint soaked in turpentine being inserted by the side of the tube. The patient made a good recovery; the bladder drainage tube which was used for rendering the section of the prostate permanent, was changed several times and was not finally removed until six weeks after the operation. The patient left the Infirmary apparently well with a sinus through which urine passed in small quantities. Considering the time the drainage tubes were retained for improving the prostatic urethra, I did not attach any importance to this, and, guided by other experiences of the kind, assured the patient that the wound would soon heal.

After he left the Infirmary, though he returned to his work, his bladder never quite recovered itself; the wound did not entirely close, and he suffered more or less at times from chronic cystitis. These circumstances led me to believe that the bladder was sacculated, but I could detect nothing more.

In August, 1885, my house surgeon, Dr. Bristow, sounded him and thought he felt another stone. On a subsequent examination I confirmed the diagnosis, and on September 12, 1885, I again performed lateral lithotomy for him on the old line, in the course of which there was a small sinus remaining from the previous operation. The operation was perfectly easy, the access to the bladder being greatly improved, for on this occasion, the largest sized staff could be readily passed. I removed a stone which, with its encrust-

<sup>1</sup> On the treatment of certain cases of prostatic obstruction by a section of the gland. *Transactions International Medical Congress, Copenhagen, 1884.*

ing shell of friable phosphates, weighed exactly one ounce. Surgeon-General MacKennon and Dr. Frank E. Cannes were present at the operation. A double bladder tube was introduced for drainage, and retained for a few days, when it was withdrawn; the patient was up on the twenty-third day, and left the Infirmary exactly five weeks after the operation with the wound soundly healed and the functions of the bladder completely restored. He has since reported himself as remaining quite well. No prostatic bar can now be felt nor is there any residual urine.

I was somewhat puzzled at first to explain satisfactorily the course of events in this case. I have mentioned the various processes employed at the first operation, so far as improving the entrance into the bladder was concerned, for the purpose of showing how thorough an examination of the interior of the viscus was necessarily made, both by the finger and by means of different kinds of instruments. It seemed almost impossible that a stone, however sacculated, could, under these circumstances, have escaped detection. Still, on the other hand, when I considered that the wound never completely closed after the first operation, and that in the interval the patient was never free from signs of vesical irritation, it seemed to be probable that the whole of the stone had not in the first instance been removed. A careful examination of the stone itself further convinced me that this was the true explanation. If the mass of calculeous material removed at the second operation is carefully examined, it will be seen to consist, as geologists would say, of two different strata. The inner portion or nucleus of the size of a flattened French prune, evidently belongs to the same period and formation as the calculi removed at the first operation, the outer friable crust of phosphates clearly being of quite recent production. I have no hesitation in concluding that a stone of considerable size escaped detection and removal at the time of the first operation, even in spite of all the precautions which the state of the prostate prompted.

As I have now performed lithotomy in children and adults in about equal proportions, close upon one hundred times, with a mortality of four or five per cent., I think I may plead that both experience and care proved unequal in this instance in avoiding a contingency which, had death happened after the first operation, might have exposed one less accustomed to operate for stone than myself to unjust obloquy and criticism. Hence my desire apart from the general interest of the case to record it. One circumstance afforded me considerable satisfaction, and that was my being able to ascertain beyond all reasonable doubt how feasible it is permanently to improve the condition of the large prostate by its section, as already referred to in cases uncomplicated with stone. One great objection I have had to the supra-pubic operation for stone is that where in addition to a calculus there is a large and possibly obstructing prostate, it affords no opportunity for remedying the latter should this be found practicable, and of permanently removing symptoms which may continue though no stone is left to account for them.

Mr. C. Williams of Norwich, has recently published a case,<sup>2</sup> which adds importantly to our knowledge relative to the operative proceedings on the large prostate. It is an instance where he operated twice for stone in a patient over seventy years of age. On the first occasion the whole of the middle lobe of an enlarged

prostate was removed, and subsequently another stone by lateral lithotomy. Referring to what had previously been done, Mr. Williams remarks, "The next point is the condition of the floor of the bladder. Two years and a half had elapsed since the part was removed and no further growth from the prostate had taken place. The wound made by such removal had healed, and the floor of the bladder was soft, even and natural."

Reverting to my own case, in the improved state of the outlet from the bladder may be found the explanation as to how it happened that the sacculus or depression which concealed the stone and rendered a second operation necessary, got rid of its occupant and thus led to the viscus resuming its normal shape and function, as it undoubtedly has.

There can be question that of the various causes which bring about sacculation and changes in the shape of the bladder, anything which obstructs micturition is the most fertile, and in the recognition of this explanation, we have the clearest indication for the correction of this lesion. The case I have narrated may serve to illustrate this point. It may be doubted whether a bladder is capable of becoming so completely sacculated as to conceal a considerable sized stone from detection. One of the best examples of this I recently met with in the pathological museum attached to Queen's College, Birmingham.

As to the frequency of stone relapses, Mr. C. Williams writes, in reference to cases occurring at the Norfolk and Norwich Hospital,<sup>3</sup> "This makes a total of 28 relapses in 1015 operations (lithotrities and operations on females included), between 1772 and 1869, a period of ninety-seven years, and gives a proportion of one in 36, or, of 35 lithotomies (lateral and median) one in 33. All the patients were males, no instance of recurrence having shown itself in the female. In one case a sacculated calculus was left undetected in the bladder and removed with a loose one at a second operation." The case referred to in the last paragraph seems to be similar to the one I have now recorded.

In connection with Mr. Williams' statistics relative to stone relapses, it must be remembered that they are drawn from a locality where calculus disorders are endemic, consequently taking a larger area we may conclude that the proportion of recurrences is still less, a conclusion which my own experience would warrant.

Amongst the causes favoring the reproduction of stone, I believe the large prostate is by far the most frequent, and it seems to bring this about in at least two ways. In the first place, persons who may have been in the habit of voiding renal calculi for years, find after a certain age has been reached that they no longer do so, and continued vesical irritation follows upon the attack of renal colic. The explanation lies in the fact that the prostate has commenced to enlarge and obstruct, and thus stones which previously escaped spontaneously are practically trapped. I am frequently in the habit of removing by crushing, small uric acid calculi formed under these circumstances. In the second place, the large prostate, by permanently altering the shape of the outlet from the bladder, and thus causing urine to be constantly retained, engenders a state of chronic cystitis and excessive mucous excretion, which are the invariable preliminaries to the formation of the phos-

<sup>2</sup> The Relapse of Stone in the Bladder after Lithotomy. *The Lancet*, May 18, 1878.

<sup>3</sup> *British Medical Journal*, June 15, 1878, and November 14, 1885.

phatic stones. In these directions, I think may be often found explanations for the recurrence of stone in instances where there cannot be a doubt that the primary formations had at all events been entirely removed.

## REPORT ON DISEASES OF CHILDREN.

BY T. M. ROTH, M.D.

### CATALEPSY.<sup>1</sup>

THE occurrence of catalepsy in childhood is so rare and the recorded cases so few in number that the report of Dr. A. Jacobi on a girl three years old, a patient at the Mt. Sinai Hospital, is well worthy of mention. Jacobi, speaking in general of catalepsy, states that the only case in a child which has come under his notice besides the one about to be spoken of, occurred in a boy of thirteen who suffered from chorea magna during the space of two years before he died in an insane asylum. His attacks of chorea were very violent, interrupted by intervals of several weeks, in which both his convulsive efforts and his psychopathic condition would improve and would alternate sometimes with brief attacks of catalepsy, with but partial consciousness, diminished or destroyed will power and the waxy flexibility, all of which symptoms are claimed to be those of the morbid condition called catalepsy.

Monti, in his article in Gerhart's "Handb. d. Kinderk.," vol. v., p. 186, quotes but eleven cases met with in children, male and female in about equal numbers, from five to fifteen years, the average age being nine years. Jacobi's case was remarkable from the fact of no previous case having been reported as young as three years, also in the combination of well-marked symptoms of psychic indolence, normal or abnormal temperature, cold surface, anesthesia, analgesia, "flexibilitas cerea" and diminished patella reflex. The increase of urine during a greater part of the catalepsy was also a remarkable feature, such as is seen in hysteria of both adults and children; but while it contained no sugar and nothing abnormal, excepting large quantities of phosphates, it had the, in children, unusual specific gravity of 1015-1020.

The report of the case is as follows: F. C., aged three, admitted to hospital September 1, 1879, with typhoid fever, for some weeks previous suffered from headache for which she was given castor oil; diarrhoea then set in and continued. On admission her pulse was 136, respirations 30, and temperature from 101° to 105° F. She coughed a good deal.

September 10th, it was recognized that she had whooping-cough, and she was removed from the ward. September 16th, diarrhoea better; 17th, no fever; 23d, pulse stronger; slight spasm of eyelids noticed; coughed but little, but cried a good deal during the next few days. 24th, had passages containing undigested milk. 25th, a good deal of twitching of lids; eyeballs turned upward tonically; occasionally divergent strabismus; in the night slept with eyes closed. When the arms were lifted up they would remain in any position in which they were placed; when she was directed, in a loud voice, to drop the arms, she would do so slowly; her legs were in a similar condition and would remain in the position in which they were placed. The fourth finger, taken separately remained extended or flexed when placed in either posi-

tion. The arm could be partly extended or with some force flexed and remained in that position. There was some voluntary action left, for when her arms and hands were in a natural position she would attempt to take a penny from the bedclothes. Her muscular action in general was very deficient. When she was raised up in bed, her head fell forward, and when the arm was lifted vertically, it would remain in that position for minutes and then slowly come down. During the past three days she has passed a large quantity of urine with a specific gravity 1020. Extremities very cold; indifferent to everything about her, but when aroused by strong impressions the twitchings of the eyelids cease for a moment. 27th, patient a little stronger; sat up in bed; held head erect while being fed; twitching of muscles. When the extremities were placed forcibly in the cataleptic position, reduction was attended with little pain. Lower extremities less abnormal than upper ones. She could stand and walk two or three steps. Sensibility to contact, pain, and change of temperature entirely lost. A needle could be run through the skin without eliciting any evidence whatever that it produced pain; tickling the soles of the feet yielded only slight reflex movements; the patella tendon reflex was greatly diminished; her eyes were staring and her appetite was ravenous. 28th, easily awakened from sleep; one passage from bowels; answered questions; anesthesia and analgesia persistent; conjunctiva, eyeballs and eyelashes could be touched without giving rise to twitchings; sight good. Pennies occasionally taken from bedclothes. 29th, Pulse 88; respiration 26; temperature 97° F. Less twitching of eyelids; patient appeared brighter but anesthesia and analgesia persisted and the arms were strongly cataleptic; appetite continued ravenous; the pupils were equal and responded to light; the urine was passed in large quantity, and had a specific gravity of 1020.

30th, Pulse 84; respiration 30; temperature 99° F. Two stools; a small ulceration existing on one arm began to extend; the patient was very cross; the Schneiderian membrane was very sensitive; a slight touch produced sneezing.

October 1st, Pulse 92; respiration 22; temperature 99° F. Cataleptic position of arm sustained one minute; no twitching of eyelids; appeared brighter; when an arm was flexed a good deal of strength was required to extend it; urinated once or twice every hour.

2d, Loss of sensation complete; surface of body and extremities warmer; quantity of urine less; strength of patient increased.

3d, When an arm was extended or flexed it dropped at once. Reflex movements on pricking with needles.

4th, Anesthesia and analgesia as before.

6th, Cataleptic position held out one minute. 7th, Slept well; passed a large quantity of urine; slight reflex movements on tickling and pricking the feet.

8th, Diarrhoea, which has existed since the 4th, less, and surface warmer; ulceration on arm looked better; Schneiderian membrane and conjunctiva gave reflex movements on tickling. 9th, Patient brighter; arm and fingers retained cataleptic position forty-five seconds and a good deal of strength was required to overcome it while it lasted; urine had a specific gravity of 1015; no albumen. 13th, Pulse regular; surface warmer; feet still cold; called for drink frequently; cataleptic condition unchanged. 14th, Sat in a rocking chair. 15th, Asked for chamber; on

<sup>1</sup> American Journal Medical Sciences, April, 1885.

tickling, no reflex; no patella reflex; cataleptic condition persisted to a slight degree; no twitching of the eyelids. After this time the general condition of the patient improved, and about October 20th, the cataleptic symptoms had entirely disappeared. She was still in bed November 5th, but sat up occasionally. Her appetite was no longer ravenous and the urine was less copious. The child recovered, but remained anæmic and weak longer than patients recovering from typhoid fever usually do.

#### FATTY DIARRHŒA.<sup>2</sup>

Tschernoff in an article on the "So-called Fatty Diarrhœa of Demme and Biedert," gives a large number of analyses of the stools of healthy and diseased infants. The fat in seven healthy children under six months old amounted to from 25 to 30 per cent. of the dried feces. The average quantity in four dyspeptic children was 48 per cent. Two infants with erysipelas showed respectively 44 and 52 per cent. and the amount remained high long after their recovery. Two cases of catarrhal pneumonia gave 51 per cent. each, and another case 60 per cent. A child with bronchitis and nearly normal temperature showed 39 per cent.; another with chronic diarrhœa 42 per cent. A child nine months old showed during an attack of scarlatina 57 per cent., and after recovery only 32 per cent. The next case was remarkable, for the stools, which were frequent, offensive, and whitish, contained when dried no less than 75 per cent. of fatty matter; the child, aged two years, was icteric, with greatly enlarged liver and spleen. A wasted infant six months old, nursed by its mother, had diarrhœa, with shiny, blood-stained, offensive stools, which showed fifty per cent. of fat. After treatment, including the substitution of a wet nurse, the infant recovered and regained all its flesh, but the dried stools still showed 40 per cent. of fat. This case exemplified the difficulty with which children regain their power of assimilating fat. Tschernoff believes that every disturbance of the digestive tract is accompanied by increased fat in the stools, and this increase is greater still, if the temperature is raised. Even adults when feverish, show an increase of 14 per cent. The quantity of fat in the food does not seem to affect the proportion in the stools.

#### TAPE-WORM.<sup>3</sup>

At the June meeting of the District Medical Society of Hudson, N. J., Dr. S. A. Heller, of Hoboken, exhibited portions of a tape-worm, in all about five feet in length, removed from a nursing infant five months old.

#### DILATATION OF STOMACH.<sup>4</sup>

In an article on dilatation of the stomach in children, Dr. J. Comby, after referring to the works of Dupuy, Kussmaul, Fruchner, and others, establishing as a distinct disease, primary dilatation, that is, not connected with pyloric stenosis, in the adult, speaks of how little attention has been paid to the existence of the same affection in children, although Bouchard had pointed out its relative frequency in early life, and Thibaut had written a thesis on the subject in 1882, followed in 1883 by an accurate article of Moncorso,

of Rio Janeiro, in which a careful analysis of nine cases was made, occurring in the first year of life. Comby states that since his attention has been drawn to this class of cases he has been much surprised at its frequency: he found it in artificially fed children, especially where they were rachitic, and in a large proportion of the cases the physical signs of succussion, etc., were so clearly defined that there was no difficulty in making an absolute diagnosis: he considers also that rachitis from an ætiological standpoint had nothing to do with the affection, excepting so far as the changes in nutrition following a faulty diet were concerned. The author then gives an analysis of forty cases with a record of the following especial cases:—

CASE I. Girl, two and a half months; breast-fed but incorrectly; for past eight days frequent green, foetal discharges; the mother, a strong woman of twenty-six years, with an excessive amount of rich milk, was in the habit of giving the infant the breast almost constantly; the abdomen was distended, especially in the gastric area; succussion to within a finger breadth of the umbilicus; frequent vomiting of coagulated milk. The mother was directed to nurse the infant not oftener than every three hours, and the diarrhœa disappeared without further treatment.

CASE IV. Girl, nineteen months; slight rachitis; stomach distended to umbilicus; frequent vomiting and diarrhœa; the child was still on the breast, but was fed irregularly and at night almost continuously.

CASE VI. Eleven months' infant; during early weeks of life breast fed, then sago and milk, meat soup and coffee; rachitis of high grade, great emaciation; lower margin of stomach at umbilicus.

Rachitis was only absent in five cases. In thirteen of the cases, different skin affections were present, chronic eczema in five cases, obstinate and frequently returning urticaria in two cases, and in six cases an impetiginous efflorescence on the scalp. The author states that the disease is eminently chronic in character, and the children are brought to the physician, not for their dilated stomachs but for other affections as rachitis or eczema, and it should especially be looked for where a chronic urticaria is present. The abdomen in its upper part is distended, appears broader than normal, and presents the characteristic "frog-belly." The liver, spleen and mesenteric glands are not enlarged, the distension of the abdomen being caused by the abnormally enlarged stomach. A characteristic succussion sound is heard; when this is not found below the middle of a line drawn from the margin of the ribs to the umbilicus, the dilatation is insignificant; in the higher grades the physical signs extend downward to the umbilicus. The infants have good appetites but disordered digestions, colic, foetid discharges, diarrhœa alternating with constipation, eructations are rather more frequent than vomiting. For a satisfactory physical examination only a small amount of fluid should be in the stomach, and the infant should be examined with its back on its mother's lap and with its knees raised up. The disease has no tendency to recover spontaneously so long as the nourishment is faulty and the infants desire a large amount of liquid, and the prognosis in respect to complete recovery is unpromising.

Three of the cases were under four months and the greater number were under two years, but the author thinks that quite a number of cases will be found in a later period of childhood. The treatment consists in

<sup>1</sup> Jahrb. für Kinderh. B. xiii, Heft 1. London Medical Record, June 15, 1885.

<sup>2</sup> Archiv. für Pediatr., August 15, 1885.

<sup>3</sup> Schmidt's Jahrb., Band 295, No. 7. Arch. Gen. T. Sep. XIV, p. 149, 37. Voht, Sept., 1881.

regulating the quality and quantity of the food and the time for administering it. The stomach pump must be reserved for the treatment of the more difficult cases.

#### ADDISON'S DISEASE.<sup>5</sup>

Professor Monti, of Vienna, reports the following case: A boy ten years of age, was strong and healthy with the exception of a slight attack of measles until the age of six; the skin was quite normal in color. In July, 1880, he fell ill without any apparent cause. He had fever with morning remissions, pain in the stomach, abdomen and head, occasional vomiting, diarrhoea alternating with constipation, and drowsiness, culminating in heavy sleeps which lasted two or three days and during which no nourishment was taken; on awaking the child was very weak and excessively emotional. At the end of fourteen days the mother noticed a peculiar yellowish-brown discoloration of the skin of the hands, and this within a few weeks spread to other parts of the body. After about five weeks the fever ceased and the digestive and nervous disturbances gradually disappeared, but the discoloration remained. In the course of the summer the child had attacks lasting two or three days, of headache, with vomiting, diarrhoea and abdominal pain. In October, 1880, the boy had another illness resembling that above described and lasting from three to six weeks, during which the brownish color became darker. The child then recovered and remained fairly well until the end of March, 1881, when the mother first noticed that the cervical glands were more or less swollen and that there was a slight swelling on one of the knuckles. During 1882 the child was much the same; the muscular system was weak, but he was able to go to school. He had two more feverish attacks, one in the spring, the other in the autumn, each lasting about four weeks. The attack re-appeared in April, 1883, and Monti first saw the case on May 10th. The child was tall, thin, and weakly built. The hair was silky, a dark blonde. The skin of the face, neck and hands were of a dark grayish-brown color, the sclerotics were a dirty white, the iris was light gray, the nails white. The skin of the thorax, back and abdomen was grayish-yellow, the lower extremities were yellowish, the buttocks and perineum darker. There were several brown spots on the ears. The mucous membrane of the mouth was pale red, that of the lips and cheeks presented several brownish-black spots arranged in groups. The tonsils were enlarged. The mucous membrane of the nose and of the prepuce was pale. The epidermis was everywhere smooth, the glands of the neck were swollen, the tongue was clean; pulse 80, respirations 24. The thorax and its organs were normal; the abdomen was prominent, palpation painful, especially so in the umbilical and ilico-caecal regions; the liver was normal; the urine was light-yellow, acid, specific gravity of 1017, no albumen or other abnormal constituents; quantity natural. The blood was pale but there was no apparent increase of white corpuscles; the spleen was somewhat enlarged; the inguinal glands were normal; the temperature was normal. The patient appeared in a state of mild, nervous excitement, sometimes crying, sometimes laughing. Bowels regular, slept and eat well.

On June 25, 1883, the boy had one of his usual feverish attacks and was attended by Professor Monti's

assistant. He slept almost continuously the first four days and was quite undisturbed by the numerous flies which settled on his face. When roused he gave his answers slowly but correctly. The pupils were equal, reacting normally to light; there was no strabismus. On sitting up the patient swooned; the glands of the neck were more enlarged; the abdomen was retracted; both hypochondria, but especially the right were tender on pressure; the urine was normal. Within fourteen days the symptoms had subsided and the child returned to school. On May 7th, 1884, the headache, dullness and weakness reappeared and were followed in the night by excitement, delirium and occasional loss of consciousness. Soon after midnight the child became somnolent and towards morning death ensued upon an eclamptic fit. At the post-mortem examination, the dura mater was found tense, thin and hyperæmic, its inner surface shiny and smooth. The longitudinal fissure was filled with fibrinous masses; the brain substance was soft, not congested; the posterior horns of both lateral ventricles were distended with serum; the heart was flabby and of a dark-brown color; the valves were healthy; the right lung was partly solid at the apex; the liver was enlarged and softened; the spleen was enlarged; the mesenteric glands were as large as hazel-nuts; the right suprarenal capsule was completely wanting as well as the artery and vein. The left suprarenal capsule was very small; the greater part of its substance seemed to consist of rather vascular connective tissue; the kidneys were correspondingly large and somewhat softened; the bladder was normal.

#### APHASIA FROM FRIGHT.<sup>6</sup>

Dr. Demme reports the case of a child six years old where the division of the tendo Achillis for talipes equinus was undertaken without an anæsthetic. Just before the operation the child had been lively and bright, playing with her doll and talking with her mother and brother. At the moment of the division of the tendon she uttered a piercing cry, after which she completely lost all power of speech. For about ten minutes she wept silently but copiously and when she had recovered herself nothing would induce her to say a single word. This went on for eight days, during the whole of which time she was bright and lively, and answered readily by signs. On the morning of the ninth day she achieved the single word "mama," which she then used as an equivalent for everything else and repeated thirty or forty times as a long sentence, evidently under the impression that she was thereby saying everything which she wished to convey to her hearers. On the fourteenth day her vocabulary was increased by the words, "papa," "lieb," "böse," "schlafen," "trinken," which she also made do duty for all other words. On the eighteenth day she acquired a few more, and she never used one of these words in place of another on her list. She could not talk as well as usual until the twenty-first day, but after that she developed bodily and mentally in a normal manner.

—The *Prager Medicinische Wochenschrift* gives an account of a woman who carried a cotton reel in her vagina for seven years, without knowing it. The resulting inflammation had nearly occluded the canal.

<sup>5</sup> London Medical Record, Aug. 15, 1885, Archiv. für Kinderheilk., B. VI., Heft. 4.

<sup>6</sup> Wien. Med. Blätter, Dec. 18, 1884.

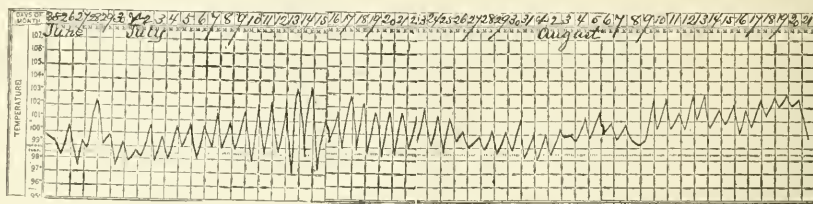
## TWO CASES OF TUBERCULAR INTESTINAL UL-CERATIONS AND GENERAL TUBERCULOSIS.

IN THE SERVICE OF F. N. WHITTIER, M.D.,  
Visiting Physician, Massachusetts General Hospital.

REPORTED BY CHARLES W. TOWNSEND, M.D., Medical House Officer.

CASE I. P. C., aged forty-seven, entered the hospital, June 15th, 1885.—Mother and two sisters died of consumption. Patient's previous health excellent; occupation, night-watchman; habits good; no venereal or malarial history. For the last three years has had attacks of abdominal pain, at first at intervals of several months, but at less and less intervals lately, and for a week has had attacks nearly every day. The pain is diffuse and severe, lasts from half an hour to

present. Head not opened. Right pleural cavity contained one and one-half pints of clear serum; left pleural cavity nearly obliterated by old adhesions. A small cavity the size of a cherry-stone with ragged, cheesy walls at the apex of left lung. Both lungs oedematous and studded with numerous miliary tubercles. Pericardium contained six ounces of clear serum. Heart pale, normal. Peritoneal cavity contained one and one-half quarts of clear serum; a few old adhesions in left iliac and lumbar regions. Miliary tuberculosis of mesentery. Beginning ten feet below the stomach, twenty-seven large tubercular ulcers were to be counted in the small intestine, besides numerous small ones, one involving nearly the whole cæcum and one in the



several hours, and is generally preceded by the rumbling of intestinal gas and distension of abdomen. It is not relieved by pressure; never jaundiced; bowels inclined to constipation. Slight cough without expectoration for three years. Has lost fifteen pounds in weight in the last two months.

Physical examination: patient is pale, fairly nourished; tongue slightly coated; a few moist râles heard at left apex in front after cough; percussion note, voice sounds and respiratory murmur normal. No abdominal tenderness and nothing abnormal to be felt. Urine normal.

During the first two weeks after entrance, the patient had several attacks of abdominal pain, after which, with the exception of slight attacks in the first week of August, he was entirely free from pain. A symptom which does not appear in the history now showed itself, namely, a sensation of chilliness sometimes accompanied by slight shivering about noon, followed by a feverish feeling in the afternoon without sweating, and by a rise of temperature, as shown by the chart, the highest evening temperature being 103.8° on the 14th of July. An hourly chart shows a gradual rise of temperature from nine in the morning, the maximum point being generally reached at four in the afternoon. Quinine had apparently no effect. For a month before death, the patient had from two to four loose, sometimes liquid dejections daily, uncontrolled by astringents and opium. At first able to walk about the hospital yard, the patient grew gradually weaker, but kept to bed for a week only before death.

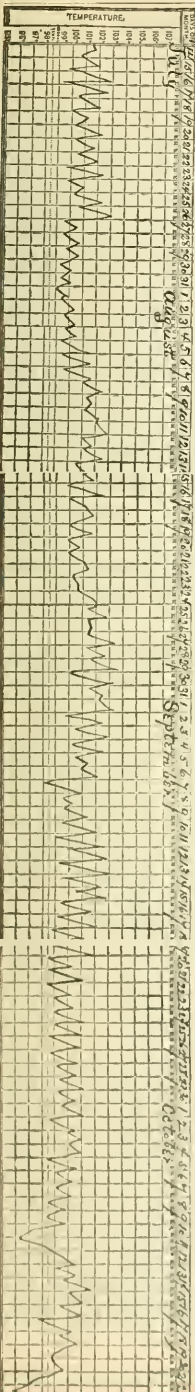
August 18th, there was slight oedema of feet and legs. Moist râles as before at the left apex, and in the lower third of both lungs, front and back. Heart sounds feeble, but otherwise normal; increased area of hepatic dullness and tenderness in right hypochondrium. On the day before his death, moist râles were to be heard in abundance throughout both lungs, and there was evidence of peritoneal fluid. Respirations became more rapid, pulse small, but consciousness was retained to the last, death taking place August 21st.

Autopsy twenty-one hours after death, rigor mortis

middle of the large intestine. Liver enlarged and fatty degenerated; spleen small; kidneys and bladder normal.

CASE II. J. T., aged thirty-four, entered the hospital July 14th, 1885. Family history good. Previous health good, with exception of frequent "colds," for one of which he was in the hospital fifteen years before, the diagnosis being bronchitis. Constant slight cough for six years, with thick yellowish-white expectoration; no hæmoptysis. Feeling poorly for three months, has had five or six watery dejections daily for the last two weeks, and a constant, dull, diffuse pain in abdomen; no tenesmus; no blood or mucus in dejections; no headache, vomiting, or chills; progressive loss of flesh and strength in the last month.

Physical examination: Patient is pale, fairly nourished; tongue slightly coated; numerous moist râles heard at the left apex, both in front and behind; percussion note, respiratory murmur and voice sounds not modified at this place as compared with opposite side. Abdomen soft, not distended, slightly tender on pressure in right iliac and epigastric regions; gurgling detected. Patient was put on milk diet, with the addition later of stimulants, given opium for diarrhœa, and kept in bed. The diarrhœa continued unchecked, pain in abdomen was only occasional and slight, and emaciation rapidly showed itself. During the latter part of September, he was able to be up and about the ward part of the day, and was allowed to have soft solids besides liquids at frequent intervals, but his temperature still continued to go up to 102° or 103° at night, as shown by the chart. For three weeks before death, he frequently complained of a feeling of rawness in the back of his throat, and of the occasional regurgitation of liquids through his nose. His voice became husky. October 10th, about noon, he complained of considerable diffuse abdominal pain, his skin became cold and clammy, his temperature falling to 96.4°, pulse 120, very small and thready. Notwithstanding the use of heaters and stimulants, his temperature did not reach normal till the evening of the next day. From this time till his death, he was delirious at night;



the dejections, previously four or five daily, now increased to eight or ten, liquid, dark-colored, and very offensive. He was nearly free from pain, the frequency of the dejections being the chief complaint. Consciousness was lost during the last twenty-four hours, death taking place, October 23d.

Autopsy by Dr. R. H. Fitz, Twenty-one hours after death.

"Body much emaciated. abdomen collapsed, rigor mortis present. Dura mater showed a delicate, pale, yellowish-brown false membrane on the inner surface, with numerous patches of recent hemorrhage. Pia mater oedematous, slightly more opaque than usual, otherwise normal. Brain, nothing abnormal. Pericardium contained two ounces of pale-yellow fluid.

"Heart normal in size; right side distended with freshly clotted blood, left side comparatively empty. Two adjoining aortic valves adherent throughout nearly one-half their free edges by old adhesions; other valves normal. In the left ventricle a reddish-gray thrombus as large as a pea; another beneath the insertion of the mitral valve. Aorta, thin, narrow, and elastic, with slightly irregular distribution of lumbar arteries.

"Lungs. A few old adhesions at apex of left lung posteriorly, and at the base. In upper part of left upper lobe rather posteriorly and deep-seated, was a round nodule the size of a walnut of soft, cheesy material, enclosed within a dilated and occluded bronchus. A similar nodule, smaller in size, at the upper part of left lower lobe posteriorly, the containing wall being irregularly pigmented and puckered; surface of lung corresponding to these nodules irregularly depressed, and containing but little air. Throughout the left lung, numerous miliary tubercles, for the most part, isolated. Right pleural cavity obliterated by old adhesions. Extensive gray miliary tubercles throughout right lung.

"The abdominal cavity contained a quart of clear yellow fluid; the intestines firmly united to each other and to the atrophied omentum and abdominal walls by old adhesions. Surface of peritoneum studded with submiliary, translucent, gray granules.

"Spleen adherent to surroundings; increased in weight chiefly from increase in thickness. On section, surface studded with minute gray granules, and occasional large, projecting tubercles. Follicles and trabeculae rendered indistinct from delicate swelling.

"Left kidney slightly diminished in size, slightly anæmic. Right kidney showed a patch of anæmic necrosis as large as a beechnut, slightly depressed below the surface, also diminished in size, but deeply injected. Suprarenal capsules, bladder, and testicles normal.

"Liver diminished in size, firm on section, the central parts deeply injected; occasional miliary tubercles. Tongue posteriorly and tonsillar region on both sides the seat of an extensive indurated ulcer, in the base of which numerous cheesy tubercles were to be seen. Vocal cords oedematous, and on the right posteriorly, a superficial ulcer three lines in length. Mucous membrane of stomach thickened and of a light-blue color.

"Intestines so matted together that the localization of numerous transverse ulcers with indurated base and injected margin could not be made. The ulcers showed cheesy points in the base, the induration extending nearly to the peritoneum, through which the reddened base of the ulcer appeared. Throughout the greater part of the large intestine, especially in the cæcum, extensive ulcers, resembling those previously described, occupied most of the mucous membrane, leaving occasional patches of unaltered membrane. The most extensive destruction of mucous membrane was in the cæcal region, and the peri-cæcal regions were indurated. Ileo-cæcal lymph glands cheesy and moderately enlarged.

"In the rectum, the ulcers extended to just above the third sphincter, and were associated with small, rounded ulcers, apparently of follicular origin.

"Diagnosis: Acute hemorrhagic pachymeningitis; chronic aortic endocarditis; cardiac thrombosis; chronic cheesy bronchitis and bronchial dilatation. Acute miliary tuberculosis of lungs, spleen, liver, and peritoneum. Anæmic necrosis of kidney. Chronic tubercular ulcers in intestine. Chronic catarrhal gastritis."

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

NOVEMBER 23d, 1885, the President, Dr. F. W. DRAPER, in the Chair.

Dr. W. C. B. FIELDF read a paper on

THE PRESENT SYSTEM OF APPOINTMENT OF MEDICAL EXAMINERS BY THE STATE OF MASSACHUSETTS.<sup>1</sup>

Dr. G. K. SABINE replied that it seemed to him that Dr. Fitch's paper is rather an attack upon the medical examiners than upon the system of their appointment. The position of medical examiner is, for many reasons,

<sup>1</sup> See page 577.

not a desirable one, and undoubtedly many hold the office simply to prevent its falling into the hands of irregular practitioners, as the office of coroner frequently did under the old system. The pay which they receive is quite inadequate to the service rendered. In the case of a view they receive five dollars, but if an inquest is held, are obliged to attend sometimes repeatedly, receiving only ordinary witness fees. In case an autopsy is made, a fee of thirty dollars is received, which at first seems quite liberal, but when it is considered that the examiner may be obliged to go many miles to consult the district attorney before the autopsy is made, and afterwards may be called upon to attend an inquest and then go before the grand jury, and day after day to attend court, all as likely as not, a long distance from home, it is readily seen that this remuneration is but slight. They are not unfrequently called upon also to pay for services which rightly belong to the State or county to pay; for instance, if it becomes necessary to exhumate a body, they are expected to pay for having the same done.

They have frequently been accused of making autopsies unnecessarily, and for this reason and in the endeavor to comply strictly with the letter of the law, no doubt many crimes go undiscovered and many criminals escape, owing to this false economy. In the instance cited by Dr. Fifield, where a dead body was found by the roadside, the examiner simply complied with the letter of the law. When the body was found, no violence was suspected. The statute under which they act is this: "Medical examiners shall make examinations as hereinafter provided; upon the view of the dead bodies of such persons only as are supposed to have come to their death by violence." As to their having much authority, they certainly have not, for the only thing possible for them to do without the consent of others, is to make a view. They cannot even make an autopsy without the authority of the district attorney, mayor, or selectmen, as the case may be.

Dr. R. H. FITZ agreed with Dr. Fifield as to the desirability of securing the services of the best men. He appreciated the difficulty of securing a large number of properly qualified examiners in the remotest parts of the State, and thought it might be of advantage to appoint a smaller number, who should exercise their office in larger sections, paying a sufficient salary to obtain a considerable part of their time. Under the existing law, he thought considerable benefit would result from the suggestion of the reader that the returns of examiners should be submitted to a properly constituted commission. The legal authorities would thus have the benefit of an early control which might prove of great service in the promotion of justice.

Dr. H. I. BOWDITCH said that the paper was of unusual importance. It contained statements of gross mismanagement, which he had not supposed to exist. It should not be allowed to pass without notice. He called for a committee to report on the whole subject, and the Society voted that this committee be appointed.

Dr. DRAVER (Dr. Stedman in the Chair), said that if he followed inclination he would refrain from participating in the discussion, preferring that it should be carried on by members of the Society who could view the subject in a more disinterested and impersonal relation. But an intimate acquaintance with the theory and practice of the Massachusetts law concerning inquests during the past eight years, and a lively interest in all that pertains to legal medicine, seemed to place

him under some obligations to notice the position taken by the reader. He declared that he could not accept either the premises or the conclusions of Dr. Fifield with regard to the medical examiners and the method of their appointment. Nevertheless, he would not impeach Dr. Fifield's motive in introducing the subject; the rule, "Get the best," applied to the choice and commission of medical examiners as to all things where choice is possible. We all desire the best attainable excellence in government and the administration of law. We should like to have every medical examiner a man of unstained integrity, irreproachable character, exceptional powers of observation and infallible judgment. But while we are wishing for the ideal, we may properly go farther and wish for a state of society in which medical examiners will be wholly unnecessary, in which there will be no deaths by violence, no crime, no judges, juries, nor jails. Such longing for the ideal is clearly unprofitable; we must take society and human nature as they exist. The human nature of medical examiners is not unlike that of other men; not one of them claims infallibility or omniscience. But taken as a body, scattered over the State, they represent, as a rule, and with few exceptions, the best professional skill and character available. In many cases, they are the men upon whom their professional brethren have bestowed the highest medical honors. If other men, the superiors of the medical examiners, are not commissioned, it is because they have carefully kept out of sight as candidates, or have refused the position when it has been offered to them.

Dr. Fifield criticises not only the method of appointing medical examiners, but its result. It should be remembered that nominations made by the Governor are held upon the table of the Executive Council a full week, at least; they are published when they are made, and during the interval before action is taken upon their confirmation, they are freely open to criticism; they may be revoked; or, if not withdrawn, the Executive Council may reject them. Moreover, with regard to the medical examiners now in commission, having been lately re-appointed, it is well known that they were on probation and trial for fully seven years during their first term of office, and that they were candidates for re-appointment; it was not necessary that Dr. Fifield should await a public notice inviting the profession to prefer charges against the examiners, individually or collectively, for it was unquestionably the desire of the State's executive officers to secure good men for its commissions, and information concerning their qualifications is always timely.

But Dr. Fifield announces that the present method of selecting and appointing medical examiners gives us an unwholesome product, that they are a bad lot whose gross blunders do a great amount of harm; that in consequence of the errors of commission and of omission on the part of these careless and incompetent officials, men and women, innocent of all crime, are now in jail suffering merited punishment; that by reason of the power to produce a miscarriage of justice exercised by these men, guiltless persons have been sentenced to imprisonment and to pay fines for acts which they never did. This is a serious charge. If Dr. Fifield had read the law relating to the subject, he would see that a medical examiner does not have and cannot have any such power for evil; that, on the contrary, his official acts are carefully hedged in at

every point, and if he commits an error of action or of judgment, it must inevitably be exposed and nullified, if other officials are properly alert.

The relation of a medical examiner to a case of death by violence necessarily prevents any such harmful results as Dr. Fifield has charged. In a case of death under suspicious circumstances, the examiner's sole duty is to ascertain the cause of the death. If, in his opinion, the act or the neglect of some person other than the deceased is the probable cause, as shown by the autopsy, and his conclusion is an erroneous one, that erroneous conclusion and the anatomical and other data on which it is founded, must pass successfully the critical scrutiny of the judge who holds the inquest, the judge who examines the person arrested, the district attorney, the grand jury, the counsel for the accused, the judge who presides at the trial, and the jury which renders the final verdict. If a medical examiner entertains a false view of a case, or makes an insufficient investigation before he formulates his opinion, he must be a shrewd knave and his errors must bear a close resemblance to the truth to escape unscathed and undetected these numerous examinations and cross-examinations.

It is to be observed that in all this relation to a death by crime, the medical examiner has no concern whatever with the name, identity or control of the criminal; his question is "*What* caused the death?" the question "*Who* caused the death?" must be answered by the detectives and the prosecuting officers. So that if persons innocent of crime languish in jail, the fault is clearly not with the medical examiners or the system under which they work, and it is unfair to hold them responsible for "miscarriages of justice" for which detectives, counsel, judges and juries are to blame.

But besides the scrutiny to which the work of the examiner in any given case is subjected at the hands of the judges and counsel, in the examinations and cross-examinations, a scrutiny that, if properly conducted, ought to expose all errors and incompetence on his part, there is added the critical survey which, at and before the trial, the medical expert, specially employed by the prosecution or by the defence, makes of all the medical elements in the case. It seems extraordinary that any examiner's gross blunders, such as Dr. Fifield had related, should pass the expert's inspection unchallenged, and if Dr. Fifield, as he was understood to state, had stood in all the cases cited as the special medical adviser of the district attorney, and, knowing the facts to be as he now related them, had testified in support of the prosecution, making no exposure of the medical mistakes committed, it was difficult to understand how he could escape the imputation of participating in the medical examiner's errors and their consequences.

DR. DRAPER said that he was in hearty accord with Dr. Fifield in his proposition for a central medico-legal commission, to which all autopsies by medical examiners should be submitted, and whose members would serve as medical experts in trials for homicide. Such a commission, composed of men whose reputation would give their opinions great weight, and appearing in court as independent witnesses to declare the true interpretation of the medico-legal elements of the case, would have a standing with judges and juries incomparably higher than that of the partisan, hampered and purchased expert witnesses at present in use.

Dr. Draper next called attention to the fact that, admitting the statement that objectionable and untrustworthy men sought and sometimes obtained from the State government an appointment to a position of medical examiner, the appointment was not irrevocable, and the public was under no obligation to endure an incompetent person in that commission for seven years, for the law expressly provides for the removal of any medical examiner from office "by the Governor and Council at any time for cause shown." If, therefore, the cases related are well founded in fact, there seems to be less reason for abusing the system of inquests and the method of appointing examiners than for proceeding against individual officers who have grown careless or are naturally incompetent.

As the case appears in Dr. Fifield's paper, Dr. Draper said, it may be expressed in these terms: A few errors in diagnosis have been detected in the work of some of the seventy-two medical examiners; therefore, it is time to abolish all of them and adopt another method of appointing a new set of officials. It is as if in a hospital, it had been found that one of the surgeons had made a mistake, and it should then seriously be proposed to take away the power of appointment of the physicians and surgeons of the hospital from the trustees and place it in the hands of the common council or some similar body. It is hardly fair to the many reputable men who are trying to do, and are doing, their work faithfully, to subject them to such an imputation.

Dr. Fifield's suggestion that an examination of candidates in all matters relating to medical jurisprudence would prove a successful remedy, was not, in Dr. Draper's opinion, a practicable scheme; it would be impossible to find candidates willing to submit to such a test and difficult to make a plan of examinations applicable to all parts of the State. The proposal to thrust the honor of an appointment upon physicians of the highest attainments, whether they were willing to accept it or not, would, of course, quickly end in failure.

In conclusion, Dr. Draper declared that the system which was matured eight years ago after much thought and deliberation, was proving itself on the whole the one best adapted to our needs. The method of appointment by the Governor and Council, which for many years had been found to work well in the case of all the judges of the State, may safely be trusted for inferior offices; and if, when the position of a medical examiner is vacated for any reason, the medical profession will take a little interest to see that its favors of recommendation are bestowed on its best representatives only, there will be little occasion for such a paper as the Society has just heard.

DR. J. B. AYER referred as follows to some

#### POINTS OF INTEREST CONNECTED WITH AN EPIDEMIC OF SCARLET FEVER.

In a Home in this city, where a large number of children of all ages are educated for adoption, there broke out, a year ago, an epidemic of scarlet fever, immediately following a severe epidemic of measles.

There were twenty-three cases, of which number fifteen were treated at the City Hospital. At one time forty-nine days elapsed without a case.

*Incubation.* In one case it could be proved that the disease began within forty hours of exposure, the rash appearing in less than forty-two hours. In two other

cases the period of incubation was less than ninety-six hours. I find many cases reported of one or two days' incubation, and authorities now assert that the average period of incubation is three or four days.

*Invasion.* Rash was the first symptom noticed in five cases; in the majority it appeared during the first twenty-four hours, and in all the cases inside of forty-eight hours. In one case, exudative pharyngitis was the first symptom.

*Desquamation.* In three cases there was none. The average period of the beginning of desquamation was the tenth or eleventh day. In one case there was a possibility of its having been delayed till the end of the third week.

Not long ago a physician to a private school in England was censured by many because he allowed a pupil to return to his home twenty-one days after the first appearance of scarlet fever, no desquamation occurring up to that time. It was claimed that desquamation appeared at a later date.

If I had a similar case, I should make an *arbitrary rule of waiting three weeks after the disappearance of the rash* before dismissing my patient.

*Duration of desquamation* was very variable. The average period of illness of those who desquamated and were discharged well was thirty-nine days.

In one case I kept a child isolated sixty-nine days, and then discharged him, although there was a little *brän* still visible on the soles of the feet.

*The Medical Press and Circular* (January 21, 1885), states that the Mousal Fever Hospital of Manchester, Eng., has been in the habit of sending its scarlet fever patients to an Infirmary at Pendlebury for treatment, paying a fixed sum annually and a stipulated sum weekly for each patient. The Manchester authorities rebelled because some of the cases were kept fourteen weeks and the majority over six weeks. The Infirmary, however, claimed that it could be proved that scarlet fever had been carried as a result of their former practice of discharging patients at the arbitrary period of six weeks.

*Exudative Pharyngitis and Tonsillitis.* Ten cases of all degrees of malignancy were noticed during the epidemic. The question suggested itself whether or no some of these cases were not examples of scarlet fever without skin symptoms.

One fatal case of nephritis was probably a case of *scarlet fever without eruption*, or if there was an eruption, it could not have lasted many hours (perhaps coming and going in a single night). In this case *œdema* was the first symptom. On close examination a roughness of the palms of the hands was noted, but I could not identify it as a scarlatinal desquamation.

*Important Sequelæ* were absent, but there followed twenty-five cases of *roseola*. Fourteen of these children had recently been treated for measles or scarlet fever.

To a question by Dr. Rotch, Dr. Ayer answered that only three patients had vomiting of any importance.

Dr. S. L. Abbott asked if known facts warranted a physician in fixing definitely the period at which it was safe to allow a patient that had had scarlet fever to come into close relations with persons who had not. Physicians were constantly asked this question and he had found it a very difficult one to answer. In illustration of this he mentioned the following case in his experience.

In a family which he had attended professionally

during their winter residence in the city, while passing the summer in the country, the oldest boy was taken sick with scarlet fever. The youngest child was immediately sent to Boston, and the parents, with the second son, took rooms on the lower story of their country residence, leaving the sick boy on the second story in charge of the grandmother and a nurse. The season favored the freest ventilation and the patient went through a pretty severe attack of scarlet fever, under the care of a skilful physician in the neighborhood, and recovered. During this time there was not absolute non-intercourse between the parents and those attending upon the patient, but pains were taken to avoid being with them more than a few minutes at a time. The second boy escaped the disease during the sickness of his brother. The latter being entirely well, was taken by his grandmother, at the end of the fifth week, to the seashore, where they remained a week. During their absence the room which they had occupied during his sickness was thoroughly renovated, and the clothing worn by the patient during his illness was burned. All the woodwork of the chamber and the closets opening into it, were thoroughly scoured and newly painted. The walls were newly papered and the ceiling whitened, a new carpet was laid on the floor, and all the furniture which was cushioned, as well as the mattresses and blankets, were soaked in naphtha. In each room on the second story, three pounds and a half of sulphur was burned, the windows and doors being closed, the closet doors opening into them being left open. The sulphur fumes were allowed to remain in the apartments undisturbed for six hours.

At the end of the sixth week the family returned to their rooms upstairs, the boy came home from the seashore and saw his brother for the first time. At just one week from that date the second boy was taken sick with scarlet fever. It would seem that little more could have been done to disinfect the house short of burning it down, and the convalescence of the first patient seemed to be complete before he left home. As to whether there was any desquamation going on at the time of his return, Dr. Abbott was unable to say, as he did not have an opportunity to examine the child.

Dr. T. M. Rotch remarked that it had been noticed that where a child with scarlet fever was placed in one of the upper rooms of the house, other children of the household were not so apt to be infected as when a lower room was occupied. He also said that where equally thorough precautions were taken to disinfect the patient and the room, exposure of other children to the patient was less liable to be followed by infection, than exposure in the room where this same patient had been ill.

Dr. Rotch also observed that the number of cases where marked vomiting had occurred in the prodromal stage in Dr. Ayer's report, was unusually small.

#### PATHOLOGICAL SOCIETY OF PHILADELPHIA.

W. E. HUGHES, M.D., RECORDER.

MEETING November 12, 1885.

The President, J. C. WILSON, M.D., in the chair.

Dr. FRISSELL presented specimens from a case of mastoid disease. Male, aged twenty-five years. Never had scarlet fever. Since vaccination at the age of five years has had occasional attacks of suppuration of the middle ear. General health was good. Was first seen

by Dr. Fussell, July 14th; for several weeks he had had earache with one slight chill. When seen, hearing was very poor, membranes tympanic, opaque, swelling and redness over left mastoid process and temperature elevated. His general condition grew worse, and an incision was made over the mastoid process, but it failed to find pus. On extending this incision, a few days afterwards, pus flowed freely and he was much relieved. He afterward grew worse, fell into a typhoid condition, and died July 24th. Before death blood oozed freely from the cutaneous surface. At the autopsy the mastoid cells were found filled with pus, in the inner half of the process was a large irregular cavity filled with a pultaceous mass of necrosed bone; this communicated with the middle ear. The walls of the lateral sinus were thickened, easily detached from the bone, and the seat of a purulent inflammation. The sinus contained no thrombus. The meninges over this spot was discolored though not inflamed, but there was a patch of inflammation over the anterior edge of the left lobe of the cerebellum. Brain substance was normal. Remaining organs were not remarkable, except the right lung, which contained in its apex two small abscesses. From the condition of the sinus the reporter thought there had been an actual admixture of pus with the blood.

DR. PACKARD presented an anomalous lung. It was taken from the body of a negro who died of Bright's disease. From the inferior surface of the lower lobe of the right lung springs a tongue-shaped process of pigmented, crepitant lung disease, two and a half inches long and two inches wide at its base, resting upon the diaphragm, its upper surface being in apposition with the under surface of the lower lobe. Dr. Packard had recently seen in the body of another negro a similar anomaly, except that the process was smaller and situated more anteriorly.

DR. MUSSEY presented a cystic kidney. It was the right kidney, and was taken from the body of a man, aged seventy-two years, who died of apoplexy. The kidney was cirrhotic and contained two cysts, the larger occupying the upper one-fourth of the organ. Its walls were firm and it contained clear fluid in which floated cheesy masses, which the reporter thought were degenerated pus. When first seen the patient was passing small quantities of bloody, highly albuminous urine, and complained of pain in the right renal region. These symptoms were apparently due to an acute process grafted upon the chronic lesion. The blood and most of the albumin disappeared, but the pain persisted. Was this pain due to the cyst?

Also, specimens from a case of diabetes mellitus. Female, aged forty-three years. Had a vesico-vaginal fistula fourteen years. Diabetes had existed, without apparent cause, two months. Patient was unusually fat and had lost no weight. She died of coma. Temperature in the abdominal cavity, three hours after death, was 107.8° F. Liver large and fatty; gall-bladder contained thirty stones; kidneys fatty; pancreas normal; blood had a most marked lactescent appearance, and after standing twelve hours globules of fat collected on its surface; lacteals in the mesentery engorged with chyle. Microscopic examination of lungs showed no fat emboli. In the urinary bladder was a large phosphatic calculus.

DR. OSLER thought the peculiar condition of the blood was what we should find normally in a person dying during digestion, and called attention to the fact

that very frequently in diabetes there is the engorgement of the lacteals.

Also, a fetus papyraceus. The mother was delivered in the morning of a mature living child, and in the evening of this fetus. It is apparently of the fifth month of pregnancy, and with the exception of shrivelling and paling of the skin, is quite normal. The cord is thin and soft, its length unknown. The placenta is thin, flat, compact and whitish-yellow, apparently having undergone complete fatty degeneration.

DR. J. B. ROBERTS presented a small tumor, the size of a hickory-nut, which he had removed from the back of the wrist of a young man. It had the clinical appearance of an ordinary ganglion, but attempted evacuation showed it to be solid. It was then enucleated and found to have been developed within the theca of the tendon going to the middle finger, and probably between its fibres. The great rarity of solid tumors in this locality was mentioned.

DR. HUGHES presented a primary carcinoma of the liver. Female, aged fifty-eight years. A daughter died of cancer of the uterus. She had been in good health till eighteen months ago, when flesh and strength began to fail. With this there were occasional attacks lasting about a week, of headache and sick stomach, followed by diarrhoea. There were pretty constant lancinating pain in the hepatic region. Five months ago she had an attack of jaundice (her only attack) lasting two weeks. And at this time a tumor was detected in the liver. At the autopsy the liver was found much enlarged, and scattered through its substance were firm cancerous nodules, varying in size from an orange to a pin-head. In addition to these there were several cysts, one in the left lobe two inches in diameter, filled with clear fluid. The liver substance between the cancerous nodules was normal. The gall bladder was full of healthy bile and the ducts patulous. There were no enlarged glands in the fissure of the liver, but the retro-peritoneal and mediastinal glands were increased somewhat in size, and the seats of secondary deposits. With these exceptions there was no growth outside the liver. The intestines were crowded into the left side of the abdomen by the enlarged liver. The stomach was very small, only one inch in diameter at its fundus. There was an intussusception three inches in length, at the ileo-cæcal valve, which on being reduced, which was affected with some difficulty, showed the apposed surfaces of peritoneum covered with lymph.

DR. FORMAN presented specimens and read a paper on

#### AN ANALYSIS OF TWO HUNDRED AND FIFTY AUTOPSIES ON DRUNKARDS, ILLUSTRATING THE MOST PROMINENT ANATOMICAL LESIONS OF CHRONIC ALCOHOLISM.

He considered the most conspicuous lesions to be cyanotic induration of the kidneys, fatty infiltration of the liver, and mammillated stomach. His cases had been those in which there had been a history of a long-continued series of debauches, the subjects often dying in one of these debauches, and did not include moderate drinkers or those who perished after imbibition of an enormous quantity of alcohol without any previous chronic excesses. He thought that the exposure, irregularities of diet, etc., incident to a state of drunkenness had much, probably more, than the alcohol itself, to do with the productions of the lesions, but it was

not at all possible to separate one from the other. He gave a long list of lesions considered by various authors to be results of chronic alcoholism, among which the cirrhotic liver, with contraction, held a prominent place. He had himself at one time considered cirrhosis, a very frequent, if not almost necessary, concomitant of long-continued, excessive use of alcohol, and had even testified in court that a certain person was not likely to have been a hard drinker because at the autopsy no cirrhosis of the liver was found. He had thought, too, that the connection between the two was so close that it was impossible to have a case of cirrhosis without a previous history of alcoholism, as is held by various authors. Therefore, it was surprising to him to meet in his two hundred and fifty autopsies, with only six cases of cirrhosis of the liver with contraction. In two hundred and twenty cases the liver was considerably or even very much enlarged, the enlargement in most cases proving to be due to a fatty infiltration. Cyanotic induration of the kidney and chronic gastritis with mammillation of the stomach were found in nearly every case. This cyanotic induration is peculiar and differs from the cyanotic induration due to heart disease. At a future meeting he will give a detailed account of the above lesions and a more extensive analysis of the cases.

Dr. TYSON could not speak from a systematic observation of a large number of autopsies in the cases of confirmed drinkers, but he remembered distinctly being surprised in several cases by the absence of cirrhosis where he confidently expected to find it.

Dr. WILSON said that Anstie, in the article on Alcoholism in Reynolds's System of Medicine, had called attention to the comparative infrequency of contracted liver in confirmed drinkers. This observer, in an extensive out-patient practice in London, had seen large numbers of cases of alcoholism, but very few among them presented the physical signs of cirrhotic (contracted) liver. The experience of the staff at Bockley Hospital sustains this view. There many of the patients are soaked with alcohol, but even among those whose death is directly or indirectly due to alcoholic excess, fatty liver is much more common than contracted liver.

Dr. OSLER thought the experience of pathologists and morbid anatomists with histories of patients is not of the most satisfactory character, he often having had cases to dissect where he knew very little of the history. Before saying these cases were chronic alcoholics, Dr. Formad should present more specific statements about them. His own experience with livers in a large number of autopsies on cases of chronic alcoholism had led him to divide them into four classes: 1. Those in which the condition of the liver is pretty satisfactory; some of these cases may take alcohol for many years and yet the liver pass muster. 2. Fatty cirrhotic livers, the cirrhosis may not, perhaps, be distinct to the naked eye but plainly shown by the microscope; this is the largest class. 3. Hobnail livers; these he would say were much more common than in Dr. Formad's series. 4. Hypertrophic cirrhotic livers. The difference between his observations and those of Dr. Formad might possibly be accounted for by a difference in the form of alcoholic beverage taken. He had not observed the special form of kidney described by Dr. Formad. In reply to a question, he said, in order of frequency he would place them, fatty cirrhotic, hobnail, hypertrophic cirrhotic, apparently normal.

Dr. S. SOLIS-COHEN said, there were certain theoretical considerations which suggested themselves in this connection. The text-books teach that the lesions of alcohol are of two kinds, sclerosis and steatosis. It is known that in some organs the fibrous change precedes the fatty one. The latter is the higher grade of degeneration. The subjects of Dr. Formad's autopsies were confirmed whiskey soakers, in whom one would expect to find more intensity of degenerations than in those whose use of alcohol, though persistent and excessive, was not so outrageous. Another point which has not been alluded to, was the fact that some lesions might result from a local action of the poison upon the tissues, while others might be due to its systemic action. No study of the subject could be complete in which these points were overlooked.

Dr. RANDALL suggested that the point touched upon by Dr. Osler, the character of alcoholic beverage, might be very important. In Vienna, among beer-drinkers, he had found the fatty liver much more common than the cirrhotic, while in England where much gin is drunk, and he should suppose in Scandinavian countries, where they drink altogether strong spirits, the cirrhotic liver is doubtless comparatively frequent.

Dr. MURSER had recently had to go over the records of the Pathological Society, especially in liver diseases, and had found the total experience of different observers the same as Dr. Formad's, and also in those cases cirrhosis was caused not so much by heavy drinking, as persistent drinking of spirit, and on an empty stomach.

Dr. FORMAD presented the sac of an Extra-uterine Pregnancy. The woman from whom this was removed, had not suspected that she was pregnant. She was in perfect health till twelve hours before death, when she was suddenly seized with excruciating pain in the left groin, rapidly followed by collapse. On opening the abdomen it was found to contain at least a gallon of partly clotted blood. About the middle of the left fallopian tube was the sac with a rent in its posterior wall. This sac was one inch in diameter, and contained clotted blood and placenta tissue. The uterus was twice its normal size. The foetus was not found.

Also, an aneurism of the ascending aorta rupturing into the pericardium. The patient was a laboring man, and had considered himself in perfect health. He died very suddenly. The aneurism, one-half inch in diameter, was situated just above the posterior aortic leaflet, and had broken through the wall of the aorta, at the point where it touches the descending aorta. The cavity of the pericardium was fully distended with clotted blood.

#### NEW YORK NEUROLOGICAL SOCIETY.

STATED meeting, November 3d, 1885.

The President, W. R. BIRDSALL, M.D., in the chair. Dr. LEONARD WEBER read a paper entitled

#### A CONTRIBUTION TO THE STUDY OF LANDRY'S ASCENDING PARALYSIS.

It was in 1859 that Landry described a few cases of ascending paraplegia with negative post-mortem results as regarded the spinal cord, to which he gave the name of "paralysie ascendante aigue," and in the same year Kussmaul reported two rapidly fatal cases of spinal paralysis, in which the post-mortem appearance of the

cord was apparently normal. The attempt of Petitfils to classify Landry's ascending paralysis among the varieties of poliomyelitis anterior acuta or subacuta has been repeated quite recently by Professor Immermann, but in the light of later researches and of the negative results of autopsies made by Westphal, his theory is hardly tenable. Another and perhaps less objectionable theory is that of Rogers, who believes that many cases of the favorable form of Landry's paralysis are really polyneuritis acuta, of infectious or other origin, in which the spinal cord is either not at all or only secondarily affected. In an article in *L'encephale*, No. 2, 1885, this writer instances the clinical picture presented in many affections of the spinal nerves, particularly in polyneuritis, in which the symptoms are very similar to those of disease of the medulla spinalis, in cases of simultaneous peripheral and spinal affection a correct diagnosis is of course difficult, but although we have hitherto, says Rogers, paid almost exclusive attention to the central lesions, the course of the disease often bears evidence of the fact that the lesion ascended from the periphery to the centre, and he claims that not only do many cases of Landry's paralysis belong in the category of peripheral nervous affections, but also Duchenne's "paralyse générale spinale subaigue," and "paralyse diffuse."

Dr. Weber then gave Roger's description of the usual course of the disease, and said regarding the etiology that we were still in the dark; Westphal laid much stress upon infection, and Roger drew attention to the frequent coincidence of polycneuritis and tuberculosis. Erb said as late as 1879 that cases of progressive polyneuritis ought not to be mistaken for acute ascending paralysis, since the differential diagnosis was sufficiently established by the sharp pains, anæsthesia and paralysis limited to the affected nerves, and their rapid loss of electrical excitability.

On the strength of these recent observations he thought it might be justifiable to speak of two forms of acute ascending paralysis, the well characterized spinal and the less well known peripheral. Acute ascending spinal paralysis is characterized clinically by motor paralysis, beginning usually in the lower extremities and advancing with some rapidity to the trunk and upper extremities. The bladder and rectum are but little affected; sensation is nearly normal, and the affected muscles do not waste much, nor suffer any change in their electrical excitability. More or less fever may be present, and death from asphyxia is a not very unusual termination. No cord lesions are found at the autopsy. Landry's paralysis is more common in men than in women, and occurs with greatest frequency between the ages of twenty and forty years. It is thought by Landry, Westphal, Roger and others, that infection, of an unknown character as yet, may be the real determining cause of the disease, and it is significant to note that in some carefully made autopsies changes similar to those occurring in other infectious diseases have been found in the liver, spleen, lymphatic glands and intestinal follicles. In the fatal cases death may occur at a period of the disease varying from two or three days to three or four weeks, but the average duration seems to be from eight to twelve days. When recovery ensues, improvement begins usually within a few days after the disease has been fully developed, restoration occurring first in the parts last affected, and progressing very slowly.

Some cases of poliomyelitis anterior subacuta simu-

late very closely acute ascending paralysis, and it may not be until the development of atrophy and the loss of electrical excitability that we can be certain of the presence of anatomical lesions in the spinal cord. But a well-marked case of poliomyelitis anterior acuta is not progressive, does not attack the medulla oblongata nor lead directly to a fatal termination; the loss of faradic excitability and the muscular atrophy develop rapidly. In very light cases a doubt might arise in diagnosis. In acute central and infectious myelitis we always find fever, marked sensory disturbances, early loss of all the reflexes, paralysis of the sphincter, diminished faradic excitability, bed-sores, and a rapidly fatal termination. Certain forms of spinal syphilis resemble closely Landry's paralysis, and the diagnosis can often be determined only by the history of the case and the positive results of specific treatment. The prognosis of acute ascending paralysis is always serious, as it is impossible to tell at the beginning whether a case will result in recovery or death. Antisyphilitic treatment has given doubtful results, but better have been obtained from the wet pack or warm bath followed by cold affusions. Of remedies, the best would seem to be iodide of potassium and ergot. The application of a continuous current along the spine is recommended by Erb.

The author then related the following case which had been observed by himself: On December 20, 1880, he was called to see J. H., a butcher, thirty-one years of age, of apparently good constitution, no hereditary taint; syphilis denied. In early life, he suffered often from intermittent fever. At the age of twenty-one, he went to work in a barometer factory, and after some time, began to grow weak, had occasional slight tremor and frequent vertigo, but no salivation or other sign of mercurial poisoning. These troubles increased, so that he was compelled to give up this work after four years. He then spent four years in the West, and returned home in good health two years ago. About three weeks before he was seen by Dr. Weber, the patient's horse ran away with him in his open cart, and he was obliged to exert all of his strength to control the animal. He received no apparent injury or concussion, but felt tired and ill all the afternoon. The next day he kept about with diffidence, and the day following felt somewhat ill and had slight fever; and, after some days of paræsthetic feelings, such as numbness and tingling creeping up from the fingers, he gradually lost the use of both arms, and two weeks later, after similar sensations proceeding from the toes upward, the lower extremities became also paræsthetic. No paresis of the sphincters was noticed then or at any subsequent time. The stools were retarded. The intercostals and other muscles of the trunk remained intact, and there were no symptoms indicating involvement of the medulla oblongata, but the patient felt some pain along the spine, and continued to have pain and numbness here and there in the extremities. Up to the time of Dr. Weber's visit, the case had not been examined with special care. The author found the patient still unable to do more than move his limbs slightly while in bed; he could neither stand nor walk, nor had he the power to grasp firmly any object. Cutaneous sensation appeared to be normal, but the patellar and achilles tendon reflexes were absent. The limbs were not wasted, and the muscles responded to electrical stimulus. Pulse and temperature were normal, and examination of the urine gave negative results. The slight improvement

of the paralysis, noticeable to the patient, at the beginning of the fourth week, had not progressed any further. Ascending myelitis and poliomyelitis were excluded, and the diagnosis made of ascending paralysis, Landry's. It being impossible to carry out at his home, a systematic course of electrical treatment, with massage and warm baths, which seemed to be indicated, the patient was removed to Roosevelt Hospital, where the late Dr. Goetky became interested in the case. He agreed with Dr. Weber as to the probable nature of the disease, and also looked upon the chances of recovery as good. The patient was discharged cured on the thirtieth day, and was soon able to resume his occupation. He called at Dr. Weber's office, October 30th, 1885, at which time he appeared in fair health, could walk briskly and firmly, and said he was well able to attend to his business, but he required more sleep than he did five or six years ago. He had occasional backache, but no lancinating pains. The bowels were somewhat constipated; the urine normal; the patellar tendon reflex was totally abolished on both sides, and the patient could not stand very well on one foot when the eyes were closed. The pupils were normal. There were no sensory disturbances and no paresthesia.

The author then related briefly two cases recently reported by Sorgenfrey and H. Mietks, in which there was early loss of the patellar and achilles tendon reflexes, but in which, as opposed to his own case, the reflexes returned after the complete recovery of the patients. He also mentioned a case of Immermann's, in which the diagnosis wavered between anterior poliomyelitis and Landry's paralysis, and in which, at the autopsy, there was found recent inflammation of the anterior horns of the cervical, dorsal, and lumbar regions of the cord. It was this case which lead Immermann to conclude with Pettitils that both these clinical pictures might be due to the same morbid process, differing only in degree.

#### DISCUSSION.

DR. E. C. SEGUN had not seen a case of Landry's disease, but he had always had a strong suspicion that there was a great similarity, if not identity, between that disease and poliomyelitis acuta. The mere matter of ascension did not seem to him to be of so great importance in the diagnosis. The views which, when a pupil, he had heard Brown-Sequard frequently express with regard to ascension of spinal symptoms, had always seemed to him very reasonable. They were that ascension of symptoms might be apparent when they did not represent any ascending lesion in the cord; they were due to a change in the depth of the lesion in the cord. Suppose theoretically, a case of paralysis of the arms, with later paralysis of the legs; it is not at all necessary to suppose a descending lesion in order to explain the descending symptoms; a change in the depth of a lesion which extends but a little way up and down the cord will account for the descent of the symptoms. In the same way, we could account for ascending symptoms without supposing an ascending lesion in the cord. Many authors laid stress upon the value of negative symptoms in the diagnosis of Landry's paralysis, such as absence of degenerative reaction and muscular atrophy; but it was equally true that in many cases of poliomyelitis these symptoms were retarded. He regarded Immermann's case as instructive, inasmuch as it showed the similarity, if not the identity of the two diseases; the difference might be in exact location or in the virulence of the affection.

DR. PECKHAM described the symptoms in the case of a girl sixteen years of age, whom he saw only once and made a diagnosis of acute poliomyelitis, following exposure by sitting on a rock at a picnic. He gave a favorable prognosis. The case was reported by Dr. Rockwell before the American Neurological Society in June last, as one of transverse myelitis with recovery. Considerable discussion followed with regard to the nature of the disease.

DR. SACHS thought that while Immermann might entertain the idea that the pathological process in Landry's disease and poliomyelitis was the same, he did not suppose that he believed the lesions to be identical in localization. While the question of infectious origin had not been demonstrated in either acute myelitis or Landry's disease, Dr. Sachs thought it deserved investigation.

DR. WEBER closed the discussion, reviewing the differential diagnosis between Landry's paralysis and poliomyelitis anterior acuta.

#### THIRTEENTH ANNUAL SESSION OF THE AMERICAN PUBLIC HEALTH ASSOCIATION, DECEMBER 8th, 9th, 10th, 11th.

THE Thirteenth Annual Session of the American Public Health Association, was held at Willard Hall, Washington, D.C., beginning at ten o'clock on Tuesday morning, the President, Dr. James E. Reeves, presiding. The following members and delegates from Massachusetts were present during the week: Messrs. John Fallon, C. E. Denny and Dr. S. W. Abbott, as delegates of the State Board of Health, Lunacy, and Charity, and also as representatives of local Boards of Health; Drs. H. P. Walcott and A. F. Holt, of Cambridge; Durgin, of Boston; Rice, of Springfield; Jones, of Taunton; Adams, of Pittsfield; Mayor O'Connor, of Holyoke, and also Dr. B. F. Davenport, of Boston, and Dr. D. A. Sargent, of Harvard University.

After the disposal of the usual routine business, including the reports of officers, the morning session of the first day was devoted to the following papers:

#### SANITARY AND STATISTICAL NOMENCLATURE.

By DR. E. M. HUNT, of Trenton, N. J., Secretary of State Board of Health.

#### FORMS OF TABLES FOR VITAL STATISTICS.

By DR. J. S. BILLINGS, U. S. A.

Dr. Billings discussed the forms of statistical tables now in use by Boards of Health and Registration, and stated his opinion as to what should be included and what rejected from such tables. Diagrams of charts were especially commended as important adjuncts of such work.

DR. HENRY B. BAKER, of Lansing, Michigan, Secretary of State Board of Health, gave a paper on the RELATION OF RAINFALL AND WATER-SUPPLY TO CHOLERA.

A similar line of observation was illustrated in this paper with that which Dr. Baker has for several years carefully carried out with regard to typhoid fever, showing its close relation to the depth of water in the soil. Charts were shown illustrating the subject.

#### THE VIRUS OF HOG-CHOLERA

was presented by DR. D. E. SALMON, of Washington.

This disease was shown to have been unusually prevalent during the year, so much so, as to have cost the country nearly \$30,000,000. The improper disposal of hogs which had died of the disease, both as food and otherwise, was severely criticised.

The Treasurer, Dr. Lindsley, reported the receipts of the Association as \$3,338, and expenses as \$2,233 for the year, leaving a balance of \$1,105.

The Committee on Disinfectants reported in print, its reports having been published in portions in the medical journals during the past year. At the evening session, the time was devoted chiefly to addresses of welcome by Dr. J. M. Toner, of Washington, and Hon. J. B. Edmonds, of the Board of Commissioners of the District. A letter of welcome was also read from President Cleveland.

DR. JAMES E. REEVES, President of the Association, delivered the annual address, treating mainly upon matters pertaining to public sanitation, and especially upon the importance of National aid in the establishment of a biological laboratory for the study of infectious diseases.

#### SECOND DAY.

The first paper presented on Wednesday was read by Dr. P. H. BOYCE, Secretary of the Provincial Board of Health, of Ontario, and entitled

#### SMALL-POX IN CANADA, AND THE METHODS OF DEALING WITH IT IN THE DIFFERENT PROVINCES.

An account of the epidemic was given from its origin in the early spring to the present time, during which period about 3,100 deaths had occurred. The regulations adopted by the Ontario Board and the means taken to prevent the spread of the epidemic were fully detailed. He was followed by Dr. Kingston of Montreal, who gave in detail an account of the epidemic of the past season. Both he and Dr. O'Connor also gave testimony to the fact already alluded to in the JOURNAL that the Canadians are not a filthy people, and the epidemic was due mainly to the neglect of vaccination.

#### IMPURE AIR, AND UNHEALTHY OCCUPATIONS AS PRE- DISPOSING CAUSES OF PULMONARY CONSUMPTION.

was the title of a carefully prepared paper by Dr. C. W. CHANCELLOR, Secretary of the State Board of Health of Maryland. General statistics relative to consumption were first given, followed by reference to the effect of improper ventilation, crowded workshops, small rooms, and occupations in which workmen were exposed to irritating dust.

#### AFTERNOON SESSION.

At the afternoon session, the committee on State Boards of Health submitted the following resolutions:

FIRST. That it is the judgment of your committee that in carrying out the object of their creation it is necessary to have a conference of delegates from State Boards of Health at least once a year, for the purpose of consultation and to promote unity of action on matters essential to public health, the prevention of epidemics and the most efficient means of instructing the people in sanitation.

SECOND. Your committee would suggest that the most suitable occasion for holding this conference would be during the annual meeting of the American Public Health Association, and that our president and secretary arrange the time of the meeting in connection with the executive committee of the American Public Health Association so as best to promote the interests of the association and the conference.

THIRD. Any conclusions of this conference that are of interest to the public shall be reported by the secretary to the American Public Health Association through the standing committee on State Boards of Health.

(To be continued.)

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, November 19, 1885.

#### A SECTION OF RHINOLOGY AND LARYNGOLOGY TO BE ORGANIZED.

THE SECRETARY read an application from a number of Fellows for the formation of a section in Rhinology and Laryngology, and on motion it was voted that such a section should be established.

#### THE REDUCTION IN THE APPROPRIATION FOR THE BOARD OF HEALTH FOR THE YEAR 1886.

The Secretary read a letter to the President of the Academy from James Gallatin, Esq., in which he stated that he had petitioned the Board of Estimate and Apportionment of the city for a reduction in the appropriation for the Board of Health for the coming year, on the ground that the finances of the latter could be more economically managed without in any manner impairing its efficiency from a sanitary point of view. The Board of Health had asked for an appropriation of \$245,166, an increase of over \$39,000 beyond that of the present year, and the Board of Estimate and Apportionment had now decided that the appropriation should be cut down to \$170,000. Mr. Gallatin went on to say that he had addressed this letter to the President of the Academy of Medicine in order that his motives should not be misunderstood in the position which he had taken. He was fully aware to how large an extent the efficiency of the Board of Health depended on the medical element represented in its constitution, and, trusting that the reduction of expenses referred to would not be made the pretext for dismissing or cutting down the salaries of the able physicians connected with it, he ventured to hope that the Academy would not hesitate to give an expression of its opinion on the subject. Coming from a source like this, he felt sure that such an expression of sentiment would have great weight with the authorities.

On motion of Dr. Gouverneur M. Smith, a preamble and resolution were unanimously adopted to the effect that, whereas it was a generally recognized fact that the efficiency of the Board of Health depended on its medical representatives, and whereas, it had been decided by the authorities that some reduction should be made in the annual appropriation for the expenses of the Board, it was therefore resolved that the Academy of Medicine should respectfully urge that this reduction should be made in such a way that none of the competent medical men now on its service should be discharged or should have their salaries so reduced as not to afford a fair compensation for their faithful and efficient labor.

DR. HENRY D. NOYES then delivered

#### THE ANNIVERSARY DISCOURSE

before the Academy, the subject of which was, "Path-finding in Medicine." In opening, he offered the hearty congratulations of the Academy, as well as his own, to their distinguished colleague, Professor Janeway, who was to have delivered the address, on his recovery from a recent very severe illness, which had prevented him from preparing it. During the past year, he said, he had had the opportunity of becoming personally familiar with much of the scientific work which was at present being done in Europe, and he had especially profited by the proceedings of the great International Medical Congress at Copenhagen, and

the subsequent Ophthalmological Congress at Heidelberg. From what he had observed, it was his conviction that progress was now to be made in the line of acute, deep, and accurate research. Great triumphs have been won through the agency of scientific physiological and pathological investigation, and clinical observation must now be supplemented by the laboratory. Referring to the achievements of American medical men, he said the wonder was that they had accomplished so much with the meagre facilities at their command. Collective investigation was admirable in its way, but after all it was merely clinical knowledge, and at the present day we could not rest with clinical observation.

The microscope, he went on to say, was the great agency by which the brilliant results of modern pathology had been obtained, and though the title of his essay might at first seem somewhat grotesque, he thought it was not inappropriate when we considered how many paths through the formerly hopeless jungles of the mysterious human economy this instrument had assisted in opening up. Proceeding to illustrate his subject, he spoke particularly of the results accomplished in pathological research by such men as Virchow, Fleming, and Pasteur. When speaking of microorganisms and the wonderful era in scientific medicine which the discovery of their importance had inaugurated, he mentioned that Rosenbach in 1884 said that he knew of no less than six distinct microbes which were capable of exciting suppurative in the human body. Having spoken of the triumphs of antiseptic surgery, and the great advances which had recently been made in our knowledge of the physiology of the brain, he gave sketches of the careers of the distinguished Dr. Thomas Young, in whose time nothing was esteemed in medicine which was not of a directly practical nature, Edward Palmer, the wonderful linguist, Helmholtz, the inventor of the ophthalmoscope, and of Graefe and Donders, the great ophthalmologists.

Turning again to America, he spoke of the great disadvantages under which our men suffered from lack of facilities. Yet a great deal had been accomplished by individual effort, and the reputation of many of our surgeons, especially those who had distinguished themselves in the field of gynecology, was world-wide. No more brilliant instance of a noble and distinguished career, in the face of almost insuperable difficulties, could be mentioned than that of the lamented Marion Sims.

The investigation of disease was to be prosecuted in two lines: *first*, the bedside study, and, *second*, what might be termed the philosophical study of diseases. The problem was to unite these two, so that they might go hand in hand; and to-night his plea was for the laboratory.

The need of the American profession was urgent; but at length the people seemed to be beginning to appreciate to some extent the exigencies of the situation. Having referred to the liberal gifts of Mr. Carnegie and Mr. Vanderbilt to two of the medical colleges, which he said are most timely and hopeful, he spoke of the need of something more—such as institutions in the line of the Johns Hopkins University, of Baltimore—which would be suitably equipped and offer facilities, not merely for teaching students, but for instructing teachers and for the prosecution of the most profound original research. There was no trouble in

getting wealthy people to give liberally for the support of hospitals, dispensaries, and other charitable institutions for the sick; but they should be made to understand that their charity was not complete unless it was in part, at least, devoted to enabling the physician to treat the sick more successfully.

DR. FORDYCE BARKER, in moving a vote of thanks to the orator of the evening for his able, interesting, and suggestive address, said that an annual oration had constituted one of the features of the Academy of Medicine from the time of its organization until within a comparatively recent period, when the custom had fallen into disuse. He well remembered the first address of this kind, which was delivered, in 1847, in the old Tabernacle, on lower Broadway, near the former site of the New York Hospital, by the late distinguished Dr. Francis, before not only the Fellows of the Academy, but a crowded audience of ladies and gentlemen. At that time he was not himself a resident of the city, but he was present on this occasion. Ten years later, he remembered, Dr. Marion Sims was the orator; speaking before a large audience in the hall of the Historical Society. Dr. Barker said he had been much interested in the admirable address of Dr. Noyes, and particularly in the practical deduction and eloquent plea with which it concluded. Although the Academy was now in a very flourishing condition, he believed that it was still in a process of evolution, and that it had a glorious future before it. Under its auspices he hoped to see at no distant day such facilities offered for scientific investigation as had been referred to in the paper. There was no city in which there was so much individual wealth as in New York, and he had little doubt that enlightened citizens would be found who could be induced to supply the means for the establishment of a great centre of research and teaching.

### Recent Literature.

*A Text-Book of Pharmacology, Therapeutics and Materia Medica.* By T. LAUDER BRUNTON, M.D., D.Sc., F.R.S. Adapted to the United States Pharmacopœia, by Francis H. Williams, M.D., Boston, Mass. Philadelphia: Lea Brothers & Co. 1885.

This work treats of the subject covered by its title in such a novel way in comparison with that in our stereotyped works on therapeutics that it deserves rather more than a passing word of criticism. The keynote of this treatment is struck at the very outset, where Dr. Brunton gives the meaning of pharmacology as "a knowledge of the mode of action of drugs upon the body generally, and upon its various parts;" and again, "Preventive medicine or prophylaxis, is daily becoming more important, and probably before the end of this century, medical men will be employed more to prevent people from becoming ill than to cure them when disease has become fairly established."

First in the order of discussion comes a very scientific epitome of chemical and physical relations of elementary substances, and next the combinations of organic radicals, and in relative order the theory of chemical and physiological reactions, of atomic weight and physiological action, the relations between spectroscopic characters and physiological action, and the relations between isomorphism and physiological action.

The author clearly shows the fallacies by which Blake, Rabuteau, and de Boisbandrau, in the above theories, endeavored to substantiate an explanation of the action of medicines in the living organism; and our author claims that the connection between chemical constitution and physiological action is the most important physiological feature in pharmacology.

Before taking up the consideration of the known action of drugs on animals, Dr. Brunton discusses the circumstances which affect the action of drugs on the living organism, on protoplasm, blood and low organisms, on various organic living tissues, such as muscles, nerves, spinal cord, brain and their appendages, on the circulation, on the digestive system, on tissue change, on excretion, and on the generative system. The discussion of these topics, and of the modes of drug administration form nearly one half of the book, which is worthy of a careful perusal, because undoubtedly a knowledge of these matters forms the only basis of a correct use of drugs either in prevention or cure of diseases. For instance, the *tinnitus aurium* caused by quinine and salicylate salts as well as other medicinal agents can never be fully appreciated unless the function and peculiarities of hearing be properly understood. As our author states: "It is probable that subjective sounds not depending on disturbances of the auditory apparatus, such as sounds of voices, etc., heard in delirium or mania, or as the prodromata of an epileptic fit in certain individuals, or during intoxication by cannabis indica, are due to irritation of these centres." In the discussion of the action of drugs on the digestive system, Dr. Brunton lays great stress on the function of the liver, "the porter to prevent the passage of injurious substances from the intestinal canal into the blood," and speaks of its important function in destroying the poisonous properties of peptones or ptomaines which upon the authority of Seegen are converted by it into sugar and glycogenic substance. He then notices the importance of separating those medicinal substances formerly classed as cholagogues into hepatic stimulants and cholagogues, properly so-called, and a new class of hepatic depressants, "which lessen the quantity of bile secreted by the liver," and among which probably calomel should be ranged. Among hepatic stimulants are classed as the most powerful: dilute nitro-hydrochloric acid, aloes, sodium phosphate, mercuric chloride, sodium salicylate, sodium benzoate, eunonymin, iridin, phytolaccin, podophyllin, sanguinarin, colocynth, jalap, and ipecacuanha; as the less powerful: rochele salts, sodium sulphate, ammonium benzoate, baptisin, hydrastin, juglaucin, leptandrin, jalap, rhubarb, and calabar bean extract; as cholagogic purgatives: aloes, baptisin, colchicum in large doses, colocynth, jalap, podophyllin, rhubarb, sulphate of potash, sulphate of soda, phosphate of soda, and mercury salts. The green colored stools following the administration of calomel are explained as being due to diminished absorption of bile, which thus passes more rapidly through the intestine and possibly also to its lessened transformation and obstructed decomposition.

Tonics are separated by Dr. Brunton into hæmatics or blood tonics, vascular tonics, gastric tonics, intestinal tonics, and nerve tonics. According to our author, alteratives are those remedies which improve the nutrition of the body without exerting any very perceptible action on individual organs. The chief alteratives are arsenic, mercury, iodine, and iodides, cod

liver oil, sarsaparilla, gold, colchicum, guaiacum, stillingia, sanguinaria, xanthoxylum, and mesereum."

These extracts are sufficient to illustrate the scope of the first half of Dr. Brunton's work, but a more extended examination of his text would give the medical practitioner some most excellent hints for clinical use. The second section treats, in a brief and succinct manner, the subject of general pharmacy. The bias of our author is seen in his expressed hope that the vegetable materia medica will soon be replaced by the use of artificial alkaloids from the use of which, being purer, we may expect "greater constancy of action than we can obtain at present from the natural active principles."

Section III. contains a description and the methods of preparation of the inorganic materia medica, and the last three sections are devoted to the organic materia medica, to the vegetable materia medica, and finally to the animal kingdom. The adaptation of preparations to our United States Pharmacopœia in these last three sections has been under the charge of Dr. Francis H. Williams. The difficulty of comparing pharmacopœial products of one nation with that of another makes more evident the necessity of soon adopting an international pharmacopœia.

It is expressly stated in the United States Pharmacopœia that, with the special exception of fluid extracts, "all measures of capacity shall be abandoned and quantities shall be expressed in *parts by weights*."

Notwithstanding this rule, which as stated by its committee of revision in the preface to the edition of the United States Pharmacopœia, published in 1882, (p. xxx), has been carried out except in the special case of fluid extracts, we find it stated in Dr. Brunton's work that dilute sulphuric acid, United States Pharmacopœia, "is the strong sulphuric acid diluted with sixteen and one-half parts of water by measure; one in ten parts by weight," and the sp. gr. test of 1.067 is omitted. Also, we note in the work before us that acidum sulphurosum, U. S. P. and B. P., is composed of "sulphurous acid gas (SO<sub>2</sub>.64), dissolved in water and constituting 9.2 per cent. of the solution." The United States Pharmacopœia states that sulphurous acid (acidum sulphurosum), is a liquid composed of about 3.5 per cent. of sulphurous acid gas (SO<sub>2</sub>.64—SO<sub>2</sub>.32) and about 96.5 per cent. of water. This is evidently a noteworthy error, since the dose of the United States preparation would be three times that of the British preparation, or one and a half to three drachms instead of one-half to one drachm.

Again, according to Dr. Brunton's book, dilute hydrochloric acid, U. S. P., contains by measure five and one-half of acid and fourteen of water, or six parts by weight of acid and thirteen of water; again, under the head of dilute nitro-hydrochloric acid, "the proportions in the U. S. P. by measure are nitric three, hydrochloric acid thirteen and one-half, water eighty," in the text of Dr. Brunton's book, whereas the United States Pharmacopœia states that diluted nitrohydrochloric acid shall be made by weight, four parts of nitric acid, fifteen parts of hydrochloric acid, and seventy-six parts of water. There is not the least shadow of authority for making these dilutions by measure according to the United States Pharmacopœia, and no well-educated pharmacist in our country should attempt it. The very brief description given in Dr. Brunton's book, on page 435, of the method of preparing fluid extracts of the United States Pharmacopœia,

hardly expresses the exact statement as given in the official work of the United States. Our fluid extracts are not made like watery extracts, and "instead of evaporating the infusion, (etc.), it is reduced to a small bulk." Our fluid extracts are made by percolation. Sometimes afterwards by evaporation or extension, but the directions are given to exhaust the drug and to make by either of these processes each cubic centimeter of the final product represent one gramme of the crude drug.

It might naturally be expected that a work arranged like the book before us would be difficult to use as an easy manual without a good index. The author has recognized this difficulty, and supplied a very copious general index, an index of diseases and remedies, and an excellent bibliographical index, all of which add much value. These three indices cover over one hundred pages of fine type, and are well arranged for easy reference. There are also nearly two hundred illustrations in the text, which are well executed, and many of them being diagrammatic, make the author's meaning much clearer.

*A Practical Treatise on the Diseases of Children.* By ALFRED VOGEL, M.D., Professor of Clinical Medicine in the University of Dorpat, Russia. Translated and edited by H. RAPHAEL, M.D., Formerly House Surgeon to Bellevue Hospital, Physician to the Eastern Dispensary for the Diseases of Children, Attending Physician Bellevue Hospital Out-patient Department, Diseases of Genito-urinary organs and Syphilis, etc. Third American from the eighth German edition. Revised and enlarged. Illustrated by six lithographic plates. New York: D. Appleton & Co., Nos. 1, 3, and 5 Bond Street. 1885.

The American translator of the eighth German edition of this well-known work presents us with twenty-five more pages of text than existed in the former edition. The book is unusually brought out, both as to type and paper; the plates are of considerable value, and there is much about the work which will be of interest to the general reader.

An excellent article on cerebro-spinal meningitis has been introduced by the American editor. The subjects, however, to which especial attention is directed in the preface are open to a good deal of criticism; thus in the chapter on artificial nutrition, it would seem that the author was scarcely abreast of the times, when he still continues to present as the standard for the analysis of human milk, the results of Vernois and Becqueril, which have for so many years been copied from one book to another and which later investigations have proved to be incorrect to such a degree that they should hardly be placed in the hands of a student without the errors being carefully pointed out. Some valuable information is given regarding tuberculosis in the cow, and the statement made that the milk of tubercular cows is not to any considerable degree a source of infection. The advice regarding the use of condensed milk is very insufficient, and does not embrace such important points as the great reduction of the fat when the milk is diluted, as directed by the author; in fact, the pages devoted to artificial feeding, a subject which should be so thoroughly dealt with in a work of this kind, is deficient in that it does not clearly state the reasons for and against the use of the various foods.

Under the head of difficult dentition, the author still opposes lancing the gums, apparently overlooking the fact that those who lance the gums do not do it so generally as was the custom in former times in every case where there was irritation from the teeth, but that in the especial case where there is local pain, swelling and tension, they lance the mucous membrane of the gum as they would a like condition in other parts of the economy; and that the operation in appropriate cases is often followed by instant relief. This being the experience of many practitioners competent to judge on such a point, it seems hardly wise in an important text-book to so unequivocally condemn the procedure. It is also not the general experience in America, at least, that the cuts from the lancet "heal very badly," or "ulcerate for a long time."

The article on diseases of the nervous system is far from satisfactory, and does not compare well with those on the same subject in the later works on paediatrics published in Germany and England. The author, speaking of the essential paralysis of children, has apparently copied directly from his earlier editions, and has thus been led to overlook the record of autopsies, which now confirm the opinion that the disease is of central spinal origin. Omissions of this kind somewhat shake one's faith in the views expressed on other subjects, and makes one withhold that entire approval which only comes where there is confidence that the latest authentic discoveries have been introduced throughout the whole work.

*Insomnia, and Other Disorders of Sleep.* By HENRY M. LYMAN, A.M., M.D. Chicago: W. T. Keener. 1885. pp. x, 239.

"Tired Nature's sweet repose, balmy sleep." — *Young.*

The preface commences with the above quotation, and each chapter is headed by a quotation more or less appropriate, one from Goethe, five from Shakespeare, one from Genesis. None of these are very long, and the reader may skip them if so inclined.

The first chapter opens, after the quotation, with a definition. "Natural sleep is that condition of physiological repose in which the molecular movements of the brain are no longer fully and clearly projected upon the field of consciousness." That is, when a man has worked hard, gets tuckered out, lies down to rest, and doesn't know anything, not even his own thoughts, till he wakes up, he has been asleep if he ain't drunk.

The first four chapters are occupied by a very good discussion of the nature and cause of sleep, insomnia, remedies for insomnia, and treatment of insomnia in particular diseases. The chapter on insomnia divides the causes of sleeplessness into two classes: I, those which produce irritation of the peripheral portions of the sensory apparatus; II, morbid states of the central nervous organs. The second class is much the more efficient in giving rise to insomnia, especially the disorders of circulation and nutrition. This part of the subject might have been treated more at length with advantage.

The directions for treating insomnia are judicious, and it is convenient to have the various remedies mentioned together and the value of each discussed. The book will prove handy for reference. Each topic is briefly and concisely considered, some so briefly that

one feels that there is an incompleteness, and wishes the author had said more.

The final chapters on dreams, somnambulism and hypnotism are interesting, many amusing cases are mentioned with more or less fulness; but they are only interesting. No useful conclusions are deduced from the facts. No attempt is made to connect the various phenomena or show their bearings upon other modes of cerebral manifestations.

*Students' Histology. The Essentials of Histology, Descriptive and Practical for the Use of Students.* By E. A. SCHÄFER, F.R.S. 8vo. pp. 245. Philadelphia: Lea Brothers & Co. 1885.

It is a perplexing problem, which, like certain vegetables, sprouts up annually, what text-book of histology shall be recommended to the students, who are just commencing their medical curriculum. In point of number the choice is abundant, but there are very few which one can be even tolerably satisfied with, and none which fully meet the requirements of the case. Professor Schäfer's work is a new attempt to meet the want of a suitable text-book of histology for medical students, and is certainly in many ways an advance upon what we have previously seen in our language. We like especially the combination of directions for making a set of preparations, with a chapter on the tissue concerned, so that the student in following this work learns at once to familiarize himself with the images seen through the microscope, and to associate those images with the general notions which are the really essential ideas for him to acquire and of which the special preparation is only the illustration and the symbol. In fact the union of "practical" and "descriptive" histology is preëminently important and too often neglected. The author's style is excellent, and all his statements are remarkable for their clearness and concision, good qualities which he has already displayed in the ninth edition of Quain's Anatomy. Indeed, the book under review, is essentially a condensation of the histological part of Quain. In both we miss the background of comparative histology and embryology upon which human histology ought to be painted to render it at once vivid and scientific: the want of this is a serious defect.

We can say little in favor of the publishers' part of the work, which has too much stingy cheapness. The illustrations are coarse for the most part, and the author's enemies would not be so unkind as to wish them worse printed. When the cuts, borrowed from Stricker or Ranvier, for instance, are compared with the originals, the degradation they have suffered is pitifully evident.

*Microscopical Methods. Methods of Research in Microscopical Anatomy and Embryology.* By CHARLES OTIS WHITMAN, M.A., Ph.D. 8vo. pp. viii., 255. Boston: S. E. Cassino & Co. 1885.

There has long been an urgent need for a good work on the methods employed in histology and embryology, a need which is now supplied by Dr. Whitman's very admirable manual. It contains a judicious and critical summary of the best which experience and experiment have placed at the service of students and investigators of microscopical anatomy, besides having a special value from including a good deal of valuable matter which has not been previously published and from the skilful collection of methods described incidentally in other publications.

For the working microscopist this book will undoubtedly soon be acknowledged as indispensable. It gives excellent directions for the best methods of preparing the various reagents, and precise rules for the best methods of employing them. It includes also the latest improvements in the methods of cutting, and mounting sections. Hitherto only professional workers have known how great and numerous these improvements have been. In these chapters the author displays much felicitous judgment, so that very little indeed appears in them either in substance or in words which might be omitted. In a second part follows a series of directions for special methods; that is, methods applicable to particular tissues or animals, and these we think will be found extremely useful in practice, for hitherto the vast body of experience accumulated during special investigations has been practically inaccessible. We hope that in future editions the author will greatly expand this portion of his work.

There are some omissions to be regretted, such as the methods of isolating the tubules of kidney, the use of trypsin, methods of micrometry, and some other matters, which have occurred to us, and which we have not found referred to in the book.

The publisher has issued the volume in attractive form, it being well printed on good paper, as indeed a book of such intrinsic value, should be. In conclusion, we give the book, as a whole, unreserved commendation.

*A Treatise on the Science and Practice of Midwifery.* By W. S. PLAYFAIR, M.D., F.R.C.P. Fourth American, from the Fifth English edition, with notes and additions by Robert P. Harris, M.D. Philadelphia: Lea Brothers & Co. 1885.

This standard work is too well and favorably known to require an extended notice of the present edition, which shows but few changes from the edition which preceded it by only a short time. As in previous editions intended for use in this country, the American editor has added materially to the value of the book by his annotations on subjects in which American teaching and practice differ from the British.

Several new methods of performing gastro-hysterotomy devised in Germany are given by the American editor; and the latest statistics in the Cæsarean and Porro operations, in the collection of which Dr. Harris has shown such indefatigable industry, are also added. Hicks' method of combined version in the treatment of placenta prævia, as tried in Berlin by Hoffmeier, Behm and Lomer, also receives appropriate notice.

The book will find a welcome place in every obstetric library.

*What to Do in Cases of Poisoning.* By WILLIAM MURRELL, M.D., F.R.C.P. Fourth Edition. London: H. K. Lewis. 1884.

The physician, when called in to a case of poisoning, has presumably but little time in which to consult a book for the purpose of obtaining information which he may reasonably be supposed to carry in his head. This may be said, however, with regard to Dr. Murrell's book; it is very small, and it contains a great deal of useful and accurate information. The work has been carefully revised, and many additions have been made.

# Medical and Surgical Journal.

THURSDAY, DECEMBER 17, 1885.

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## THIRTEENTH ANNUAL MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

THE meeting of the American Public Health Association convened at Washington from the 8th to 12th inst., was one of the largest and most important thus far held. More than thirty States were represented by men engaged in public health work and by private citizens.

The Conference of State Boards of Health was also held at the same time; unusual interest attached to the meeting of the Conference this year, on account of the attempted legislation during the last Congress of the United States.

The bill then presented by the State Boards was based upon the fact that the present National Board of Health has no real support from the various States except such as was naturally given personally to the able and eminent men who composed it. Presidential or political favor might at any time change them, and they did not necessarily represent State or even municipal health organizations. The bill asked for would have given, by proper representatives, some voice to every State in the Union. A short session and opposing interests defeated the measure.

Both the Conference and the Association passed resolutions asking Congress for such legislation as would secure to the whole country some central body with ample power and sufficient money to investigate sources of disease, especially those known to be preventable; to spread abroad through States and municipalities, warnings of disease, and to collect and publish those vital statistics which are absolutely essential to a correct appreciation of the Public Health. While no especial form of bill was presented, it was understood that a representative of the Conference and of the Association, would, at the proper season, appear before the committee of the present Congress and ask for legislation.

It is to be hoped that the existing, but unfortunately, only nominal Board of Health, may be asked to confer with the representatives of these organizations. The American Public Health Association was the parent of the National Board of Health, and has every reason to

be proud of the good work done by the Board in its earlier years. A misfortune, or series of misfortunes, has of late condemned the Board to a useless existence, standing, as it does, in the way of something stronger, and yet unable itself to do the necessary work.

The Conference of State Boards, a new, and in some respects, a more responsible organization than the Public Health Association, as it represents those actually controlling the powers possessed or exercised by the States in public health matters, now joins in the request for legislation to give health questions some proper place among the offices of the general government; and it seems a matter of little consequence whether such a department be called a National Board or a Bureau.

Why is it not possible for the members of the present National Board of Health to join with these important bodies and go before the general government with a strength furnished by union and not likely to be resisted?

President Cleveland though unable to be present, as was expected, at this meeting, wrote a letter expressing his interest in the work of the association, and is known to be well disposed toward public sanitary organizations; in fact there is no real division upon the broad general question of the necessity for some form of national organization; the great, perhaps the only difficulty has been in the rival, often selfish, interests of bureaus already in existence, and of individuals wishing to create new bureaus.

It is therefore, perhaps, as well that these two bodies lately assembled in Washington should not make specific recommendations, but trust to the strength of their statement of the whole question, leaving details to sub-committees presumed to be informed of the wishes of their respective bodies and able to state them.

The election of Dr. H. P. Walcott, although not in the regular order of succession, to the presidency of the Association was an admirable step for its own interests, and a well-deserved tribute to one of our most accomplished sanitarians. Massachusetts having dispensed with his services the rest of the country is eager to avail itself of them.

## ANNUAL REPORT OF THE SURGEON GENERAL OF THE UNITED STATES ARMY.

THE report of this service for the calendar year 1884, is at hand. We are happy to note that for the second consecutive year the number of casualties from actual warfare was zero, the year having been one of peace.

The general health of the army was good; the rate of admission to sick report being decidedly lower than that for the previous year and preceding decade, while the death-rate from all causes shows an equally marked reduction.

Admissions for disease were less frequent, the rate being fully one-fifth lower than for the previous year.

The number of cases treated in hospital during the year was 14,398, or 590.4 per cent. of strength.

The rate of hospital admission compares not unfavorably with that of the United States Navy, which was 888.7 per cent. for the force afloat during the year 1884.

It is of interest to note by way of comparison that the statistical reports of the British Army for troops serving in the United Kingdom from 1870-79 furnish a decennial rate of 809 per cent. and for troops serving at home and abroad 1,025 per cent. of strength admitted to hospital treatment. The German Army for seven years of peace, 1875-81, gives a rate of 315.4 per cent. of strength. The French Army, shows 1872-77, a rate of 310 per cent. treated in *Infirmerie*, and an additional rate of 237 per cent. treated in hospital, and the Belgian Army, 1862-67, gives a rate of 604.4 of strength.

The statistics of the various diseases are given as usual. One item which coincides with the experience of the previous year, but of which no explanation is given, is that cavalry troops, including their recruits, have suffered from enteric fever to a far greater extent than other arms of the service, since they have furnished over seventy-two per cent. of all the cases registered during the year.

All new medical publications are now promptly received by the library, and its use by physicians in all parts of the country is steadily increasing.

Volume VI of the Index-Catalogue, including from "Heastie" to "Inseldt," forming a volume of 1,051 pages, has, as we have remarked in a previous number of the JOURNAL, been printed, and the edition distributed. The preparation of the manuscript of Volume VII is well advanced, and the first part of it is now going to press.

The manuscript of the third medical volume of the Medical and Surgical History of the War, and the last of the series, is now well advanced toward completion; its earlier chapters are in the hands of the printer. The work will probably be ready for issue during the coming winter.

#### THE MEDICAL EXAMINER SYSTEM IN MASSACHUSETTS.

IN establishing a State Board of Health, sixteen years ago, and in abolishing the old coroner system and replacing it by a system of medical examiners eight and a half years ago, Massachusetts signalized herself as a pioneer in "State medicine." The Board of Health after a remarkably useful and creditable life of ten years fell a prey to politics, from which it has not quite yet been rescued. But in the last ten years many other States have profited by the early example of Massachusetts.

The system of medical examiners has had an existence of eight years and a half, and it too in that time has won for itself such credit that other States have adopted or are preparing to adopt it, encouraged by the satisfaction expressed with it here. Only eighteen

months ago, in commenting upon an act relating to medical examiners, then recently passed in Rhode Island, we "hopefully predicted a continuance of the excellent success which had thus far attended the Massachusetts method of investigating violent deaths."

Under these circumstances we think our readers will be somewhat startled by a paper on this System, recently read before the Boston Society for Medical Improvement, and published in this issue of the JOURNAL, in which the system, as now in operation, is arraigned, and grave charges of incompetency and carelessness are brought against individual members of the body of medical examiners. We hope those who read the paper will not fail to read with equal care the discussion to which it gave rise (p. 585). At the same meeting a committee was appointed to investigate the whole subject as presented and report to the Society. Their report will be awaited with interest, and we prefer to reserve any extended comments on the subject until it shall have been rendered.

Least misconceptions should arise in the meantime, however, we desire to say now that recent inquiries have failed to furnish us with any sufficient reasons for changing the favorable opinion we have always entertained and expressed in regard to the medical examiner law and its operations in the State of Massachusetts. It is not perfect, as few things are, and it would be easy to point out details in which, were the Legislature willing to incur the expense of an ideal medico-legal machinery, its operation could be greatly improved. But we think the contrast presented with the state of things obtaining under the old coroners, the few changes which it has been found necessary to make in the original act, and the character of the men, with very rare exceptions, whose services have been secured to the State at no greater cost than the old methods entailed, stamp the present system as a remarkable success.

During the eight and a half years that the medical examiners have been in existence, an aggregate of ten thousand cases have come under their official consideration—about twelve hundred a year—and we have strong reasons for stating that the number of cases in which carelessness or incompetency can be justly laid at their doors is very small, and the number of cases in which their deficiencies have brought injury to the innocent or caused the escape of the guilty must, in the nature of things, be very much smaller still.

The only particulars in which it has been found necessary to amend the original law are three, namely: the medical examiner cannot draw his fee for an autopsy without the signature of the district attorney; provision has been made for an expert medical witness, if necessary; an inspection and annual tabulation of the examiners' reports are required.

#### A NEW CARDIAC TONIC.

PROFESSOR Germain See has announced to the Academy of Medicine the discovery of a new alkaloid, which, he believes, has a wonderfully tonic and regu-

lating action on the heart; it is derived from a variety of broomtop, the *Spartium Scoparium*, and has been designated *Sparteine*. This alkaloid is in liquid form, is very bitter, is insoluble in water, and has for chemical formula:  $C^{20}H^{20}N^2$ . By reason of its pronounced alkalinity, sparteine forms with acid, salts which are soluble and crystallizable. Only the sulphate has thus far been used in experimentation.

Sparteine was discovered by Stenhouse, in 1850; Miltz experimented with the sulphate in 1863, and Fick ten years later; it was again taken up in 1880 by Raymond and Bochefontaine, and still later, by Laborde, and in 1883, Germain Sée first mentioned it among the cardiac medicaments.

According to the researches of the latter, an aqueous solution of ten centigrams of sparteine increases in a remarkable manner the force of the heart and pulse; its effects are quite as marked as those of digitalis and convallaria, while being much more prompt and more enduring. If the cardiac rhythm is disturbed, it is almost immediately set right by the action of the medicament; no medicine, says Professor Sée, can be compared with sparteine in its power to regulate intermittent or otherwise disorderly pulsation. It also quickens the heart contractions in grave cases of atony with slowing of the cardiac movements: in this respect, sparteine resembles belladonna.

All these phenomena appear at the end of an hour or two, and the effect is kept up for several hours after the suspension of the medicament. During this time, the organic forces are augmented and respiration is improved. Professor Sée's observations concerned six patients, whose pulse was examined by Marey's sphygmograph before, during, and after the administration of the medicament. Of these patients, two were effected with atrophic degeneration of the myocardium, with general debility, permanent oppression, and excessive feebleness of the heart's impulse, and almost imperceptible pulse. Under sparteine, the tracings recovered the normal type, and continued normal for several days.

Another patient with mitral valvular insufficiency and irregularity of the heart and pulse, was similarly benefited. In a fourth case, the rhythm of the heart was still more disturbed by valvular incompetency; the heart's action after exhibition of sparteine, became steadied and strengthened. The fifth case was one of dilatation of the heart, caused by arterial degeneration; there was pronounced arrhythmia, with oedema and albuminuria, depression, and slowing of the pulse; "under the influence of sulphate of sparteine, the pulse became regular, the impulse of the heart was augmented, and the movements of that organ accelerated."

The sixth case was one of cardiac asthma, with albuminuria; the pulse was small and irregular; "forty minutes after the ingestion of the remedy, all was changed—the regularity and the force had returned."

Such, according to Professor Sée, are the advantages likely to be derived from sparteine in these grave heart troubles, and this medicine seems indicated when-

ever the myocardium is weakened, whether from fatty degeneration, or valvular insufficiency, with failure of compensation. "When the pulse is irregular, intermittent and arrhythmic, sulphate of sparteine rapidly re-establishes the normal type. When the circulation is slackened, this medicament seems immediately to oppose this functional trouble, while maintaining, or even augmenting the acquired force of the heart muscle."<sup>1</sup>

#### MEDICAL NOTES.

—The story is told in the daily press of Mme. Nétalie, an actress of Paris who has recently died, that in 1836 while playing in pantomime at the Folies Dramatiques she had a cataleptic attack which was mistaken for death and was placed in a coffin. Not till the first tap of the hammer on the lid did she rouse from her trance. Two years later she returned to the stage and acted for thirty years, when she retired upon a pension. The last time she was placed in a coffin the hammer's tap failed to rouse her.

—One of the resignations from the International Congress not previously noted in these columns, is that of Dr. R. Palmer Howard, Dean of the McGill Medical Faculty, who was appointed a vice-president. The *Medical News* remarks "that the Canadian members have been placed in an awkward position in regard to the Congress, being to a certain extent foreigners, and being asked to join the organization merely out of courtesy, they did not feel disposed to join in the family quarrel. They, although altogether disapproving of the ousting of the old Committee, thought it better to do nothing, though most of them, if they were asked to reply to the circular advising them of their reappointment, would decline to have anything to do with the Congress as at present constituted."

—Apropos of the use of cocaine in sea-sickness, recommended by Professor Manassein, a correspondent to the *British Medical Journal*, November 17th, writes, in regard to the case of his son, aged twenty-four, who sailed for Calcutta, and who, on former voyages, had suffered excessively from sea-sickness. "He was given a solution of hydrochlorate of cocaine (1 in 1,000). He started on October 5th, and writing from Port Said, reported as follows: 'Sailing on Monday I was ill on Tuesday night and Wednesday morning, but quite well between the attacks. Once more, when the weather was very rough, and the ship rolling terribly, I felt squeamish, but two teaspoonful of the cocaine put me all right.' He adds: 'I have missed only three regular meals, but had mine at these times on deck. Only one other passenger has suffered less than I have: all the others have been very ill. Other voyages, I have always been the worst on board; and I think the cocaine must have the credit of the improvement.'"

—A Washington correspondent of *Science* says that "the museum of hygiene, in connection with the office of the surgeon-general of the navy, is not so generally

<sup>1</sup> Gazette Medicale de Paris, Nov. 28th, 1885.

or widely known as is the army medical museum. It has undertaken some investigations, however, which, if brought to a successful issue, will be of great value to the general public, and will not fail to bring it into a deserved prominence. The interest of a naval surgeon in hygienic matters arises primarily, no doubt, out of the fact that he has to do with the health conditions of men necessarily crowded into a small space. Whatever may have been the origin of this hygienic museum, it will be everywhere admitted that much can be accomplished by it if its management be wise and liberal. An important step has been announced by the surgeon-general in the statement that a complete system of iron and lead pipes, with fixtures, is being erected on the outside of the museum building for the purpose of making an exhaustive series of experiments, covering all disputed points in reference to trap siphonage and the utility of the mechanism of water-closets, traps, water basins, baths, sinks, etc. Observing stations have been established at each of the three stories, and the investigation is to include microscopical and chemical tests of the action of sewer air and different waters on pipes and tanks. When completed, the results are to be at the service of the public."

—Something of a controversy has arisen between *Science* and *Nature* regarding the method of admission into the Royal Society, which the former periodical criticized as involving the French system of canvassing the Fellows of the Society, and a competitive examination. These criticisms were based on Professor Chrystal's address to the British Association. *Nature* thus describes the method of election: "The friends of a man, who are already in the society, and who think he is entitled to the coveted distinction, prepare a statement of his services to science, in many cases without consulting him in any way. This paper thus prepared, is sent around to other Fellows of the Society, who are acquainted with the work of the candidate, and who sign it as a testimony that they think he is worthy of election. In this way, when the proper time arrives, some fifty or sixty papers are sent in to the council for their consideration. In the council itself we may assume that the selection of the fifteen is made as carefully as possible, in view not merely of individual claims, but of the due representation of the different branches of science. It is not for us to state the safeguards or mode of procedure adopted, but we think we may say that the slightest action or appeal to any member by the candidate himself would be absolutely fatal to his election. Finally, we may say that, years back, when a heavy entrance-fee had to be paid, there were cases in which the question had to be put to one whose friends were anxious to see him elected, whether he would accept election. The small yearly subscription of £3, now the only sum payable, makes even this question unnecessary at the present time. Nearly forty years ago the Royal Society determined to limit the yearly admissions to fifteen; the council has the responsibility of selecting the fifteen who are to be nominated for election, a general meeting of the

Society, reserving to itself the right of confirming or rejecting such nomination, but for thirty years that right has not been exercised."

BOSTON.

—Dr. D. F. Lincoln was awarded the second prize for the best essay on School Hygiene, as offered by Mr. Henry Lomb, of Rochester. The committee of the American Public Health Association did not award any first prize.

—A school teacher in the suburbs of Boston recently punished a pupil for telling an untruth by putting cayenne pepper on his tongue. In the course of about two weeks he died of diphtheria. The friends of the boy naturally claimed it to be a result of the punishment. An investigation satisfied the school committee that it was nothing but a coincidence, but they wisely passed a vote disapproving of this mode of punishment.

PHILADELPHIA.

—The new building for the Philadelphia Polyclinic College on Broad street will soon be ready for its occupants. The attendance at the college by the students from all parts of the country has increased beyond the capacity of the present quarters at Thirteenth and Locust streets. The new building will contain more hospital wards and private rooms for pay patients, and the dispensary service will begiven more attention. The Journal edited by the faculty will be doubled in size after the first of the year.

## Miscellany.

### A NEW TEST FOR HUMAN MILK.

DR. HÉLOT (Lyon *Medical*, October 18th), has discovered a method at once simple and practical to test the quality of woman's milk. While, of course, chemical analyses are reliable, yet they are so long and difficult that M. Tarnier has recommended physicians to accustom themselves to recognizing the richness of milk by the sight. Over this method, that of M. Hélot has the great advantage of precision. It consists of a comparison by means of a dropper of the number of drops in a volume of distilled water at 15°, with that in an equal volume of the milk. Good milk, that which will cause a gain of 25 gm. per day in the weight of the child, gives a proportion of 35 drops to 30 of distilled water. The number of drops may vary, increasing to 36, 37, or 38. The milk is then of superior quality. If, on the contrary, one gets only 33 drops, or less, he should mistrust the milk. The Pravaz' syringe allows of the accurate accomplishment of this examination, it only being necessary to remember the ratio of 5 to 6 between water and good milk.

The test should be applied to each breast in the middle of the nursing.

### THE INTERNATIONAL MEDICAL CONGRESS OF 1887.

A MEETING of members of the medical profession interested in the International Medical Congress in 1887, to which prominent medical men from a number of cities were invited, was held at the Hall of the College of Physicians, Philadelphia, December 4, 1885. Dr. D. Hays Agnew in the chair.

It was stated that official notice had been given of the election, as members of the present Executive Committee of the Congress, of Drs. J. S. Billings and J. M. Brown, of Washington, D. C.; Christopher Johnston, of Baltimore; George J. Englemann, of St. Louis; and J. M. Da Costa and William Pepper, of Philadelphia. These gentlemen are reported to have declined the appointments.

A general and strong expression of opinion was made in support of the American Medical Association and its Code of Medical Ethics, and sincere regret was expressed that hasty action on the part of the Association, and the introduction of false issues, had imperilled the success of the Congress. It was made entirely evident, however, that the acceptances of the above elections would not be regarded as affording any adequate guarantee for the future scientific conduct of the Congress, and consequently would not be followed by any coöperation on the part of the leading members of the profession now unwilling to join in that work. As an evidence of the earnest desire which is felt for the restoration of harmony upon this subject, and for the reorganization of the Congress on a basis which would command general support, and thus insure success, the view was unanimously expressed that if the present Executive Committee should unite with them the original enlarged General Committee, and recommence the organization *de novo*, this course would insure the desired result.

## Correspondence.

### LETTER FROM WASHINGTON.

#### MEETING OF THE AMERICAN PUBLIC HEALTH ASSOCIATION.

WASHINGTON, Dec. 4, 1885.

MR. EDITOR.—The thirteenth yearly meeting of the American Public Health Association will be memorable in the annals of this prosperous and powerful organization. The attendance was large, as it doubtless would have been at any reasonably accessible point, for the members are men who are very much in earnest in their work; but the facts that the place of meeting was the capital of the nation, and its time during the session of Congress, doubtless tended to augment the number present, for Washington is a singularly attractive city, and is especially so when the country's Legislature is assembled.

It was hoped that President Cleveland would honor the Association by his attendance at some session; but his official duties in connection with the convening of Congress were so onerous that he was unable to spare sufficient time. But, in the autograph letter which he sent to the Association, he expressed much disappointment at his inability to be present, and a very hearty and intelligent interest in the subject of public health, especially in the improvement of the hygienic circumstances of the laboring classes.

Through private sources it was learned that the President's words of regret were not intended to be merely formal, for he really would have liked to show his interest by his personal presence. However, as this could not be, he held a special reception for the Associates, at the White House, on Thursday afternoon, even though it was cabinet-day, and greeted the members with cordial affability. As the Society desires legislation on various matters of importance at this session, this friendliness of the chief magistrate toward the leading sanitary organization in America is a source of much encouragement. President Cleveland was unani-

mously elected an honorary member of the Association—the first and only one it has made.

The awarding of the prizes offered by Mr. Henry Lomb, of Rochester, New York, for four popular essays on specified subjects attracted marked attention. The labor imposed upon the judges of the papers on two of the subjects was very great, there being thirty-six dissertations on healthy homes and food for the working classes, and twenty on the sanitary conditions and necessities of school-houses and school life, some of them very long; but the character of the gentlemen composing the committees is a guarantee of the care and thoroughness which they brought to their task; and, while none but they as yet know the quality of the productions which received their approving votes, it is unlikely that anybody will be dissatisfied with their decision, except the unsuccessful competitors. Only one first prize was awarded, that to Dr. Sternberg, for the essay on disinfection and individual prophylaxis against infectious diseases; the committee on the school-hygiene essay reported that, as none of the papers displayed originality, no first prize on that subject would be given. But it seems probable that Dr. Lincoln would have received a first instead of a second prize, if he had not already written so fully and ably on the subject of school-hygiene that he was obliged to quote largely from his own contributions.

As only \$1,100 of the \$2,800 furnished were distributed by the judges, Mr. Lomb, after deducting the cost of copying the sixty-eight essays with a type-writer, offers the remainder in prizes for 1886, on topics kindred to those of this year. The exact subjects are not yet announced. In addition to this, he proposes four prizes for plans for inexpensive houses, adapted to the needs and purses of working men. Such action on the part of a man whose means are not large is an example of a most generous spirit, and an enlightened desire to benefit the common people, which deserves wide and grateful recognition and frequent imitation. The Association gracefully expresses its appreciation of Mr. Lomb's munificence by making him its first life-member. Cheap and popular editions of the successful essays are to be published and given the widest possible distribution, in order that their teachings may reach the classes for whose benefit they were written.

In the election of its new president, the Association departed from a usage which has obtained for nearly its entire existence. It has been customary to promote the first vice-president to the presidency, and the second vice-president to the first vice-presidency. If this method had been pursued this year, the Hon. Erastus Brooks, a member of the State Board of Health of New York, would have been elevated to the highest office. But there has been growing a recognition of the undesirability of a custom which so limits the opportunities for bestowing the Society's honors upon its prominent members, and this year the thought took a very definite shape. It was seen to be important that the Association should have at its head an accomplished sanitarian, and one whose ability has been amply demonstrated. Such a man is Dr. Walcott, of Cambridge, and the Association takes peculiar satisfaction in the belief that, in selecting him to conduct its affairs for the ensuing year, it not only gives voice to the high esteem in which he is held by all who know him, but puts the stamp of its condemnation upon the detestable methods by which Massachusetts was deprived of his valuable services as a member of its Board of Health. All wish and expect from him a wise and happy administration.

Not only was custom disregarded in the selection of president, but gentlemen entirely new to the vice-presidencies were chosen to these offices; and there is no suspicion that personal antagonism has dictated the overthrow of the former usage.

The Canadian health-boards sent most agreeable representatives, to whom the good will of the American members was shown by the unanimity with which an invitation to hold the next meeting in Toronto was accepted, and by the election of the senior Dr. Covert, president of the Ontario Board of Health, to the first vice-presidency. From present appearances, the Canadian meeting will be

very large, for everybody seems anxious to attend, anticipating that the entertainment will be as handsome as the invitation was cordial.

The papers were for the most part able productions, and will well repay perusal when they appear in the transactions. The most exhaustive were the report on disinfectants, which was presented in pamphlet form, and is to be issued to the profession and general public as a separate treatise; and the report of Dr. Rauch, of Illinois, on maritime quarantine from the St. Lawrence to the Rio Grande. Those which seemed most interesting to the listener were Dr. Lee's debit and credit of the Plymouth epidemic, and Dr. Wight's disinfection of sewers, both admirably written articles. The author of the former traced the celebrated plague of the Pennsylvania town to a case of typhoid fever in Philadelphia, and had ascertained, by exact inquiries in the case of each patient, that, reckoning the actual outlay of money in paying the expenses of sickness and burial, and the loss of productive labor, the entire damage amounted to \$711,000. To balance this stands the State Board of Health of Pennsylvania, which would not now exist but for the demonstration of the necessity for it which the legislature found in the devastation of the Plymouth epidemic. We shall look for very superior results from the Board of the Keystone State, after such a specimen of its work as this paper records.

Dr. Wight detailed with much sprightliness of diction the method which he pursued in the disinfection of the badly-constructed sewers of Detroit, and claimed that an immediate and pronounced diminution of diphtheria and scarlet fever followed as a consequence on two occasions.

The drenchings with strong copperas solutions and fumigations with sulphurous acid are to be repeated periodically, and further reports from the Michigan metropolis will be awaited with great interest.

But even this successful meeting was not without its blemishes. Some men seem to be incapable of learning that a paper an hour and a half long is rather trying to the patience of the most kindly auditors, and others apparently think that they can best please a scientific body by common-places and platitudes which are clothed in turgid phrases, and delivered with violent gesticulations and startling robustness of voice. When will presiding officers come to understand that the twenty-minutes rule is more honored in observance than in the breach? Some of us are radical enough to believe that an absolute enforcement of this rule contributes as much to the comfort of a meeting as any one thing can, and we look to our new president to reform the too common usage in this regard.

At the Conference of State Boards of Health, twenty-six States were represented. Dr. McCormack, of Kentucky, was elected president, and Dr. Conn, of New Hampshire, secretary. No definite decision as to what federal legislation is desirable was arrived at. A committee was appointed to report next year on methods of mutual assistance, and it is expected that most of the Boards will, without a formal agreement, immediately institute a system of inter-state notification of contagious diseases.

The Conference will meet one day before the Public Health Association for 1886, thus gaining the time for the want of which it failed to accomplish much that it could otherwise have done this year.

## REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 5, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrheal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	580	221	14.48	12.75	2.80	1.19	12.92
Philadelphia . . . . .	927,995	327	91	15.30	14.70	—	4.50	9.60
Brooklyn . . . . .	644,726	245	81	27.45	18.00	1.35	3.60	11.25
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	390,406	133	42	14.06	20.72	.74	1.48	9.62
Baltimore . . . . .	408,520	137	43	—	—	—	—	—
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	96	30	65.72	17.68	—	2.08	56.32
New Orleans . . . . .	234,000	132	37	15.20	16.72	9.12	—	10.64
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	194,710	—	—	—	—	—	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	32	12	18.78	18.78	—	6.26	3.13
New Haven . . . . .	62,882	—	—	—	—	—	—	—
Nashville . . . . .	54,400	14	6	35.70	21.42	14.28	7.14	14.28
Charleston . . . . .	52,286	30	14	15.40	21.44	—	3.85	11.55
Lowell . . . . .	64,051	26	12	11.76	7.70	—	—	5.88
Worcester . . . . .	68,383	17	5	13.38	7.69	7.69	—	7.69
Fall River . . . . .	56,863	13	5	13.65	22.15	4.55	—	4.55
Cambridge . . . . .	59,660	22	9	16.46	16.66	8.33	—	8.33
Lawrence . . . . .	38,825	12	6	27.27	27.27	9.09	9.09	9.09
Lynn . . . . .	45,861	11	3	—	—	—	—	—
Springfield . . . . .	37,677	—	—	—	—	—	—	—
Somerville . . . . .	29,662	—	—	—	—	—	—	—
Holyoke . . . . .	27,894	9	5	22.22	22.22	—	—	11.11
New Bedford . . . . .	33,383	11	5	—	27.27	—	—	—
Salem . . . . .	28,084	—	—	—	—	—	—	—
Chelsea . . . . .	25,709	7	—	14.28	28.46	—	—	—
Taunton . . . . .	23,671	5	1	—	—	—	—	—
Gloucester . . . . .	21,713	8	5	—	25.00	—	—	—
Haverhill . . . . .	21,795	7	1	—	28.46	—	—	—
Newton . . . . .	19,759	5	—	20.00	—	—	20.00	—
Brookton . . . . .	20,783	5	3	—	—	—	—	—
Malden . . . . .	16,167	2	1	50.00	—	—	—	—
Newburyport . . . . .	15,716	4	2	25.00	—	—	—	25.00
Waltham . . . . .	14,609	3	3	—	—	—	—	—
Fitchburg . . . . .	15,375	—	—	—	—	—	—	—
Northampton . . . . .	12,893	—	—	—	—	—	—	—
83 Massachusetts Towns . . . . .	—	51	7	—	20.37	—	—	—

Deaths reported 1,927; under five years of age 636; principal infectious diseases (small-pox, measles, diphtheria and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 390, consumption 284, lung diseases 223, diphtheria and croup 224, diarrhoeal diseases 41, typhoid fever 40, scarlet fever 35, malarial fever 21, whooping-cough 13, cerebro-spinal meningitis ten, small-pox two, measles two, erysipelas one, puerperal fever one.

From scarlet fever, Brooklyn 14, New York nine, Philadelphia and Providence three each, Boston and Cincinnati two each, Cambridge and Malden one each. From malarial fever, New York eight, Brooklyn seven, New Orleans six. From whooping-cough, New York eight, Brooklyn three, Philadelphia and New Orleans one each. From cerebro-spinal meningitis, New York five, Cincinnati, Worcester, Holyoke, Chelsea and Newburyport one each. From small-pox, New York two. From measles, New York and Boston one each. From erysipelas, Brooklyn one. From puerperal fever, New York one.

In 105 cities and towns of Massachusetts, with a population of 1,244,481 (population of the State 1,941,465), the total death-rate for the week was 14.33 against 18.48 and 14.94 for the previous two weeks.

The meteorological record for week ending December 5th, in  
Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.		Relative Humidity.			
Saturday, Dec. 5, 1885.	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.
Sunday, ... 29	30.140	31.9	38.2	24.5	61.0	49.0	73.0
Monday, ... 30	30.136	34.3	40.7	29.7	63.0	91.0	88.0
Tuesday, ... 1	30.201	27.9	39.9	25.5	82.0	76.0	75.7
Wednesday, ... 2	29.965	28.4	34.3	22.0	82.0	70.0	81.0
Thursday, ... 3	29.541	34.8	42.2	25.0	73.0	58.0	64.0
Friday, ... 4	29.715	31.5	37.0	25.5	72.0	50.0	81.0
Saturday, ... 5	29.199	39.7	53.3	31.5	79.0	83.0	72.0
Mean, the Week.	29.928	32.7	44.9	29.1	73.3		

O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

For the week ending November 21st, in the Swiss towns, there were 23 deaths from consumption, lung diseases 18, diphtheria and croup nine, diarrhoeal diseases seven, typhoid fever three, small-pox two, whooping-cough and erysipelas each one.

The death-rates were: at Geneva 12.1; Zurich 13.6; Basle 14.4; Berne 27.3.

In the 28 greater towns of England and Wales, with an estimated population of 8,896,446, for the week ending November 21st. Deaths reported 3,579; infants under one year of age 888; acute diseases of the respiratory organs (London), 454, measles 86, whooping-cough 79, fever 55, scarlet fever 39, diarrhoeal diseases 37, diphtheria 32, small-pox (London, Liverpool and Manchester one each) three.

The death-rates ranged from 11.2 in Bradford to 27.9 in Derby; Birkenhead 18.5; Birmingham 17.2; Brighton 17.3; Hull 13.7; Leeds 21.9; Leicester 19.2; Liverpool 21.5; London 19.9; Manchester 24.7; Nottingham 20.7; Sheffield 18.8; Sunderland 18.7.

In Edinburgh 20.4; Glasgow 26.8; Dublin 30.3.

Boston, was as follows, according to observations furnished by

Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.	
7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Durations, Hrs. & Min.	Amount in Inches.
W. N.E.	N.E.	N.E.	11	5	5	C.	C.	C.	—	—
N.E.	N.E.	N.E.	16	18	24	C.	Snow.	R.	—	—
N.	N.	N.	22	17	15	C.	Snow.	F.	—	—
N.W.	N.W.	N.W.	16	12	6	C.	C.	C.	—	—
W.	N.W.	N.W.	13	18	11	O.	C.	C.	—	—
W.	W.	W.	10	13	6	C.	F.	O.	—	—
S.	W.	W.	12	11	26	C.	R.	O.	31.5	0.33

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 5, 1885, TO DECEMBER 11, 1885.

BIRMINGHAM, H. P., assistant surgeon and first lieutenant. Ordered for duty at Camp Grant, Riverside Park, New York City.

BUSHNELL, GEO. E., assistant surgeon and first lieutenant. Ordered for duty as post surgeon, Fort Preble, Me.

WILSON, WM. J., assistant surgeon and captain. Ordered for duty as post surgeon, Plattsburg Barracks, New York.

APPEL, D. M., assistant surgeon and captain. Ordered for duty at Jackson Barracks, Louisiana. S. O. 256, Department East, December 4, 1885.

EVERTS, EDWARD, assistant surgeon and first lieutenant. Ordered from Department Columbia to Department Arizona. S. O. 279, A. G. O., December 5, 1885.

POLHEMAS, A. S., assistant surgeon and first lieutenant. Relieved from duty at Presidio of San Francisco, Cal., and ordered for duty as post surgeon at Fort Halleck, Nev., relieving Acting Assistant Surgeon Loren N. Clark, United States Army. S. O. 113, Department of California, November 30, 1885.

#### OFFICIAL LIST OF CHANGES IN THE MEDICAL CORPS OF THE UNITED STATES NAVY DURING THE WEEK ENDING DECEMBER 12, 1885.

LAPPINCOTT, GEORGE C., passed assistant surgeon. Detached from navy yard, Washington, and wait orders.

DEASE, C. W., passed assistant surgeon. Ordered to the United States Revenue Steamship "Hale," as relief of Passed Assistant Surgeon G. P. Lumsden.

LUMSDEN, G. P., passed assistant surgeon. Ordered to naval hospital, Washington.

LOVERING, P. A., passed assistant surgeon. Detached from United States Revenue Steamship "Wabash," and wait orders.

#### SOCIETY NOTICES.

BOSTON SOCIETY FOR THE MEDICAL SCIENCES.—A meeting of the Society will be held at the Harvard Medical School, Tuesday, December 22, at 8 P. M. Dr. H. C. Frost will give an account of the methods of action in Koch's laboratory and exhibit

a series of cultures and microscopic specimens of micro-organisms. The profession are cordially invited to be present.

W. W. GANNETT, Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

Castration der Frauen von Dozent Dr. A. Martin in Berlin. Separat-Abdruck aus der Real-Encyclopädie der Gesamten Heilkunde II. Auflage.

The Physician's Pocket Day-Book. Designed by C. Henri Leonard, M.A., M.D. Issued Annually. The Illustrated Medical Journal Co., Detroit, Mich.

Veneral Memoranda. A Manual for the Student and Practitioner. By P. A. Morrow, A.M., M.D. New York: Wm. Wood & Co. 1885.

Cutaneous Memoranda. By Henry G. Piffard, A.M., M.D. Third Edition. New York: Wm. Wood & Co. 1885.

The Relation of Meteorology to Disease. By F. R. Campbell, A.M., M.D., Lecturer on Hygiene in Niagara University. Buffalo. 1885.

Abnormal Positions of the Head, What do They Indicate? By Edward Bork, A.M., M.D., St. Louis. (Reprint from Medical and Surgical Reporter, January 31, 1885.)

A Three Months' Surgical Service at Bay View Hospital, Baltimore, Md. By W. B. Platte, F.R.C.S. (Eng.) (Reprint from Transactions of the Medical and Chirurgical Faculty of the State of Maryland.) Baltimore. 1885.

Alcohol in the Treatment of Acute and Chronic Forms of Alcoholic Mania. By Lewis D. Mason, M.D. (Reprinted from New York Medical Journal, November 28, 1885.)

Clinical Notes on Uterine Surgery with Special Reference to the Management of the Sterile Condition. By J. Marion Sims, A.B., M.D. Memorial Edition. New York: Wm. Wood & Co. 1886.

Brain Rest; being a Disquisition on the Curative Properties of Prolonged Sleep. By J. Leonard Corning, M.D., Formerly Resident Assistant Physician to the Hudson River State Hospital for the Insane, etc. Second Edition. Revised and Enlarged. New York & London: G. P. Putnam's Sons. 1885.

National Conference of State Boards of Health. (Reprint from Seventh Annual Report Illinois State Board of Health, 1885.)

## Lecture.

## ON NEW ANALGESIC MEDICAMENTS.

A CLINICAL LECTURE, BY PROFESSOR DEJARDIN BEATMETZ.<sup>1</sup>

My last lecture was devoted to medicaments which produce sleep (hypnotics); to-day I propose to speak about analgesics, that is to say, medicinal substances which antagonize pain. I shall dwell more particularly in this lecture on the new analgesics; aconitia, napelline, gelsemium and gelsemin, piscidia erythrina, and finally on the local anesthetics such as subcutaneous injections of chloroform and pulverizations of chloride of methyl.

The type of analgesic medicaments is morphine, and if opium and its derivatives are considered as hypnotics, it is because they give repose by banishing all painful sensations. I cannot here enter into the subject of subcutaneous injections of morphia, which I have treated at length in my Clinical Therapeutics. What I can assure you, however, is that the older I grow the more chary I become in the use of morphine, for despite the marvelous properties of this alkaloid which is far the most active of analgesics, its dangers and disadvantages are such that I reserve its employment for exceptional cases only.

In fact the superiority of morphine constitutes one of its most serious evils. Let me explain:—Whenever a patient has once made use of morphine, thereafter all other analgesics seem inefficacious and unsatisfactory, and he looks continually to the same medicament for the relief which he has experienced, and when the pain is entirely gone he will have become so accustomed to his morphia that he will with difficulty, if at all, free himself from the habit. This is the history of almost all cases of morphiomania; at the beginning it is for a neuralgia, a mild attack, perhaps, for which the patient has recourse to the injections of morphine, and little by little he becomes habituated to the poison, and when he is once a victim to this vice, it will be very difficult to make effectual opposition to it.

Do not, then, resort to these injections except when you have to do with intense pain caused by cancer or in the last periods of pulmonary diseases; here morphine is really advantageous, enabling us to prolong the life of these unhappy beings and make them tolerably comfortable. In all other cases, never allow the patient to make the injections himself, and only resort to them when the pain becomes too severe, and not till after you have employed all the other means in your power.

Aconite, after morphine, is one of the most powerful analgesics, and the subject of aconite and aconitia deserves to arrest your attention for a few moments, illustrating, as it does, how complex is the application of medicinal plants to medicine, and how cautious we should be in deducing positive conclusions from any observed sequences in the therapeutic use of these agents.

For a long time, practitioners in this country made use of preparations from aconite leaves, and the results obtained were very problematical. Oshmont in showing us that the active principles of the plant vary according to its origin and the parts used, made apparent the causes of the seeming inertness of these aconite preparations, for the leaves contain very little of the

active principles, while the roots are largely impregnated with them. Hence it is that in England, where the Pharmacopœia sanctions the usage of the root alone for the official preparations, very energetic results have been obtained from these latter. Duquesnel, in extracting from these aconites a definite crystalline principle, added still more to our knowledge of this plant, and his studies, in connection with Laborde, of aconite and aconitia have been of great value.

There exist two great varieties of aconite, the one growing in Europe, the other in Asia; the French aconites may be subdivided into the *aconitum anthora* and the *aconitum pyrenaicum* with yellow flowers, the *aconitum napellus* and *aconitum napellus neomontanum* with blue flowers; the type of the Asiatic aconites is the *aconitum ferox*.

When you analyze these different plants, you find that they contain a crystalline aconitia, an insoluble amorphous aconitia, and another which is soluble, to which Duquesnel has given the name of *napelline*. Moreover, in the Asiatic aconites, there is found another crystalline alkaloid, *pseudo-aconitina*, and an amorphous alkaloid, *amorphous pseudo-aconitina*. Finally, what is still more astonishing, is that according to the origin of the aconites, these alkaloids behave differently with respect to polarized light.

You see before you two solutions of crystallized nitrate of aconitia; the one comes from the *aconitum napellus*, gathered in Dauphiné and deviates the polarized ray to the left by 3°.4; the other is obtained from a plant growing in Switzerland, and is also levogyrous but by 4°.8.

You see how complex is this question of the aconitias, and how different must be the result according to the plant employed. There exist in commerce English and German aconitias, an aconitia of Morson, another of Duquesnel, etc., and all these aconitias have variable therapeutic and physiological action, for the reason that they are derived from plants of different origin. It will then be absolutely necessary, when you wish to prescribe aconite or aconitia to specify the part of the plant and its place of origin, if you write for aconite, and the laboratory where it was extracted, if you order aconitia.

We actually make use almost exclusively of the alcoholic tincture of aconite root, and we add the name of the province, whether of Vosges or Dauphiné. Duquesnel thinks that the tincture is preferable, and he proposes the two following preparations: the tincture of aconite root, and the extract: the latter being much the most active, three to four centigrammes of the extract representing one gramme of the tincture. As for aconitia, it is the crystallized nitrate of aconitia, which you should order, adding the name of Duquesnel, and under the form of granules containing a quarter of a milligramme of the active principle. (In American pharmacy a pill is in use containing 1-200 grain crystallized aconitia).

As for the doses, they are exceedingly variable, and you should always remember that certain persons have a real intolerance of this medicament. I have for my part seen toxic phenomena of great gravity determined by extremely minute doses of crystallized aconitia, scarcely the 1-120 of a grain.

Therefore you will have care that the doses shall be wide apart when you make use of this alkaloid, and order, for instance, a granule of a quarter of a milligramme (1-240 grain) every six hours, giving three-

<sup>1</sup> Delivered in the Hospital Godeau, and printed from advance sheets.

tions not to exceed four granules in the twenty-four hours. It will even be necessary to stop the medicine when the patient experiences the first toxic symptoms, such as tingling of the tip of the tongue, and that strange sensation of loss of elasticity of the muscular orifices of the mouth, eyes and nose, when it seems to the patient that the skin of the face is shrunken.

If you make use of the tincture or fluid extract of the root, the dangers of poisoning are less, and you can give ten and even twenty drops three, or even four times in the twenty-four hours. The dose of the extract is one-sixth of a grain, which you can repeat once or twice during the day.

Aconite and aconitina have a very limited sphere of action, which as far as pain is concerned, is confined almost exclusively to the trifacial nerve; its action on the other sensory nerves is much less marked.

By the side of this analgesic effect, aconite has a special action on the circulation; it is an antioesophageic vascular medicament from which you may obtain good results, especially in the pulmonary congestions accompanied with cough, of which one of the types is influenza. You know that in this affection I have been in the habit of ordering the following mixture:

Into a glass of warm milk put two tablespoonfuls of syrup of tolu, a dessert-spoonful of distilled cherry laurel water, ten drops of tincture of aconite root, and order the whole to be taken in one dose and repeated three times a day.

Aconitina, as I have told you, has a special influence on the trigemini, abolishing conscious and painful sensibility, and acting also on the unconscious or reflex sensibility; it modifies the blood pressure, diminishing arterial tension, and lowering the temperature. These are especially the physiological effects which are utilized in therapeutics.

Aconitina has besides another effect of which I must remind you, for it has given rise to several mistakes. I refer to its action on the pupil. Administered internally, aconitina dilates the pupil, and this explains why physicians, seeing this mydriasis, have sometimes thought that the apothecary had made a mistake, and instead of granules of aconitina had given granules of atropine; you will not then be led astray if you should see pupillary dilatation follow the use of this alkaloid.

It is in facial neuralgia that aconitina produces its maximum of therapeutic effects, and for my part, I am acquainted with few neuralgias which are not relieved by this means. When the prosopalgia presents itself under intermittent form, you will do well to associate quinine with the aconitina. You can unite in the same capsule five grains of quinine with one two-hundredth of a grain of crystallized aconitina, or having administered a capsule containing the five grains of quinine, you can give one of Duquesnel's granules, and repeat the dose every six hours till the pain has entirely disappeared.

Aconitina is not, as I have told you, the only active principle obtained from aconitum napellus. There are also found two amorphous principles, the one soluble, the other insoluble. It is to the first of these principles that Duquesnel has given the name of *Napelline*. Thanks to its solubility, napelline may be given subcutaneously. Laborde and Daudin have experimented with napelline, and have shown that this alkaloid is much less active than crystallized aconitina, and that, moreover, instead of being purely analgesic, this napelline possesses quite marked hypnotic properties. They

have also employed this alkaloid in subcutaneous injections in the dose of five-sixths of a grain once in the twenty-four hours, and have never seen toxic symptoms follow. Hence they think that napelline, by its less intense toxic action which renders it more manageable, is a medicament which may be employed to advantage in the treatment of neuralgias.

If you wish to repeat these trials, I advise you to adopt the following method: Make subcutaneous injections of a solution of one-sixth of a grain of napelline in a cubic centimeter of water, and repeat these injections three or four times in the twenty-four hours. Grognot, of Milly, has employed napelline in granules of two and a half milligrammes (one twenty-fourth of a grain), and in the dose of three centigrammes (one-half grain), he cured a rebellious facial neuralgia which had resisted the action of crystallized nitrate of aconitina. But I have no more time to spend on aconite and its alkaloids, and pass to the study of gelsemium.

Gelsemium sempervirens, or Virginian jasmine, has been employed largely by the Americans. It is a climbing plant, with yellow flowers, which grows in the moist soil of Virginia and other of the Southern States. The roots and the stem are employed in medicine; of these a tincture is made, which is given in the dose of ten drops every two hours in facial neuralgias, being especially remedial in dental neuralgia. Remarkable results have been claimed, notably in the intermittent forms of neuralgia.

I experimented with gelsemium several years ago (in 1877), and my pupil, Dr. Eymeri, has given in his thesis the results which we obtained.<sup>2</sup> These results were similar to those of previous experimenters who had studied the therapeutic, toxic, and physiological action of this plant. We found that gelsemium is an energetic poison, and that its toxic action is variable, according to the preparations employed, so that one tincture made with the stem may give small or unappreciable effects, while another, made with the root, may have a marked toxic action in the same dose. I have myself seen a patient who experienced severe symptoms of poisoning from thirty drops of the tincture; moreover, quite a number of fatal cases have been recorded from the use of this drug; so that while recognizing the analgesic action of the preparations of gelsemium (inferior though this be to that of aconite and its alkaloids) it has seemed to me to be wisest, owing to the acknowledged uncertainty of the gelsemium preparations, to be very chary in the use of this remedy.

It has been recommended to employ, instead of gelsemium, the alkaloid *gelsemin*, discovered by Fredridge, but we know little respecting the action of this active principle, and we ought to be well established with regard to its physiological and toxic effects before giving it a place in therapeutics. Moreover, gelsemium and its alkaloids produce not only paralysis of sensibility, but also of motility, and, as Rouch has well shown, gelsemium is especially a poison of the motor-nervous system. Moreover, Rouch has also pointed out in his experimental researches, as we have also done in our clinical observations, that the effects vary according to the preparation employed.

*Piscidia erythrina*, or Jamaica Dogwood, is of quite recent introduction into therapeutics. The first experiments made with it, by Ott,<sup>3</sup> of Philadelphia, and

<sup>2</sup> Eymeri, on Gelsemium sempervirens (Thèse de Paris, 1877.)

<sup>3</sup> Ott, on the Physiological Action of the Active Principle of *Piscidia Erythrina* (Arch. of Med., 1881.)

Nagle, in 1881, show it to be narcotic to animals; it is, however, worthy of note that in 1844, Hamilton, of Plymouth, pointed out the analgesic properties of piscidia, and Ford, in 1880, recommended it in neuralgias. Since the labors of Ott and of Nagle, there have been numerous trials with piscidia, and Firth, James Scott, and MacGrotz, Siefert of Berlin, and Vanlair of Liège, have published observations on the therapeutic effects of this remedy.

It was Landowski, in 1883, who was the first in France to call attention to the narcotic and analgesic properties of piscidia. Huchard has utilized it in combination with viburnum prunifolium, and I have myself made in this hospital, and in my laboratory, a great many therapeutic and experimental researches on this subject in connection with my pupil, Dr. Legoy, of Houilles.<sup>4</sup>

Piscidia erythrina is a shrub or tree of the family Leguminosæ, which grows in South America and the West India Islands. Its name comes from the brilliant color of its red flowers, and the stupefying action of its bark on fishes, an action which is very similar to that of cocculus indicus. In America, this plant is designated under the name of Jamaica Dogwood. It is the bark of the root which is used exclusively, and according to the researches of my pupil Carrette, there are found in this bark the following ingredients: a resin, a terebenthinate substance, starch, a salt of ammonia, and finally an alkaloid which Brunel and Tanret have extracted. But here the same difficulties have been met with as in the case of gelsemium, the alkaloid being found in roots of one source and not in those of another, and the therapeutic results being variable and uncertain in consequence.

Besides this different composition resulting from the different sources of this dogwood bark, there is another fact which obscures its physiological action. I refer to its unlike effects on warm-blooded and on cold-blooded animals. While in the case of the former the physiological action, even in large doses is almost nil, in the second, on the contrary, it is very marked. When piscidia is administered to a frog, there are observed convulsive movements, an exaggeration of the frequency of respiration and of the cardiac pulsations, a tetanoid state, and finally death. Piscidia seems to act almost exclusively on the gray elements of the bulbous and medullary centre; it acts also on the ganglionic nervous system.

It is under the form of the powder, or fluid extract, or tincture, that piscidia is administered; the latter seems to us to be preferable. I would recommend the following formula:

R Fluid Extract Jamaica Dogwood . . . . . 3 ss.  
Syrup Aurantii Corleis . . . . . 3 vlll.

M Lijq. Take a teaspoonful *pro re nata*.

The tincture may be given in doses of from 40 to 50 drops. Huchard associated piscidia with viburnum in the following manner:

Take of

Alcoholic tincture of Jamaica Dogwood . . . . .  
Tincture (or Fluid Ext.) Viburni Prunifolii an gtt. l.

M To be taken for one dose *pro re nata*.

Thus far the majority of physicians who have given their attention to piscidia consider it as hypnotic. The therapeutic applications which I have made with this

drug do not permit me to share this view, and I regard piscidia as an analgesic very similar in its action to gelsemium, causing sleep because it relieves pain.

Moreover, the first trials made by Hamilton with piscidia (in 1844) were confirmatory of this view. Hamilton was suffering from an intolerable toothache; he applied to the gums, in the vicinity of the tooth, a pledget of cotton wet in tincture of piscidia; the relief was instant and complete. He then bethought himself to apply the same remedy internally for obstinate pain; a marked anodyne effect was realized, with profound sleep. In several cases of rebellious facial and brachial neuralgia, we have seen the pain disappear as by magic under teaspoonful doses of fluid extract of Jamaica dogwood, but like gelsemium it is an untrustworthy analgesic, and this in consequence of reasons above given. So when you prescribe piscidia, you will do well to specify the Jamaica dogwood, this being the only reliable kind. The dose of the tincture is from 30 drops to a fluid drachm; the American fluid extracts are much in use and are given in the same dose. Syrup is a good vehicle for administration.

I shall finish this lecture by a brief consideration of two local means which have of late been used to assuage pain; I refer to subcutaneous injections of chloroform and to the chloride of methyl spray.

Subcutaneous injections of chloroform were first prescribed by Dr. Roberts Bartholow about ten years ago,<sup>5</sup> but their employment in France is of much more recent date. It was in 1877 that Ernest Besnier made known the good effects which he had derived from these analgesic injections, and the following year one of my pupils, Dr. Fournier, recorded in his thesis the results of the trials which I had made with the same remedy in my service at the hôpital St. Antoine. In these experimental investigations I found that if in man the dose of chloroform injected under the skin be raised to about two and a half drachms, sleep is produced, but without anesthesia.

I have given in elucidation of this fact, an explanation which Claude Bernard had already invoked in his studies on anesthetics. I have shown that in introducing chloroform under the skin, this medicament, before reaching the cerebro-spinal axis, where it produces its elective action, traverses the lungs, where by reason of its extreme volatility, it escapes with the air of expiration, and that the quantity which remains in the blood is too insignificant to make a very powerful impression on the nervous elements of the cerebro-spinal axis; at each inspiration, however, the patient drawing back a certain quantity of air thus charged with chloroform, obtains in this way sufficient of the anæsthetic to produce sleep and an anodyne action, but not profound insensibility.<sup>6</sup>

Professor Bouchard has repeated these experiments from another point of view which had absolutely escaped me. All the animals, and particularly the hares, under whose skin he injected chloroform, succumbed with albuminuria;<sup>7</sup> the explanation of this fact has not yet been found.

Despite their undoubted analgesic action, hypodermic injections of chloroform have not found favor, and I am inclined to attribute the abandonment of them by the profession to the local inflammatory symptoms

<sup>4</sup> Roberts Bartholow, On the Deep Injections of Chloroform for the Relief of Pain. *Practitioner*, July, 1874.

<sup>5</sup> *Clinical Therapeutics*. Am. ed. G. S. Davis, Page 12.

<sup>6</sup> Hamilton, *Pharmacælogia Animal and Transactions*, 1884; Ford, *Therapeutic Gazette*; Legoy, *Sur Piscidia Erythrina* (*Bull. de Ther.*, 1885, t. cxviii, p. 72, et *These* liug., 1884.)

<sup>7</sup> Bouchard, On Albuminuria determined by Subcutaneous Injections of Chloroform. (*Vend. de Med.*, 1884.)

which result from these injections when carelessly or improperly made. When you desire to make use of these injections of chloroform do not forget that it is important to make them penetrate deeply. I advise you, then, to plunge the needle of your syringe perpendicularly, its whole length, into the fleshy parts and there throw your injection. This, moreover, is the way that we generally make our hypodermic injections at the present day; formerly it was the custom to pinch up a fold of skin and enter the needle obliquely parallel to the fold, and introduce the solution into the cellular tissue; the former method is certainly most rapid and advantageous.

It is well understood that these subcutaneous injections of chloroform ought to be made in *loco dolenti*; for this reason their application is rather limited through fear of eschars and abscesses. Hence it is especially in sciatica and lumbago, or even intercostal neuralgia, in all cases, in short, where the cellular tissue permits the deep introduction of the medicament, that these injections should be practised. The quantity ordinarily injected is one cubic centimetre, or about twenty drops, but you may go even farther, and inject at short intervals as much as two or three fluid drachms.

The application of chloride of methyl is of quite recent date, and it was last year, in 1884, that Débove made known to us the good results which he had obtained from external applications of this chemical to the treatment of neuralgia.

Chloride of methyl, which is also called muriated methylic ether, is, at the normal temperature, a colorless gas, with sweetish odor and taste. It may be liquefied by cold or by pressure; it is under pressure that it is utilized in the cases of which I am about to speak. When liquefied, methyl chloride is a colorless liquid which boils at the temperature of  $23^{\circ}\text{C}$ . Hence it is that it evaporates immediately when brought into contact with the air, and that by this molecular change an intense cold is produced, amounting to a fall of  $46^{\circ}$ , or even more.

Formerly these refrigerant properties were only employed (as by Malassez) to freeze histological specimens. This easy transformation into gas of liquefied chloride of methyl, necessitates keeping this liquid in very strong recipients. We thought first of all of using the syphon bottles, so much employed for dispensing soda water, but we had to give them up, on account of the bursting of the bottles under the influence of an elevated temperature. To obviate dangers of this kind, we have had to resort to flask-shaped metallic reservoirs, which are rather complicated and rather costly, and this is, it must be confessed, one of the circumstances militating against the general use of this remedy. Nevertheless, now that you can hire these bottles at a reasonable cost, everybody may now avail himself of the benefits of this treatment, as the most of our instrument makers, and even the pharmacists, have these apparatus to let.

The apparatus which I here show you (see Fig. 1) was made by Galente, and it is one on which you can rely. It consists, as you see, of a metallic bottle, which at its superior extremity has two openings closed by screw caps. By means of the wrench C you remove the screw cap B, and you replace it by another screw cap E, to which is fixed a metallic tube terminated by a filiform opening, by which the chloride of methyl escapes. Then, still with the same

wrench, you remove the screw cap A, and you place the central part of the wrench upon a metallic nut situated in M and which holds the wrench horizontally;

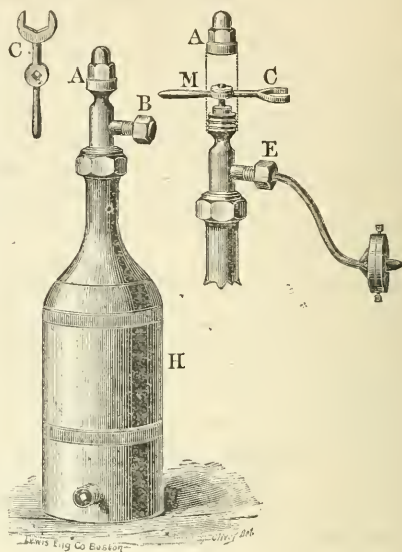


FIGURE 1.

and it will be sufficient for you to turn a little, by means of this wrench, the screw faucet with which it is connected, to cause the chloride of methyl to escape by the filiform opening which I have pointed out to you. The management of the instrument is then very easy, and all you will have to do will be to pass for a few seconds over the painful points the chloride of methyl spray.

The surface of the skin which is thus touched by the methyl chloride spray becomes congealed, pale and hard, and the patient experiences a sensation of smarting and burning provoked by the intense cold which is produced. If the topical effect is too prolonged, a local mortification ensues, which consists in simple vesication or in veritable eschars. Ordinarily, and when the action of cold has been of short duration, the skin turns red and then it assumes on the following days a brownish tint which it may keep for some time.

Hence I cannot too strongly urge you not to prolong the action of the chloride of methyl, and never to let the spraying exceed four or five seconds on the same part of the skin. For the production of vesication and of eschars adds nothing to the therapeutic effect which one desires to attain. When you wish to apply the spray over hairy regions, you must first shave the skin. The therapeutic action of these pulverizations of methyl chloride is exceedingly interesting, and if we may judge by the facts reported by Débove, and several others of our hospital colleagues, and in particular by Dr. Tenneson, brilliant cures in obstinate neuralgias have resulted from this treatment. You may also have seen in our hospital service the great benefits which we are deriving from this method,

and when, in rebellious sciaticas, our vesicatories and punctiform cauterizations fail to relieve, we resort to the methyl chloride spray. If it be a case of real sciatica, the pain generally ceases after one or two applications of chloride of methyl. It is not so when we have to do with sciatic pains resulting from affections of the spinal cord, or compressions of the nerves; here the method generally fails; yet in certain cases of symptomatic neuralgia (determined for instance by cancer of the womb) Desnos has had success.

Clinicians have even gone farther, and have applied the methyl chloride to the relief of the phenomenon pain, from whatever source arising; in this way Tenneson has caused to disappear the pains in the side attending acute or chronic pulmonary affections. I think that this is extending the analgesic action of chloride of methyl farther than we are warranted in doing, and that it will be better to reserve it for very rebellious cases. The therapeutic application, then, of chloride of methyl spray is one of the really useful discoveries of the day, and you will do well always to resort to this treatment (which is in itself not at all dangerous) whenever you have to deal with stubborn neuralgia.

## Original Articles.

### A CASE OF SO-CALLED UNCONTROLLABLE VOMITING OF PREGNANCY.<sup>1</sup>

BY O. W. DOE, M.D.

Mrs. S., twenty-eight years of age, was confined with her first child, December 3d, 1882. In the early months of pregnancy, she suffered much from nausea and vomiting, but every day she was able to retain some solid food. When about four months and a half advanced, the physician in charge made a vaginal examination, and, by pressing the uterus upwards, as he explained it, her symptoms were immediately and permanently relieved.

Her catamenia last appeared on December 25th, 1884, and she conceived on the 2d or 3d of January. As early as the third week of pregnancy, she began to suffer from nausea, which steadily increased.

Simple remedies were ineffectual, and I was called in on February 22d. She was then able to walk about her room, but complained of incessant nausea, general weakness, and a sense of faintness after exertion. Her pulse and temperature were normal. For a week previous, she had taken little else than orange juice. I advised powders of ingluvin and oxalate of cerium; restricted her diet to equal parts of milk and seltzer water, and Valentine's Beef-juice. I saw her again on the 21th. There had been no relief to the nausea and I advised drop doses of carbolic acid and tincture of zedine, with spearmint water as a vehicle, and ether spray to be frequently applied to the spine and epigastrium. The latter gave momentary relief, but soon lost its effect. On the 26th, I ordered injections of bromide of potash and chloral, and scraped beef by the mouth.

There was no relief to the nausea, and on the following day, she vomited for the first time, though not directly after taking nourishment. Just before my visit on the 27th, in attempting to walk from her sofa across

the room, she fainted. From this date, she was under the constant watchfulness of a nurse, so that she might not unduly exert herself, and enemata were ordered of beef-tea, eggs beaten up in milk, granam and beef peptinoids, each enema containing two drachms of liquor pancreaticus, and half an ounce of brandy. In addition to the enemata which were given four times a day, small quantities of either clam broth, veal broth, peptonized milk, toast water, barley water, squab broth, oyster broth, coffee, wine soup, milk with either soda or lime water, and champagne, were ordered to be given by the mouth at regular intervals, but nothing was retained.

The following remedial agencies were tried, but unsuccessfully:—subcutaneous injections of morphia; bismuth and hydrocyanic acid, alone and in combination; painting of the cervix daily for a week with Churchill's tincture of iodine; vaginal insertion of glycerin tampons blisters to the epigastrium; ice-bags to the spine; ether spray to the spine and epigastrium; chloroform on flannel over the stomach; general massage, and cracked ice by the mouth.

Vaginal examination at this time showed the cervix quite large and directed backwards into the cavity of the sacrum, firm to the touch, and not unnaturally congested; the external os moderately open, and the body of the uterus decidedly antverted and resting against the ramus of the pubes; pressure in the hypogastrium could scarcely detect it.

From the 27th of February to the 14th of March, while the various remedies above mentioned were being unsuccessfully tried, there was slow and progressive loss of flesh and very marked loss of strength. She was unable to raise herself in bed, and required constant attention, as the attacks of vomiting and retching would come on so suddenly. Her thirst was excessive, and although cracked ice was given freely, she could get no relief except by large rectal injections of tepid water. The bowels, as a rule, had been moved every morning by a soap injection, before beginning the daily rectal alimentation. Occasionally, they would become a little irritable, but the addition of laudanum to the enemata corrected it. The notes for the day of the 14th were as follows:

2:50 A. M., natural and well-formed defecation; 7 A. M., enema of beef-tea, twelve ounces; 9 A. M., intense nausea, with vomiting and a small defecation caused by the vomiting. Ordered ten minims of wine of ipecac in four ounces of water, and one drachm to be given every ten minutes. The first dose was given at 10 A. M.; 10:45 A. M., defecation; 12 M., enema of granam; nausea intense; 12:30 P. M., vomited nearly a pint of grass-green fluid having the odor, and the patient also stated, the taste of granam; nausea unrelieved by the vomiting; 1:30 P. M., vomited freely, ipecac omitted; 2:30 P. M., defecation; 2:40 P. M., vomiting; 5 P. M., injection of beef-tea, chloral, twenty grains, bromide, forty grains, and laudanum, twenty-five drops; 8 P. M., defecation; 10 P. M., enema of granam and laudanum; 10:30 P. M., vomiting; 11:15 P. M., intense thirst and great restlessness; injection of warm water, with bromide and chloral, after which she slept till 7 A. M., and the following day was spent nearly as the preceding.

The os and cervix were now painted with oleate of cocaine, four per cent. solution, but without any effect. One-third of a grain of morphia was given subcutaneously over the epigastrium at 8 A. M. on the 15th, and repeated at noon. The result was a very

<sup>1</sup> Read before The Obstetrical Society of Boston, October 10, 1885.

wakeful afternoon and night, with only temporary relief to the nausea, and was followed by severe headache and such intense nausea without vomiting, that she begged not to have it repeated. She was now so sensitive to outside impressions, that the closing of a door or the appearance of any one unexpectedly before her, would excite vomiting. Emaciation was now very marked about the chest, abdomen, and limbs. She experienced but little desire to change her position in bed or to take notice of surrounding objects, lying usually on her back or right side. Her countenance seemed unnaturally flushed, pulse 98, temperature 97.5°. Dr. Baker saw her at 10 A. M. on the 16th in consultation, and agreed with me as to the nature of the displacement. The vagina was packed, so as to raise as much as possible the uterus up out of the pelvis and away from the pubes. For five hours, she had no vomiting, and said the nausea was less than at any time during the preceding four weeks. At 3.30 P. M., she vomited and displaced, and expelled a portion of the packing. The vomiting after this occurred frequently during the night. The next day, Dr. Baker again saw her at 1.30 P. M., and inserted an anteversion pessary, the impinging parts of which were protected by cotton dressings. At 2.40 P. M., vomited half a pint, again vomited at 4.50 P. M. and at 6 P. M., but very easily and without any straining. At 9 P. M., was suddenly startled, and vomited as a result. At 9.30 P. M., says she has no nausea now for the first time for six weeks. Thirst continues intense and is associated with marked ptialism; complains of a "raw" sensation the whole length of the oesophagus; the tongue is very red and inclined to dryness. After the insertion of the pessary, the uterus could be felt for two inches above the pubes. She passed a very comfortable night until 2 A. M., when she vomited, again at 2.30, 2.45, 6.30, and 7.35 A. M. Nausea was constant after 2 A. M., and attributed by the patient to repeated laudanum injections, which were omitted. During the subsequent day, she vomited only four times and the nausea was very much less. On the 19th, all her distressing symptoms returned in full force, attended by very great prostration. At 2 P. M., salivation became profuse and she thoroughly soaked twelve handkerchiefs and two large towels between that time and midnight. A vaginal examination showed the uterus to be again anteverted, pressing down into the pelvis and pushing the pessary before it.

Glycerin tampons were inserted with the view of raising up both the pessary and the fundus, but the vomiting was attended by so much straining that they were expelled. Dry packing was substituted with decided benefit; the vomiting, though frequent, being unattended with retching, and the nausea very much less. The fluid now vomited was of a light yellowish color, without odor.

Ptyalism continues, but less profuse; the irritation of the throat is somewhat relieved by hot poultices, but not sufficiently so as to allow any uninterrupted sleep. During the three following days, she vomited about once in two hours, sometimes half a pint of straw-colored fluid. The only improvement noticeable was the diminished nausea, pulse 110. The uterus could be felt above the pubes, but the pressure of the pessary caused so much irritation that it was removed and a large glycerin tampon substituted.

This was pushed up between the pubes and the body, and followed by a dry tampon. After its

insertion, the uterus could be easily felt for two inches above the pubes. The first tampon was inserted at 9.30 A. M., on the 23d. At 1.15 P. M., there was slight vomiting, also at 3.40; in the interval only very little nausea. At 5 P. M., straining, but no vomiting. During the night, she vomited only twice and drank more water than at any time previous, and had longer interval of sleep. Salivation had nearly subsided, leaving intense dryness of fauces and throat, only relieved by frequent inhalations of chlorate of potash.

Fresh vaginal tampons were inserted morning and night. The attacks of vomiting were now less frequent, the nausea much diminished, but general prostration was so marked as to give rise to the greatest anxiety. Carbonate of ammonium, and five grain doses of quinine were added to the stimulating enemata. On the morning of the 25th, directly after removing the tampons and pressing the body of the uterus upwards and backwards as far as possible, she felt the nausea instantly and completely to leave her. As the uterus seemed to retain its position, I omitted, experimentally, inserting a fresh tampon. There was no return after this time of the nausea, but the abundant secretions in the throat excited vomitings of mucous only. At night, she would awake from the collection of mucous, vomit, and immediately drop off to sleep again. On the evening of the 26th, she took a wine-glass of toast water and retained it. There was no vomiting until 3.05 A. M. On the 27th, took one-half ounce of clam broth at 10.30 A. M.; at 11 A. M., a small piece of toast soaked in water, slept until 11.45, and then took an ounce of rice water. 12.15 P. M., wine-glass of clam broth; 12.45 P. M., a wine-glass of rice-water; 1.40, half ounce of clam broth; 2.40, half ounce of rice water; 3.40, the same.

From this time on, there was no return of nausea or vomiting. Milk and seltzer water were freely taken. The nourishing enemata were continued two weeks longer, though reduced to three, two, and finally, one daily. The patient was able to sit up in three weeks, and drove out two weeks later. Her appetite was remarkably good, and there was no distress after eating. The simple reporting of this case can give no definite idea of the alarming condition this patient was in. Only those who have had similar cases can realize the severity of this affection, and also the relief experienced by the physician in attendance when the crisis is passed.

From the 27th of February to April 4th, three or four enemata were given daily, and for four weeks, nothing was taken by the mouth but cracked ice and ice water. The emaciation was so great that it seemed as if the spinous processes of the ilia would necessarily protrude through the skin. The only alleviation for the nausea and vomiting was obtained by changing the position of the uterus and keeping it from pressing against the pubes.

Dr. Graily Hewitt has recently read before the Obstetrical Society of London, an exhaustive paper on this subject, a resume of which may be found in the August number of the *American Journal of Obstetrics*.

He has collected thirty-two cases, eight of them being in his own practice, in which the condition of the body of the uterus was carefully noted in the first half of pregnancy. In twenty-three of them there was found to be decided anteversion or ante-flexion; in four, the uterus was retroverted. He attributes the cause of the sickness to the compression of the

nerves in the tissues which are exposed to compression by the displacement. When the sickness continues longer than the first half of pregnancy, he thinks it may be due to hardening of the tissues surrounding the internal os, this condition having been found especially marked in four cases, out of a series of thirteen, in which the condition of the os and cervix was particularly noted.

The treatment advised by him is rest in the supine position, on the back, in those cases where anteversion or ante flexion may be present, and replacement by pessary or any other means that may secure a normal upward movement of the fundus uteri.

Vomiting in these cases usually begins very early; in twenty-four cases out of forty-three reported by Mons. Guéniot, of Paris, it occurred, as in my case, before the end of the first month.

The prognosis in this affection may be stated as decidedly unfavorable. In the thirty-two cases collected by Hewitt, there were eleven deaths and twenty recoveries; the result in one case was not known; seven of these recoveries followed manipulative treatment and replacement of the uterus.

In one hundred and eighteen cases collected by Guéniot, there were forty-six deaths; without abortion, twenty-eight; after abortion or spontaneous premature labor, seven; after induced abortion, eleven. The treatment seems to me should be directed essentially to changing the position of the body of the uterus relative to the cervix. The vomiting begins so early that it does not seem probable that the pressure of the surrounding soft parts, in the first weeks of pregnancy, can act as the exciting cause of so great reflex disturbance.

The treatment by Copeman's method was not tried in the case I have reported, on account of objection offered to it by the family, and a fear on my part of exciting abortion, as I felt that in her prostrated condition, a fatal result would thereby probably follow.

### A CASE IN DOUBT.

BY WALTER M. WRIGHT, M.D., OF ORANGE, MASS., MEDICAL EXAMINER.

ONE morning in 188—, the selectmen of the town of —, directed me to assume charge of the body of one Matilda Ferguson, who had died the preceding day, and make due investigation as to the cause of her death. Such of the personal history and past physical condition of the said Matilda as concerns us at this stage of our paper may be told in a few words. She was a maiden lady of somewhat eccentric life and habits, who had lived the major portion of her seventy-three years in the quiet and seclusion of her own cottage, fully up to the high standard of virtue which Socrates so much desired of his wife. Physically she was thin, bony and angular, and although for the last score of years she had suffered from a cough which gave her the reputation of being marked for a victim of *phthisis pulmonalis*, yet she rarely found it necessary to patronize a physician, and passed for one of those tough, wiry, weakened, chronic kind, which we so frequently see live far beyond our most sanguine expectations, and oftentimes finally die of some acute disease.

During the two or three weeks immediately preced-

<sup>1</sup> Read before the Massachusetts Medical-Legal Society, October 7, 1890.

ing her death, Matilda had been much of the time confined to her house and yard; yet had two or three times walked the distance of a mile to call on a sick neighbor, and had on as many occasions, owing to attacks of gastralgia and irritative diarrhœa, accompanied once or twice with thirst and bloody stools, seen fit to call in a physician whose medicine gave early relief, which usually caused a countermanning of the request to "call again to-morrow." Three or four days previous to her death, during the vacation of her old physician, she was seized with a similar but more severe attack, another doctor was called, she rapidly grew worse, sank in a collapse and soon died.

On proceeding to the discharge of my official duties, an external examination of the body made twenty-six hours after death, showed in every respect a remarkably natural appearance, save over the abdomen, which was purple and much discolored on its entire surface; rigor mortis was entirely absent, except in the fingers and toes, and the skin was absolutely devoid the characteristic look and feel of death.

The application of the knife drew venous blood in a somewhat darkened but, at the same time, in a decidedly fluid state, and in no part of the system were any actual clots found.

The opening of the several cavities of the body gave escape to absolutely no odor, in so much that a young lady, present for the first time at such an examination, (which in this case was made in a small, close room), professed that she was able to detect no smell whatever.

The autopsy showed: *First*, a brain whose dura mater was intensely injected and irritated, especially in the region of the vertex, whose superficial vessels were more than usually congested and in whose convolutions, fissures and ventricles nearly six drams of watery serum were found.

*Second.* A right lung whose lower two-thirds were bound by old pleuritic adhesions; a left lung free from adhesions but covered on its anterior surface, particularly of the lower lobe, with a thick gelatino-plastic exudation, and in whose hemi-thorax there were four ounces of serous fluid. Both lungs were intensely congested and would not collapse on the application of moderate pressure.

*Third.* A heart healthy in every respect, containing a small amount of blood which showed little tendency to form clots.

*Fourth.* A liver, particularly healthy in every part save the extremity of the left lobe, which was slightly hardened.

*Fifth.* A stomach highly irritated at and about both orifices.

*Sixth.* Bowels thoroughly congested throughout, and showing the appearances of severe irritation over a large extent of surface.

*Seventh.* A pair of kidneys and a bladder in which no abnormal appearances could be detected.

*Eighth.* A uterus and vagina whose mucous lining was highly inflamed.

Deeming the results of this examination such as to warrant grave suspicions of the presence of an irritant poison, large sections of the brain, lungs, and liver, and the other organs named entire were separately sealed and submitted to the examination of an expert chemist, Dr. Charles Harrington, of Boston.

While awaiting the result of his investigations, it may not be improper or uninteresting briefly to con-

sider a chapter or two in Matilda's private and domestic life. I have intimated that her life was a lonely and secluded one. Such had been the status until about nine or ten months previous to her demise, when a stranger, a roving adventurer, a Spanish creole, (named Thomas Collins) aged about forty, in appearance and respectability but little above the average specimen of the genus tramp, having by some means obtained a knowledge of Matilda's habits of life and pecuniary condition, by arts and wiles, best known to himself, introduced himself to her notice and good graces, installed himself a member and guardian of her household and to all outward appearances became a most devoted attendant and admirer. During her illness, until very near her end, he alone cared for her and prepared her nourishment. After her death he immediately produced a will properly drawn, signed and witnessed, by which her small property, acquired by three score years and ten of the strictest parsimony and frugality, was to pass without reserve into his possession. He made no claim of a marriage but said it had been mutually agreed by them that the survivor should inherit the all of the other, which in Mr. Collins' case might be algebraically expressed by a minus more closely than by a zero. That the peculiar and uncertain ways of the law might by no possible means deprive him of his rights (?) he himself had written the will and the childish old lady had executed it.

A neighbor, who called once or twice during Matilda's sickness, stated that gruel prepared and administered by the said Collins' hand caused nausea and gastralgia, and that some taken from him two days preceding death produced a marked change in her condition, from the prostration of which she never rallied.

The chemist's report was received three weeks later and from it I quote these words: "The examination has yielded entirely negative results, no poison either organic or inorganic being detected." In a subsequent letter relative to the cause of death, the same gentleman says: "I can only say that it is one of those cases where it is very difficult to form an opinion."

It may not be uninteresting, though perhaps immaterial, to add by way of a codicil that Mr. Collins in a few weeks so far recovered from his grief at the loss of his adopted companion, under the soothing action of the balm of the affections of an ancient widow, possessed of a cash capital of about \$3,000, as to engage himself in marriage to the "blooming old gal" of some sixty-five springs; but having got the above-named collateral well into his own hands, he neglected to present himself before the parson but suddenly departed to other fields and widows fair. A strong arm and officer of the law, reached him in a neighboring State, and when the warm and forgiving-hearted widow gave him the alternative to marry or to suffer, he evidently saw wisdom in the oft-quoted scripture, for he quickly chose the former with all its dread liabilities of the latter.

Now, gentlemen, in this rambling and semi-careless way, I have endeavored to give you the most material points in, and the main outlines of, circumstances bordering on a case which to me was, and still is, puzzling, perplexing and unsatisfactory; and since nothing in the future seems likely to throw any additional light thereon (unless possibly there may be a mysterious

death and consequent autopsy of the present Mrs. Collins) you may very readily understand why I saw fit to label this paper "A Case in Doubt."

### HYDATIDIFORM MOLE OF THE UTERUS.<sup>1</sup>

BY W. A. DUNN, M.D., BOSTON.

On the morning of July 30th, I was called to attend Mrs. M., who was said to be flowing very badly. She was supposed to have been five or six months advanced in pregnancy. When I arrived I found the patient very much exhausted, surrounded by a panic-stricken family, and there was all the evidence of an unusually severe hemorrhage on the clothing and the carpet. Her pulse was very rapid, her breathing accelerated, and her blanched appearance and cold, clammy skin were emphatic evidence of her extreme danger.

On examination I found the vagina filled with clots, which, when removed, were followed by copiously flowing blood. The os was soft, and was of the size of a silver half-dollar. I found the uterus and abdomen much larger than the history of the duration of the case would warrant, and combining the size of the uterus with the hemorrhage I feared the existence of a placenta previa. The extreme conditions of the case demanded that the os uteri should at once be dilated, and the uterus emptied.

These indications and the success of my efforts to follow them I found to be almost in an inverse ratio. However, after long-continued efforts I was able to enlarge the os sufficiently to confirm my diagnosis of placenta previa, and to pass two fingers around it with the hope of touching the fetus. While doing so, the placenta became detached, and I at once removed what I supposed was a portion of the placenta, but what afterwards proved to be all that remained of the placenta. The mass removed was two and one-half inches long and two inches wide. While I was examining it all hemorrhage ceased.

All efforts to find any other portion of the placenta failed, and with the light thrown on the case at this stage I was at a loss to explain the absence of more placental tissue.

As the hemorrhage had ceased, I administered several subcutaneous injections of brandy to stimulate the heart, and prepared the patient for the complete dilatation of the os, which was imperative. During the process of dilatation the patient's agony was so extreme and her resistance was so obstinate that I determined to administer ether, although I did so with considerable trepidation when I considered her exhaustion and the conditions of the case. There was no time to delay, the uterus must be emptied, but the patient declared that she would rather die than submit to the introduction of the hand into the uterus again. To my intense satisfaction the ether proved a potent stimulant to the heart, and soon the radial pulse was beating regularly, and with renewing strength.

The os was soon dilated, and, after a short interval, I was able to insert my hand into the cavity of the uterus, and attempt to reach a foot and turn. To my great astonishment, after groping around on all sides, I was unable to find any evidence of a fetus. On the contrary, I could easily detect the existence of a mass of soft, round cysts which readily came away with my

<sup>1</sup> Read before the Section of Obstetrics and Gynecology of the Suffolk District Medical Society, November 18, 1885.

hand. As I had determined not to remove my hand until I had emptied the uterus, I proceeded to remove as much as possible of the body, which I now supposed was a mole, and which examination verified. It was necessary to insert the hand several times to remove the entire growth, which filled a large basin.

In the meantime the patient's general condition had made a very decided improvement. Her breathing was regular and full, her pulse was regular, easy, and stronger, and her extremities had lost their coldness. Firm pressure was applied to the uterus, which contracted very satisfactorily, and remained contracted after a subcutaneous injection of ergot was twice given. In the meantime several injections of brandy had been administered, and the scene was changed from intense gloom to very great relief on the part of the medical attendant, and rejoicing on the part of the family. When the patient had recovered from the effects of the ether, she expressed herself as feeling comfortable, and showed very few indications of the ordeal through which she had passed.

On questioning the patient and the family I failed to discover any symptoms which might have led to the supposition of the abnormality. It was true the abdomen was larger than what would be expected in a pregnancy of six months, but the enlargement was not especially pronounced. There was no discharge from the vagina of any fluid resembling currant juice, which often exists in cases like the one under consideration. In fact, the condition of the patient was not sufficiently unlike that of other pregnant women to attract attention.

I am indebted to Dr. Charles Schram, my assistant, and also Dr. Dorecy, the family physician, who was unable to respond to the call until late in the progress of the case. The patient continued under his charge through convalescence, which proceeded without a drawback. The ordinary post-parturient treatment was followed. There were no antiseptic injections given, nor was it considered necessary to apply styptic solutions to the uterine cavity at any stage in the case.

**Pathology.** The villi of the chorion sometimes become distended by fluid which collects within them, causing them to swell and assume the form of rounded vesicles comparable to gooseberries or grapes. On account of this analogy they were, for a long time, supposed to be true hydatids. Velpeau was the first to discover that the hydatiform mole has its origin in the villi of the chorion, and the microscopic examinations of Professor Robin exhibited still more closely the true nature of the disease by showing that the envelopes of the hydatiform vesicles have all the anatomical characteristics of the walls of the villi of the chorion.

It is now regarded as certain that the disease known as hydatiform mole is nothing but a dropsical condition of the villi of the chorion. Cazeaux describes the affection as rare. If an ovum presenting the alteration in question be examined, the villi are seen as usual, detached from the surface of the chorion. In some cases the pedicles will have undergone no change in size, while in others they will be slightly dilated. The dilatations, or vesicles, begin to appear where the ramifications commence, the branches of the villi being swollen at intervals. The dilatations vary in size from that of a walnut to that of a filbert, and so down until they become almost invisible to the naked eye. A whole villus is often almost completely metamor-

phosed into a bunch of vesicles almost as large as gooseberries. Upon the larger of these smaller ones are often inserted, and generally by a fine pedicle, a portion of the undilated branch of the chorion.

All the vesicles of the same group are, therefore, connected by pedicles forming groups of the strangest appearance, but, nevertheless, recalling that of the villi in the normal condition. The fluid contained in the vesicles is unusually colorless, transparent as water, and containing albumen in solution. Occasionally the contents are of a reddish color. This dropsical affection may effect either the villi of the chorion, properly so called, or those of the placenta, and in both cases the life of the fetus is nearly always compromised. The dominant fact in the affection is, after all, the arrangement of the umbilical vessels. Should all the villi become dropsical, the death of the fetus would necessarily ensue, and, occurring at a period very near that of conception, it might undergo solution in the amniotic fluid, and thus disappear. The discovery of cysts in the watery, bloody discharge is the only diagnostic sign which will enable us to pronounce with certainty as to the nature of the disease.

**Etiology.** Primipare are less frequently affected by the hydatiform mole than multipara, although the actual number of pregnancies seem to exert a less marked predisposing influence than advancing age. The cystic degeneration usually occurs during the first month of utero-gestation. According to Underhill, the latter part of the third month is the limit within which the disease can originate.

There has been considerable discussion as to the etiology of the disease. By some it is supposed always to follow death of the fetus, and the whole developmental energy being expended on the chorion, which retains its attachment to the decidua, the result is its abnormal growth and cystic degeneration.

This view Playfair says is maintained by Gierse and Graily Hewitt, and it is favored by the undoubted fact that in most all cases the fetus has almost entirely disappeared, and by the occasional occurrence of twin conceptions in which one chorion has degenerated, the other remaining healthy until term. Virchow thinks it originates in the decidua, while others have attributed it to some blood dyscrasia on the part of the mother, such as syphilis. It is known to have occurred more than once in the same person. It is known that the disease sometimes follows the death of the embryo, and sometimes it is the result of obscure maternal causes. The establishment of the true pathological relations of the hydatiform mole have led to the abandonment of the once prevalent opinion that the neoplasm might be developed independent of conception.

#### EVERY DAY CASES OF LABOR, PREPARED WITH SOME REFERENCE TO THE ETHER QUESTION.

BY A. P. READ, M.D.,

Professor of Obstetrics of the Harvard Medical School.

**CASE I.** A. B., aged thirty; tertipara. In first labor, ether; forceps; post partum hemorrhage; male child; living. In second labor, no ether; physician left patient promptly. The friends and nurse report repeated fainting, but no very great interference was needed.

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She was watched during the pregnancy with unusual care. She is excessively slight, short, thin, and poorly developed.

At 5.30 A.M., os as quarter-dollar piece; head high; membranes unbroken; ether at 8 A.M. At 8.15 I ruptured the membranes; bag already large; dilatation completed; head rather high O.L.P.; flexion rather too great; pains which had never been good, fading out. At 10.30 A.M., suspended ether during six pains, without gain. She complained of being "so faint." At 10.50 A.M. I gave 37 minims of laudanum; at 11.30 A.M. 16 minims more, adding a little ether to help sleep. Delightful snoring; great feeling of refreshment and strength. At 2 P.M. no progress, no change; general condition excellent; child's heart clear and distinct on left side; head never fairly came down; descent not half-way accomplished. I sent for assistance, and after the arrival of Dr. Kingman, I delivered by version at 3.45 a male, living and well. High and troublesome arrest of the head, necessitating forceps; perineum torn as far as sphincter; placenta safely delivered; no hemorrhage; good contraction womb; perineum stitched. Fluid extract of ergot  $\frac{1}{2}$ .

This patient had formerly used ether for relief in asthmatic attacks. She demanded its employment in addition to other remedies on various occasions during the first four days of her lying-in. I assented with great apprehension. There was no hemorrhage; the ether only did good, and it was of great service in allaying restlessness, ensuring sleep at night and in controlling after-pain. This was my first use of the remedy during lying-in.

CASE II. C. D., aged twenty-seven; secundipara. (Anencephalous foetus nineteen months ago, seven months advanced. In father's family proclivity to mental disease.) This patient whose health has been watched judiciously and most assiduously for a year by her family and by herself, has for four days taken daily, by my direction, one fluid drachm of chlorate of potass, as in the case of the patient just mentioned. I encouraged the employment of chloral and br. sodium gr. x to gr. xxx, whenever this was needed to procure sleep at night.

Three weeks before labor I was called. Condition bad; nausea; frontal headache; pain between shoulders; sp. gr. of urine 1.015; quantity sufficient; much albumen; many epithelial casts. From that date absolute milk diet. After eleven days symptoms entirely relieved; urine wholly normal.

On the day of her confinement, after an excellent night, slight pains set in at dawn. For some days head had been low in pelvis; O.R.A.; xv gr. of chloral with xv gr. of br. sodium at 8.30 A.M.; again at 11 A.M.; at 1.25 P.M. ether; pains then increasing I allowed bag to bulge outside vulva; it burst after the expulsion of head; the shoulders quickly followed, so rapidly that I could not protect perineum from being torn up to sphincter, though it had escaped injury from the head; two stitches. At 2.43 P.M. birth of large, well girl; placenta soon; no hemorrhage. Fl. extract of ergot  $\frac{1}{2}$ .

CASE III. E. F., aged twenty-nine; secundipara. Slight pains at 1 P.M.; at 3.30 os half dilated; membranes intact; head high; unable to make out position, though I could feel a suture; chloral gr. xx at 3.50 P.M.; again at 4.20; at 5.30 P.M. membranes still entire; could feel a suture in first oblique diameter,

but no fontanelle; head a little lower. Between 5.12 P.M. and 5.45 P.M. patient worried me by yawning constantly. Her pulse and her color, however, remained good. I began to use ether at 5.45, giving it moderately; a large bag of waters formed; it was my design to avoid rupturing the membranes, but the head refused to descend; I could not be sure with what I was dealing. At 9 P.M. I ruptured membranes; head began to rotate, but in spite of improving pains the part of the cranium toward mother's sacrum remained high up. I gave ether freely. At last, at 10.30, I easily delivered with forceps a well girl. I then discovered a second child, the cranium presenting; the bag of membranes very large; the head did not descend. With much difficulty I ruptured membranes high up; the head descended somewhat; I applied first a pair of Braun's forceps, afterward a long pair of Dubois, but I could effect nothing; neither instrument would lock safely. At 11.30 P.M., I turned and delivered the second child, a well girl. The cords were unusually thick with battledore insertion; the placenta were fused, and there was an appendix, almost a third placenta. Manual extraction was necessary. There was no nick in perineum; no hemorrhage; pulse was good and quiet; I gave much ether, even continuing it post-partum, to aid me with the placenta.

This patient convalesced well, though slowly. For two or three days she required the catheter. Moderate cystitis much relieved by washing out with carbolic acid, one per cent.

CASE IV. G. H., secundipara; aged thirty-three. At 3.30 A.M., presenting part beyond reach; membranes entire; pressing moderately; pains increasing at 7 A.M.; during an hour chloral gr. xv. was three times given; some naps. At 8 A.M. os dilated size dollar piece or larger; presentation cranial, thought to be R.A.; membranes entire. At 9 A.M. some escape of liquor amnii; probably high up, as bag hung out from vulva, containing water; birth of well girl, under ether at 10.30 A.M.; placenta rather slowly; perineum perfect.

CASE V. I. J., aged thirty; primipara. This patient long under careful observation; before she reached seven months she was made to keep the bed wholly, and she maintained this posture for many weeks, getting from it the greatest improvement and comfort. The recumbent posture became necessary, because the most moderate exercise, as for instance, walking a few rods on the sidewalk provoked threatening abdominal pains. The patient's mother, four times pregnant, was delivered on each occasion at seven months. An aunt was twice confined at that period. Patient (her brother and sister are all very small people) at eight months. I measured the pelvis; all the external measurements were very good; the resistance of the perineum and the narrowness and rigidity of the vagina made accurate measurement of the conjugate impossible without anaesthesia; I could not conveniently etherize her; approximate results indicated a conjugate of about four inches, and with this, aided by the satisfactory external configuration, I decided to rest content. At 10.30 P.M., slight occasional pains; membranes broken; slight pains from time to time had for seventeen days given threatening of labor but no presentation could be reached; S.L.P. coming round slowly, but well; easy birth of living girl, seven pounds, at 5 A.M. No arrest of head; perineum

sound; placenta soon; from midnight on I gave much ether. Fl. extract of ergot  $\frac{3}{4}$ .

CASE VI. K. L., aged twenty-one; primipara. Some tendency to mental and cerebral disease in patient's family; several brothers and sisters died early. Midway in pregnancy patient had long-continued and very distressing eczema of hands and feet. For four and a half months she took  $\frac{3}{4}$  of chlorate of potash daily, with very marked improvement in general health; sleep was long secured by the frequent use of chloral and br. of soda gr. v.-gr. xx.

At 6 A.M. os size half-dollar piece; membranes unbroken; head high. At varying periods I gave fifteen grains of chloral; ether was administered from 11 A.M.; progress was excellent till the head reached the bony outlet, but the pains were very unsatisfactory. At 1.15 P.M. membranes broke; O.R.A.; in last part of labor much delay. I withdrew at this time ether; much improvement following and patient giving courageous help; a well girl, ten and three-quarters pounds, was born at 4.48 P.M. Head large and firm; no tear in perineum; placenta remarkably large. Fl. extract of ergot  $\frac{3}{4}$ .

CASE VII. M. H., aged thirty-one; quintipara. First warning of labor at 2 A.M.; annoying pains continued from that time, but there was no dilatation till 4 P.M. Head high; membranes entire; patient has during last month made frequent use of chloral to procure sleep. Last evening she took  $\frac{3}{4}$  again at 5 A.M., a third time, at 7 A.M.;  $\frac{3}{4}$  was taken at 5.30 P.M.; at 6 P.M. dilatation, os size half-dollar piece; very little descent; ether was then moderately exhibited, because of restlessness and impatience; "so weary"; the pains were fairly severe. At 8.15 P.M. well, living girl born; ovum unbroken. After the expulsion of the head I tore open the membranes, being concerned for the child's respiration. There was no nick in perineum; placenta soon. I waited long for the withdrawal of a portion, and I did not feel sure that I wholly removed them. The patient was carefully watched; one hour later, after cautiously moving her for cleansing there was alarming syncope, often repeated. Laudanum  $\frac{3}{4}$  gr., Brandy  $\frac{1}{2}$  vi-vij, fl. extr. of ergot by the mouth,  $\frac{3}{4}$ ; ice long held over uterus; hot water at feet. The uterus never rose above umbilicus. At times there were troublesome after-pains, with succeeding relaxation; no hemorrhage. After four hours I administered, at the suggestion of the patient,  $\frac{3}{4}$  of Horsford's Acid Phosphate, and refreshing sleep followed. Twelve hours after delivery she passed a coagulum as large as a man's fist, and another small one. The convalescence has been uninterrupted and satisfactory.

I owe the Section an apology for detaining it so long with the report of seven cases of every-day labor. It is true no one of us could narrate seven cases without presenting some peculiarities of individual management that might interest his colleagues; but my real motive for bringing these cases before you has been my interest in those numbered I, III, and VII, as bearing upon the question of anesthesia.

In each instance the woman under my charge was a person widely known in this community. Fatal accident in childbirth is an evil that reaches far beyond the immediate sufferers. In cases I and II, I succeeded in charge of the patient obstetric practitioners of the very highest experience among us. I was warned to avoid the administration of ether.

## Hospital Practice and Clinical Memoranda.

### A CASE OF ERYTHROPSIA.

BY DAVID COGGIN, M.D., SALEM, MASS.

In the *Annales d'Oculistique*, t. xciv, p. 80, is a review of a monograph by Dr. Van Duyse, of Ghent, on red vision after cataract-extraction. The history of two cases is given. Both occurred in females, of the same age, sixty-four years, and a coloboma of the iris was left as the result of the operation in both.

In one patient, red vision appeared in nineteen months after, and it persisted at times for eighteen days, when it disappeared for a year, to return for only a few days. It generally came on at twilight.

In the second case, the patient reported the appearance of the red vision in four months after having had the cataract extracted. Here it came on at bed-time, previous to which the patient had walked along some heights overlooking the sea, where the light was naturally intense. The erythropsia had gone on the following morning, but it returned once or twice during the next six weeks while the patient was travelling.

Two theories have been advanced as to the cause of this phenomenon. One is, that the increased amount of light that enters the eye through the artificially-enlarged pupil over-excites the periphery of the retina and so exhausts it. This fatigue affects first the rays of light that are refracted the most (the peripheral) while the receptive condition for the rays that are the least refracted, the red ones, is prolonged, hence the visual field becomes red. So the red vision is due to a torpor of the retina for the rays of greatest refraction.

The other theory is, that the central nervous system plays an important role in its production, as nervous excitement, violent laughing, and the like, may cause it to appear.

As persons from whom cataracts have been removed are oftentimes not seen again by the ophthalmic surgeon, after they have gone to their homes, the general practitioner living in their midst is much more liable to become cognizant of such visual anomalies as the above than is the operator himself, and it is not improbable that cases of red vision are less rare than has been supposed.

Instances of this form of chromopsia have been reported after cataract operations when the iris was not excised, so the dread possibility of its following a so-called "modified Graefe" operation need not be seriously considered by its advocates.

The literature relating to this curious disorder is at present so meagre that the brief history of the following case may be thought of sufficient interest to be placed upon record:—

October 6, 1881.—Miss X. Age seventy-two years. (Of a family well-known in New England annals). Mature cataract of the right eye, ten years in forming. Cataract immature, left. No ether. Phoroparin nit. (0.05-10.0) before and after the operation. Corneal flap extended from the upper pupillary border superiorly. A moderate-sized iridectomy. Normal exit of lens, save that the lens-capsule presented between the lips of the wound, and it was readily withdrawn. No loss of vitreous. When the eye was opened, after seven days, it looked well, and the sight was good. Patient discharged from the Hospital on the 21st. A week

later a cyclitis developed which soon subsided. In December, Sn. I was read, though there were opacities in the vitreous. During the next six months Miss X. was kept indoors by sciatica. She read and sewed at will, and later was able to exercise in her garden.

September 14th. Feeling very well, she went out to drive at 11 A.M., (eleven months after the extraction.) The day was bright, and she said she looked pretty steadily at the various objects that came into view and with absorbing interest and enjoyment till her return at 1 P.M. On leaving her carriage everything around her suddenly took on a dark-pink color, and this red environment continued after she had entered her house, it persisted after the lamps had been lighted — though of a different shade — and this distressing red vision remained unaltered for six days.

Although living but a few blocks away, she delayed consulting me till the 21st, (feeling doubtful, very likely, if she should get any relief?), when the light was less annoying, though all objects still seemed pink. The eye was not inflamed and the sight was better than in December. At the end of another week the erythropsia had entirely disappeared, having faded gradually away.

As the patient has again been confined to her house, it is uncertain whether her trouble will return when she is again subjected to the full light of day.

#### SOME FACTS BEARING ON THE ETIOLOGY OF CARCINOMATOUS DISEASES.

BY G. A. WHEELER, M.D., CASTINE, MAINE.

THE predisposing causes of cancer are stated by nearly all authors who have written about this disease, as unknown. It is usually admitted, however, that all causes which tend to lower the vitality of the system are among the number, and by many there is thought to be a kinship between tuberculous and carcinomatous affections. As phthisis undoubtedly bears a cer-

tain relation to the humidity or dryness of the soil, the query is forced upon us whether carcinoma may not also have a similar relation either to the humidity or to the composition of the soil.

I am led to these reflections by a consideration of the cases of malignant disease which were presumably cancerous, though not actually demonstrated to be such by the microscope, which have occurred within the last eighteen years, in the small village of Castine, Maine, and in a particular part of the town. In fact, nearly all on one particular street, or quite near to it. *The few other cases mentioned, having at some previous time lived on or near this street.*

The soil of this portion of the village is superficially a sandy loam, beneath which is a layer of coarse gravel and still deeper a blue clay. All the drinking water upon the street is extremely hard but no analysis of it has ever been made. The street commences near the summit of a hill about two hundred feet above the level of the ocean and slopes down to the sea. The drainage is excellent.

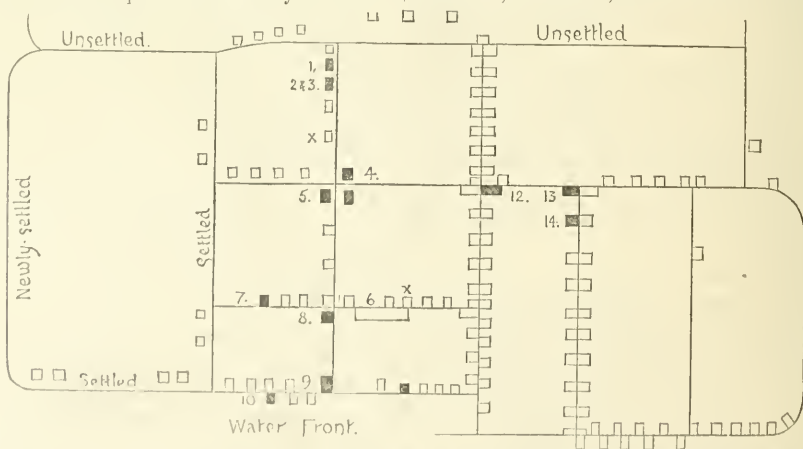
In the accompanying plan of the village the houses where the cases about to be mentioned occurred, are numbered to correspond with those cases.

1. N. G., male, age about fifty. Lived in the house for many years. No hereditary predisposition known. Occupation, a ship carpenter. Autopsy showed scirrhus of the cardiac orifice of the stomach. Death from starvation.

2. J. N., male, age about fifty. Occupation, ship carpenter. No hereditary predisposition known. Had a tumor of the thigh for which he was admitted to the Massachusetts General Hospital, but for which nothing was done there. He afterwards went to the Boston Homœopathic Hospital, where he was operated upon, but the tumor returned, and he subsequently died, and the death was reported as from cancer. Had lived in this house for years.

3. Wife of the above. Age about forty-five. She was attended by the writer a few weeks before her death, which was due to malignant disease of the womb.

4. C. C., male. Age about fifty. Merchant. No hereditary tendency. Had occupied the house for years. He was operated upon unsuccessfully by the late Dr. Greene, of Portland, for scirrhus of the rectum.



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5. S. H., female, single. Age sixty-nine. No hereditary tendency. Had occupied the house for years. Had a scirrhus of the breast removed at the Maine General Hospital. Died from constitutional infection. Had also a large abdominal tumor.

6. J. H. N., male. Carpenter. Age about sixty.

Had lived in the house from childhood. His mother is said to have had a "sore" cancer of the face. Autopsy showed scirrhus of the pylorus.

7. B. K., female, widow. Age about fifty-five. Had lived in this house and in town only two years. No hereditary tendency known. Died from carcinoma uteri. Is supposed to have had the disease when she came to town, but this is a matter of doubt. Her sister died in the same house two years later of phthisis.

8. B., female, married. Age about sixty-five. No hereditary tendency. Had an abdominal tumor which from its hard, knobby feel I diagnosed as scirrhus. Had marked cachexia when she died. No autopsy. Had lived in this house for years.

9. D. L., female, married. Age about sixty-five. No hereditary tendency known. Had resided in this house for years. Diagnosis, carcinoma uteri. Was under the charge of Dr. Stevens, now deceased.

10. M. C., female, widow. Age about eighty. No hereditary tendency. Had carcinoma mammae. Had resided in this house for years.

11. F. C., female, married. Age forty-four. Cauliflower excrescence of cervix uteri. Removed by Dr. E. F. Sanger and myself. Disease extended and finally destroyed recto-vaginal septum. No hereditary tendency. Had lived in this house twenty years.

12. G. T., male. Age fifty-five. Trader. Died from a malignant disease affecting the stomach, and probably involving other organs. No autopsy. No hereditary tendency. Had occupied this house for ten or twelve years but had lived in the one opposite 4 and 5, for a still longer period.

13. S. D., female, married. Age about forty-five. No hereditary tendency known. Died from what was diagnosed by her attending physician as carcinoma uteri. She had lived in this house for several years, but had also lived many years in the one marked 5. Had a child die of phthisis.

14. L. W., female, widow. Age thirty-seven. Mother died of heart disease, but had a suspicious tumor of the abdomen. This patient was operated upon by Dr. E. F. Sanger and myself for cauliflower excrescence of cervix uteri. Is still living, but is likely, to succumb to the disease eventually. This patient has lived in this house for many years, but formerly lived two houses from the one marked 6.

According to common report there have been one or two other cases of cancer in this same locality, but I have been unable to verify the fact. I have one patient on hand, however, who resides just above 4, who has had a polypus uteri removed, and who now has a large uterine tumor of some kind, the nature of which is still in doubt, but which I am fearful may prove to be carcinomatous.

The surprising thing about these cases is that they should have been confined to such a limited territory. After a residence of fifteen years in this town I have not known and am unable to learn of any other cases of presumed carcinoma occurring in any other portion of this village, and but few cases have occurred in my practice elsewhere. If there be not some local cause for these cases it is remarkable that they should have occurred where they did.

I am aware that so limited a number of cases can have no great weight towards establishing a local cause, but it seems to me they should have some, and they are given in the hopes of inducing other physicians to pay some attention to the localities in which their cases occur.

## Reports of Societies.

### SUFFOLK DISTRICT MEDICAL SOCIETY. SECTION OF OBSTETRICS AND GYNÆCOLOGY.

ROBERT B. DIXON, M.D., SECRETARY.

NOVEMBER 18, 1885, DR. JAMES R. CHADWICK in the Chair.

DR. W. A. DUNN read a paper entitled

#### HYDATIDIFORM MOLE OF THE UTERUS.<sup>1</sup>

DR. ABBOTT, in opening the debate, said that some years since, he had a case of hydatid mole similar to that reported by Dr. Dunn. When he reached the woman, he found that the mass had come away entire, and consisted of a great number of cysts, varying from the size of a pea to a plum, and in quantity, he should judge, more than a pint. There was no trace of a foetus, and no hæmorrhage followed the delivery. The mass was passed, he believed, early in pregnancy, and there were no bad symptoms before or after the delivery. This was the only case of uterine hydatids he had ever seen.

DR. DOE remarked that he had a case similar to that mentioned by Dr. Abbott. A large mass of cysts, sufficient to fill a six-quart pail, came away at about the seventh month. No foetus was discovered.

DR. A. E. McDONALD mentioned the following case: Mrs. H., aged twenty-five years, multipara; family history good; no syphilis. She came under my care about ten years ago, and was treated with satisfactory results for uterine displacement and chronic endometritis. About a year afterward, she again consulted me, stating that she had not menstruated for a period of four months previously, but was then having slight sanguineous discharge, with occasional pain in the region of the uterus. Her abdomen appeared unusually large for that of a woman in the fourth month of gestation, but I thought she might have made a mistake as to the date of her conception. In view of her condition, I did not deem a critical examination advisable. Rest in the recumbent position was advised, with medicine to relieve pain. I was summoned on the following day, and found her having quite strong expulsive pains at short intervals. My attention was called to the chamber-vessel which she had used a short time before my arrival, and I found in it about a gill of sacculæ attached to each other, and which had come away during one of her expulsive efforts while on the vessel. These sacculæ were about the size of small grapes, and semi-transparent, corresponding somewhat to Gooch's simile of "White currants floating in red currant juice." My finger, on introducing it into the vagina, came in contact with a large, soft mass, which, to the feel, resembled a recent blood-clot, excepting that it was more spongy. I succeeded in removing the mass in its entirety, and found it to be a true mole of the vesicular or hydatidiform variety. I discovered no trace of a foetus in the mass, that having disappeared in the earlier stages of gestation. The whole quantity which came away would more than fill a pint measure. There was no hæmorrhage to contend with in the case, and the patient made a speedy and perfect recovery. Since then, she has given birth to two healthy children who are now living, aged respectively five and three years.

DR. S. W. DRIVER remarked that during a large

<sup>1</sup> See page 612.

obstetric practice extending over twenty-three years, he had never had a case of false conception, although he had had the usual number of cases of deformed children, and the like.

Dr. J. B. SWIFT stated that a medico-legal interest was attached to these cases, as the vagina was sometimes invaded by true hydatid cysts. Hewitt had reported a case of such kind in a young unmarried woman. The true nature of the case would be determined by a microscopic examination, the echinococci heads, with their characteristic hooklets, being found. McClintock has also shown how, in the case of a widow, or woman living apart from her husband, serious mistakes might be made, as he says, "Hydatids may be retained in utero for many months or years, or a portion only may be expelled, and the residue may throw out a fresh crop of vesicles, to be discharged on a future occasion." (Playfair).

Dr. CHADWICK expressed the same opinion as the former speaker regarding the hooklets in the cysts. He has seen a case of hydatids found in the vagina containing hooklets. Hydatids are common in Germany, and are sometimes found escaping from the uterus into the vagina.

Dr. DUNN, in closing the discussion, said that some features of his case were that there was no rise of temperature, no factor whatever, and uterine exploration revealed no retained cysts.

Dr. E. W. CURSING read from the *Berliner Klinische Wochenschrift*, a report of Cesarean section, after Porro's method, performed in Japan, by Drs. H. Omori and J. Ikeda, formerly students in Germany. It is the first of its kind in Japan, although some ovariectomies have been performed there. The rarity of Cesarean section in that country is owing to the fact that osteomalacia is unknown there, and that rachiitis is very seldom seen.

"Koda Uta, twenty-three years old, merchant's wife, the child of healthy and still living parents, was married in her nineteenth year. Periods always regular, painless. Three years ago had a child, and as the delivery was very difficult, operative interference was necessary. After this, it is said that there remained a nearly complete closure of the vagina, which was treated in our Woman's clinic, being gradually, but not completely dilated. The next year she came in for examination in the seventh month of pregnancy.

"Observation: medium-sized, well-nourished woman, fundus uteri felt about 5 cm. above the navel; child in first head position, heart-tones clearly audible at left of navel. On vaginal examination, there could be felt a tough, cicatricial, annular stenosis, situated about 3 cm. from the introitus vaginae. We could not introduce the forefinger easily, and the vaginal portion of the cervix could not be touched. Many varices on the inner side of thigh, and in the labia. Pelvic dimensions normal. Nothing else remarkable. With the permission of the mother, who desired to have a living child, the Cesarean section was decided on, but the patient came into the hospital at the last moment. The circumstances of the operation were not the most favorable, since it had to be arranged hurriedly, because severe pains had been felt already for seven hours. The operation, performed on the 28th of April, under spray, lasted two hours.

"The field of operation was thoroughly cleansed with carbolic acid and soap. Incision in the linea alba, running from 1 cm. above the symphysis upwards to 4

cm. above the navel. Next we tried to lift the uterus out of the abdominal cavity, rolling it forwards after Müller's recommendation, but we did not succeed. A profound incision through the uterus opened its cavity, while an assistant pressed the abdominal walls firmly against the uterus with both hands. The fully developed child was seized by the flank, which presented, and easily extracted, but it was already asphyxiated. Then we did everything possible to save it, cleaned the mouth and pharynx, induced artificial respiration, squirted cold water into the face, tried Schulze's method of resuscitation, but alas, in vain. Finally, we performed tracheotomy on the child, since we could not introduce a catheter into the trachea through the pharynx.

"Then we sucked amniotic fluid out of the trachea, and the child came to life. Meanwhile, a strong ligature had been fastened around the lower segment of the uterus, which was amputated about 2 cm. above it. The umbilical cord had been tied, and the placenta left in place without trying to peel it off.

"Then a careful cleansing of the peritoneal cavity, although no fluid had run in during the operation. Abdominal incision closed with deep and superficial sutures, and the pedicle fixed in the lower angle of the wound by a clamp. Iodoform sprinkled on the sutures, antiseptic dressing.

"We were well satisfied with the convalescence, for there occurred neither fever nor pain, although the pulse was over 100 for a long time. At the first change of dressings (after six days), we saw the stump dark and discolored, it already had a bad smell, and was ichorous. It was cleansed, and cauterized with a strong solution of chloride of zinc. On the next day, we found the part lying below the clamp also gangrenous, and as we chanced to pull a little on the eschar with the pincette, the end of the stump, with the clamp, fell off easily, without any injury.

"The floor of the ulcer was wholly covered with necrotic fragments; it was cleaned, cauterized with zinc chloride, and sprinkled with naphthalin. With joy, we saw on the next day that it was granulating beautifully, and thus the ulcer diminished from day to day, so that we could soon dismiss the patient and her little girl entirely cured."

Dr. J. P. REYNOLDS read a paper entitled

#### EVERY-DAY CASES OF LABOR, WITH SOME REFERENCE TO THE ETHER QUESTION.<sup>2</sup>

Dr. A. L. NORRIS stated that he has used ether freely for years more than one-half of his obstetric cases. He rarely found any ill consequences therefrom. He considers the woman a little more liable to post-partum hemorrhage, but this does not deter him from administering ether when he feels that it is needed.

Dr. ARMOR said that with him it was not a question of whether one should always or never use ether, but rather that it should be employed with discretion. There is no doubt that uterine pain may be arrested by ether, and it is an important question what relation the administration of this agent bears to post-partum hemorrhage. Excess of ether in the last stage may produce a lax uterus, and hemorrhage in consequence. The most alarming case of post-partum hemorrhage he has ever seen was in the case of a phthisical patient to whom a small amount of ether had been given. It checked the pain so that he

<sup>2</sup> See page 613.

stopped the inhalation, and stimulated freely. The child was still-born, owing to a diseased placenta. There was an alarming hemorrhage, but he did not ascribe it to the use of ether. In another case, which lasted fifty hours, at a time when the use of ether in childbirth was a novelty, a large quantity of ether was given. Forceps were applied and a still-born child was removed; the uterus contracted firmly and there was no hemorrhage. He believes in giving ether to alleviate suffering. If he found that it checked the pains he diminished the amount of ether. In a case of one patient in whom in two successive labors ether arrested uterine contraction, he gave a strong dose of whiskey after suspending the administration of the anæsthetic with a most satisfactory result, the patient bearing the pain bravely and doing her utmost to assist the expulsive action of the uterus.

DR. DOE stated that he is a firm believer in ether. He usually gives it, but in small amounts. Whenever the uterus relaxes he removes the sponge. He has never had but one case of alarming post-partum hemorrhage. In this case ether was given, but for not more than five minutes, for it tended to excite the patient, and he took it away. Later there was post-partum hemorrhage. He thought that if he had not withdrawn the ether that possibly there might not have been any hemorrhage, as the primary nervous excitement which directly preceded the hemorrhage might perhaps have been the exciting cause instead of the ether itself.

DR. C. M. GREEN said he had no prejudice against the use of ether, and used it as he would any other therapeutic agent, according to the indications in each case. He did not give ether necessarily on account of the pain of labor, because he believed that many women were able to bear that pain without injury. Much, of course, depended on the nervous constitution of the patient. He had found chloral hydrate and opium very efficacious in many cases. When he used ether he gave it often in small amounts and prevented profound anæsthesia by allowing the patient to hold the ether cone herself. He had never had a case of post-partum hemorrhage, although he had given ether to women who had flooded after previous labors. Unquestionably ether retards the labor; in fact, he sometimes gives ether for the purpose of so doing.

DR. KINGMAN spoke of a primipara, thirty-seven years old, who was confined two years ago, without ether. The labor was tedious and convalescence slow, the temperature remaining at or above 100° for two weeks. There was no septic disturbance. Last summer she was confined again. She was in somewhat better physical condition but the pains were unsatisfactory. Ether was given for two and one-half hours till delivery. Pains rapidly increased in strength and frequency, necessitating the production of complete anæsthesia as the head was passing the vulva. Though the patient was conscious throughout, except during the last few minutes, yet she felt little pain, and stated afterwards that she had no recollection of what passed after she began inhaling the ether. But four ounces of ether were used during more than two hours of this time. Exhaustion was scarcely remarked and convalescence was rapid.

DR. DRIVER said ether should be used with much care, and in the hands of a practitioner with Dr. Reynolds' experience, much might be gained from its use. One must be careful in the selection of the cases which

require ether. He does not use it unless especially indicated, and in ordinary cases does not use it at all. He uses forceps without ether if the woman is in a suitable condition. If the woman is unruly he gives ether.

A point which had not been brought up, was the effect of ether upon the child. He mentioned a case of a combined hand and foot presentation. Version was done under ether, and the head extracted with difficulty. The child died, and he was satisfied that its blood was saturated with ether. Thirteen months after he attended the woman again, under similar conditions. He did not give ether, but terminated labor with the same difficulty, and saved the child. He thinks he would have saved the first child if ether had not been given. He remarked that he recollected seven other like instances of ether inhalation turning the chance against the child, but time did not suffice to present them.

DR. REYNOLDS, in closing the debate, said ether should be given to prevent suffering, and by so doing, post-partum hemorrhage will be prevented. Any woman who has once had ether will want it again. He wished to express himself as strongly opposed to the statement that ether produces post-partum hemorrhage. When ether is given properly, it is extremely rare that hemorrhage follows its use.

As incidental points in reference to his paper, he said he did not consider it right to let the membranes alone to dilate the perineum, as Goodell advises. It is often difficult to make a diagnosis while the membranes are intact.

For years he has given instruction to be extremely careful in locking forceps. There is rarely any difficulty, and one is not likely to get anything but head between the blades, but the cord or anterior lip of the uterus may get caught and torn.

#### AMERICAN PUBLIC HEALTH ASSOCIATION.

In the afternoon a session was held, at which a Committee on State Boards of Health reported through its chairman, Dr. G. P. Conn, of New Hampshire. Since the last meeting, three State Boards had been organized, in Maine, Kansas and Pennsylvania. The report also stated that a conference of State Boards of Health, through a committee had adopted recommendations looking to an annual conference to be held during the session of the Association, also proposing that any conclusions of the conference should be reported to the public by the Secretary through the Standing Committee on State Boards of Health.

#### SECOND DAY.—EVENING SESSION.

At the evening session an admirable paper was presented by Prof. E. M. Hartwell, of Johns Hopkins University entitled the

#### GERMAN SYSTEM OF PHYSICAL EDUCATION.

A historical summary of the system of physical training in Germany was given, followed by a description of its operation as at present conducted in the schools of different grades, both civil and military.

In Berlin, one thirtieth part of the school appropriation is expended in gymnastic teaching. The Germans have introduced their system of gymnastics into the

United States, and an adoption of a similar thorough system for our own schools was counselled.

Dr. O. W. WIGIT, health officer of Detroit, gave an entertaining account of the attempt to

#### DISINFECT THE SEWERS

of the city of Detroit. The substances used for the purpose were the sulphate of iron and sulphur. Of the former, about 75,000 pounds were employed by the Health department and 200,000 pounds by the citizens. Of the latter, several tons were used, the sulphur being put into pails carefully prepared for the purpose, and lowered into the sewers at the manholes, after being lighted.

The principal criticism offered in the discussion which followed, was to the effect that such disinfection can have a temporary influence only, since the disinfectants are rapidly washed away with the sewerage.

One excellent result, however, was noticed, the penetrating odor of the sulphurous acid very quickly made itself manifest in dwellings where defective connections existed with the public sewers.

Dr. BENJAMIN LEE, of Philadelphia, Secretary of the State Board of Health, in his paper entitled

#### THE DEBIT AND CREDIT ACCOUNT OF THE PLYMOUTH EPIDEMIC.

gave an extremely interesting and valuable account of this epidemic, tracing its origin very clearly to an outbreak in a certain house in Philadelphia, whose sanitary arrangements were defective. A man was visiting at this house late in 1884, and contracted typhoid fever there, other persons in the house having had the disease. He returned to his home in Plymouth, Pa., ill, in January 1885, and was sick several weeks.

The town of Plymouth receives its water-supply from a mountain stream, across which several dams have been made for the purpose of collecting the water into reservoirs. The house in which this patient lived was situated between two of these reservoirs and within forty feet of the bank. His excreta during his illness were thrown either upon the snow toward the water supply, or into an outhouse, the contents of which fell upon the surface of the ground. After March 25th, during a thaw the snow melted, and the water from it ran into the reservoir. Ten days afterward, or in the usual time allowed for the incubation of typhoid fever, the epidemic made its appearance among the population supplied with the public water. The conclusion that here was a definite cause was made still more evident by the fact that people obtaining their water from wells were not attacked.

The number of deaths resulting was 114, and the total number of cases over 1,000. The actual pecuniary loss to the population in lost time, expenses of attendance on the sick, and other expenses, were estimated at over \$100,000, and no better argument could have existed for the formation of a State Board of Health of Pennsylvania, which was organized during the following season.

This case is one of peculiar interest to all communities having public water-supplies, as well as to the owners of private wells.

At the morning session of Thursday, the subject of the prohibition of the importation of rags, and of their disinfection, was introduced, and was referred to a special committee for consideration.

Dr. JOHN H. RAECH, secretary of the State Board of Health of Illinois, read a paper entitled

#### MARITIME QUARANTINE FROM THE MOUTH OF THE ST. LAWRENCE TO THE RIO GRANDE.

This paper detailed very minutely the existing condition of quarantine as found by Dr. Rauch in a tour of inspection which he had made during the past year. Defects were carefully pointed out and remedies suggested for existing evils, whereby better and more sufficient protection to the whole country might be secured.

Dr. JOSEPH HOLT, president of the State Board of Health of Louisiana, presented the subject of the

#### SANITARY PROTECTION OF NEW ORLEANS, BOTH MUNICIPAL AND MARITIME.

Dr. Holt spoke in his usual forcible style, and treated of the sewerage of the city, the investigation as to the causes of infectious diseases, and the efficient modes employed by the authorities of New Orleans for their prevention, especially by the disinfection of ships and cargoes as shown by Dr. Holt at the last session of the Association.

He alluded at length to the question of yellow fever prevention, and presented the following resolutions:

*Resolved.* The question of immunity from yellow fever is so intimately connected with the social, industrial and commercial growth of Tennessee, the Southern Atlantic, and the Gulf States of the Union, as to determine the destiny of Memphis, Charleston, Savannah, Pensacola, Mobile, New Orleans and Galveston, and *Whereas:* A large accumulating mass of testimony that the power of protecting the unacclimated against yellow fever has been discovered and proven in the inoculation of the essential germ or cause of the disease by methods distinctly formulated and available, these aforesaid declarations and numerous instances cited in corroboration, emanating from medical scientists at the head of the biographical departments in the highest institutions of learning in Mexico and Brazil, authorized by and bearing the endorsement of their respective governments;

*Resolved.* That we, the representatives of the Boards of Health in the several States of this Union, and we the officers and members of the American Public Health Association, regarding the question as preeminently a vital issue, as one, in its assumptions, true or false, and, if true, of incalculable worth, surpassing the computation of many millions of dollars, and to the saving of tens of thousands of lives of its own people, that we hereby petition and urge upon both branches of Congress, now assembled, to appoint a commission for the purpose of making a complete investigation of, and reporting after a thorough examination of the methods pursued, their effectiveness in protecting the unacclimated against the yellow-fever infection, together with all associated observations and experiments that may be ascertained.

*Resolved.* That in the aforesaid petition the commission shall be stated to consist of three persons, one of whom shall be of known ability and special attainment in biological research, particularly in the department of microscopic investigation and culture of the essential germ as causative of the infectious and contagious diseases. The other two members of the commission shall be medical men of recognized ability, based upon long and ample experience, competent to give expert consideration to all phases of symptoms and course of yellow fever in any form where in the phenomena of the disease may present itself, whether induced in the course of pestilential invasion or in purposely devised inoculations.

*Resolved.* That this Commission aforesaid shall proceed at the earliest possible moment to Rio de Janeiro as the first field of its labors. Having completed there its work, it shall proceed to Mexico, and, if necessary in the accumulation of testimony, to Panama, Colon and Havana.

*Resolved.* That the sum of \$30,000 be appropriated, or so much thereof as may be actually required to pay the necessary and unavoidable travelling and other expenses, and the salaries of the members of the Commission.

*Resolved.* That the sum of \$5,000 shall be paid as a recompense to each member of the aforesaid Commission.

These resolutions were referred to the Executive Committee.

Dr. S. T. ARMSTRONG, of the Marine Hospital, Service, read a paper on

#### MARITIME SANITATION.

treating of the subject as related to the sailor, the passenger, the cargo, the vessel, and the ports of departure.

Mr. H. LOMB had, on the previous day, reported a resolution which was referred to the Executive Committee, and was now presented by them in the following draft:

The American Public Health Association respectfully recommends to the Commissioner of Statistics and Labor the appointment of one or more expert commissioners, of whose duty it shall be to visit the principal factories and workshops in this country, to examine them carefully with reference to the provisions made in them to insure the safety and health of the employees, and to report on the same, with recommendations.

At three o'clock, the Association proceeded to the Executive Mansion, and called upon President Cleveland.

In the evening, the Committees appointed to report upon and award prizes offered by Mr. Lomb, reported as follows:

For essays on the subject of "Healthy Homes and Foods for the Working Classes." Thirty-six essays presented. A second prize of \$200 was awarded to Victor C. Vaughan, of Ann Arbor, Michigan.

On the subject of "The Sanitary Condition of School-houses and School-life." Twenty essays presented. A second prize of \$200 awarded to Dr. D. F. Lincoln, of Boston, Mass.

On "Disinfection and Individual Prophylaxis against Infectious Diseases." One first prize of \$500 to Dr. George M. Sternberg, U. S. A.

On the "Preventive Causes of Disease, Injury and Death in American Manufactories and Workshops, and the Best Means and Appliances for Preventing and Avoiding Them." Three essays presented. One second prize of \$200 awarded to George H. Ireland, of Springfield, Mass.

At the close of the reports of the Committees, Mr. Lomb was gracefully introduced by the President of the Association, and on motion of Dr. J. S. Billings, Mr. Lomb was unanimously elected a life-member of the Association.

Dr. D. A. SARGENT, of Harvard University, presented the report of the Committee on School Hygiene, in which the subject was treated in its relation to the physical wants of the individual scholar, and also to the hygienic condition of his surrounding.

He suggested that the Committee should be enlarged and that reports from State Boards as to their work in this direction should be requested.

Dr. J. MORRIS, of Baltimore, presented the report of a Committee on the

#### DISPOSAL OF THE DEAD.

The report consisted mainly in a review of the subject, so far as it has made progress during the past few years. Cremation was especially considered from a sanitary standpoint, and while the adoption of this mode of disposal was not counselled "in toto," it was recommended as especially useful in times of great epidemics, and also in war.

The discussion which followed showed a divided opinion as to the possibility of harm arising from the ordinary method of earth-burial.

The recent Massachusetts law was explained as providing efficiently for the examination of such cases as might present any suspicion of violence, or doubtful cause of death.

#### FOURTH DAY.

At the closing session on the morning of Friday, the

Committee on Disinfection of Rags was increased by the addition of Drs. J. H. Raymond, of Brooklyn, and Joseph Holt, of New Orleans. A committee consisting of Drs. Wood, of North Carolina, Abbott, of Massachusetts, and Townshend, of Washington, was appointed to report at the next meeting on the subject of the best modes of collection and preservation of vaccine virus to ensure its purity and efficiency.

A recommendation of the Executive Committee that the Conference of State Boards of Health should be invited to become a section of the Association, was adopted. The Conference held several sessions during the week.

The President announced that Mr. Lomb had offered four additional prizes of \$100, \$75, \$50, and \$25, for the best plans of houses to cost \$600, \$1,000 and \$1,500.

It was voted to appoint a committee of three, with Dr. John S. Billings as chairman, to prepare uniform annual, monthly, and weekly blanks for reporting the mortality of towns, cities, and States.

The Advisory Council recommended that Congress should be urged to appropriate the necessary funds so that the medical corps of the Army and Navy could prosecute investigations as to the causes of infectious diseases. They also endorsed Dr. Holt's recommendation that a commission be appointed to investigate yellow fever in the cities where it originates and prevails as an endemic.

A report having been presented advising stringent regulations in regard to rag disinfection, an animated discussion arose in regard to the subject. It was urged that in Massachusetts, a State employing more rags in paper manufacture than any other State, no case, either of small-pox or of any other infectious disease, had been traced to the use of imported foreign rags; trouble had, however, been experienced from domestic rags. The report was re-committed for further investigation.

The election of officers for the ensuing year then took place, the report of the Advisory Council, which is the nominating committee, being adopted as follows: President, Dr. Henry P. Walcott, of Cambridge, Mass.; First Vice-president, Dr. C. W. Covernton, of Canada; Second Vice-president, Dr. G. B. Thornton, of Memphis, Tenn.; Treasurer, Dr. J. Berrien Lindsley, of Nashville, Tenn.; Executive Committee, Dr. Pinkney Thompson, Kentucky; Dr. Henry B. Baker, Lansing, Mich.; Dr. Joseph Holt, New Orleans; Dr. Charles Smart, U. S. A.; Dr. C. N. Hewitt, Minnesota; Dr. H. A. Johnson, of Chicago. These officers were elected by acclamation, and the new President made a brief address of thanks.

The Secretary, Dr. Irving A. Watson, of New Hampshire, holds over, having been elected two years ago for three years. The new Executive comprises, in addition to the gentlemen elected to-day, under the rules of the Association, the present officers and the ex-presidents. The ex-presidents are Dr. Toner, of this city; Dr. Ranch, of Illinois; Dr. Kedzie, of Michigan; Dr. Billings, U. S. A.; Dr. Hunt, of New Jersey; Dr. Gihon, U. S. A., and Dr. Reeves, of West Virginia.

Dr. C. A. LINDSLEY, Secretary of the State Board of Health of Connecticut, gave an account of the

EPIDEMIC OF TYPHOID FEVER AT MADISON, CONN.

Dr. T. F. WOOD, of North Carolina, contributed a paper on the

## CAPE FEAR RIVER AS A SOURCE OF WATER-SUPPLY.

GEORGE N. BELL, C. E., of Newport, R. I., read a paper entitled

## THE HYGIENE OF THE DWELLING.

Captain H. Lomb, in a brief speech, modestly thanked the Association for their good will and the honors which they had conferred upon him at this session in electing him to life-membership.

At this session of the Association, a delegation was present from the British Provinces, all of whom manifested a lively interest in the work of the Association, were in turn cordially admitted to a participation in all its privileges. One of their number was elected its Vice-president, and others were made members of its Advisory Council.

It was also decided to hold the next session at Toronto, and Dr. P. H. Bryce, of that city, was appointed as chairman of the local committee of arrangements.

## RHODE ISLAND MEDICAL SOCIETY.

Eighty-five Fellows attended the regular quarterly meeting in Providence, December 17th, 1885.

The committee appointed at a previous meeting to consider the communication of the American Medical Association in reference to State regulation of the practice of medicine, reported "That although we believe that an act to regulate the practice of medicine would prove of very great value to the citizens of this State, and, if presented in proper form, would be readily adopted by their representatives in legislature, we do not believe that the act referred to us is well adapted for the purpose. Not only is the proposed act lengthy and cumbersome, but it would establish a new branch of the State government, and, on this account alone, would be sure to meet with strong opposition. It would, in our opinion, be a much better plan, as well as more feasible, to place the licensing power in the hands of the State Board of Health, making such changes in the constitution of this Board as might be necessary." The report was accepted, and the committee discharged.

Delegates to other State Medical Societies for the ensuing year were appointed as follows: Maine Medical Association, Drs. A. D. Weeks and W. H. Traver; New Hampshire Medical Society, Drs. W. F. Hutchinson and G. W. Jenckes; Vermont Medical Society, Drs. E. M. Snow and W. R. White; Massachusetts Medical Society, Drs. E. T. Caswell and W. F. Morrison; Connecticut Medical Society, Drs. A. G. Browning and W. H. Palmer; New York State Medical Society, Drs. Charles O'Leary and Albert Potter; New York State Medical Association, Drs. S. W. Francis and J. H. Morgan; Medical Society of New Jersey, Drs. F. B. Fuller and C. H. Fisher.

The President appointed Drs. G. W. Carr, F. B. Fuller, J. W. Mitchell, R. E. Noyes and Charles O'Leary as the new Board of Examiners, to whom applicants for membership will hereafter be referred.

In accordance with the recommendation of the Board of Censors, Dr. Horatio R. Storer, of Newport, was admitted to the Society.

Dr. W. F. MORRISON reported a case of

PYLONEPHRITIS, WITH RENAL CALCULI,

and exhibited the kidney, carefully mounted, with the

concretions *in situ*. The patient, a married American woman, forty-four years of age, came under observation eight months ago, complaining of anorexia, epigastric pain, persistent vomiting, occasional diarrhoea, and severe pain over the region of the right kidney. Micturition at times painful and difficult; urine usually abundant, and contained a thick, stringy white sediment. For a year there had been oedema of the lower extremities and abdomen. An ill-defined tumor was found in the right lumbar region, but no fluctuation detected. The urine contained about one-half per cent. of albumen, numerous fatty cells, and hyaline granula and fatty casts.

She was treated with alkalies, compound syrup of hypophosphites, iron and opiates, and gained in health and strength until about one week before death, when a cold was followed by alarming symptoms. She developed general numbness, pricking sensations in the shoulders and extremities, vomiting and constipation; no headache; strabismus, twitching of the muscles, delirium and stertorous respiration followed, and she died comatose. Suppression of urine during the last twenty-four hours.

Autopsy, fourteen hours after death, showed chronic cystitis, and parenchymatous and amyloid degeneration of the left kidney. The right ureter was enlarged about four times its normal size, and terminated above in a firm pear-shaped tumor, which was everywhere adherent to surrounding parts. On section, it was found to contain half a dozen pouches or sacs, about the size of English walnuts. These cavities apparently converged to the pelvis of the kidney, and contained inoffensive pus and granular detritus. The quantity of pus was estimated at four ounces. Three of the pouches contained each a calculus, irregular in size and shape. The three measured in length, respectively, two, one and three-quarters, and one and one-half inches.

A paper by Dr. F. P. CAPRON, on

## NASAL CATARRH—ITS IMMEDIATE AND REMOTE EFFECTS,

was read by title and referred to the publishing committee.

Dr. GEORGE F. KEENE read a paper on the

## TREATMENT OF COLLES' FRACTURE BY A NEW METHOD,

which consists in putting up the fracture with the hand extended nearly to a right angle with the arm, and supported by a wire splint. If the forearm is placed on a flat splint so that the fingers are flexed over the end, it will be noticed that the radius does not touch the splint at all, and the ulna only on its upper third. If, however, the hand is lifted until fully extended, the radius will touch the splint at its lower end, the thenar and hypothenar eminences of the hand being lifted out of the way. The flexors act at their best advantage when the hand is thus extended, and regain flexibility and strength rapidly when the splint is removed. When the hand is clenched, it moves quite perceptibly to the ulna side of the arm. In the treatment of this fracture, the flexor muscles should be placed at their best advantage, the extensor muscles should be placed at their greatest disadvantage, and the end of the radius should be brought down upon the splint.

To accomplish these ends it is only necessary to

bend a piece of ordinary telegraph wire, first into the shape of an ordinary hair-pin, then bend up sharply about two and a half inches of the closed end, flattening somewhat the top of the bend so that the fingers may rest easily upon it at their articulation with the hand. The ends of the wire are fastened with a strip of tin curved to fit the arm, and with a second strip under the end of the radius.

Dr. KEENE reported three cases in which his splint fulfilled all the conditions of success, avoiding pain and swelling during treatment and preventing subsequent deformity and impaired function of the hand and forearm.

Dr. O. C. WIGGIN read a paper on

#### THERMIC FEVER, WITH REPORT OF THREE CASES.

The cause of sunstroke is not necessarily solar heat, but heat always. The predisposing causes may be summed up in all previous conditions which have tended to debility or undue exhaustion. In a large proportion of cases there is abundant warning of an approaching attack. The most uniform premonitory symptoms are lassitude, feeling of fullness and pain in the head, throbbing of the temples, dizziness, discomfort at the precordia, loss of appetite, nausea, thirst, palpitation, and scanty urine. The prostration, head symptoms and palpitation increase in violence up to the time the patient is lost in insensibility.

Treatment varies considerably accordingly as the heart or the nerve centres are more profoundly impressed. Spasmodic contraction of the heart seems to be the immediate cause of speedily fatal cases. In these cases there is absence of high temperature and consciousness is not impaired until the sudden dissolution, the skin is at first cool and moist, feet and hands cold, countenance pale and anxious, nose cold and studded with beads of sweat. Symptoms of distress are referable to the heart. Indications in these cases are plainly to restore the action of the heart and the capillary circulation. Hot, and not cold, applications are to be applied to the skin. Stimulants in form of ammonia valerianate, strong tea, and morphia in small doses. Chloroform is unquestionably the salvation of some cases, and it would be of many more, could it be brought into timely use, but unfortunately the heart has ceased to beat, has solidified, so to speak, before aid is forthcoming.

In those cases in which symptoms referable to the brain and spinal cord predominate, cold applications to the entire body are demanded, and are the first remedial agents to be thought of. The vaso-motor nerves are paralyzed. The rise of temperature is rapid and extreme. The excretory functions are nearly in abeyance. Temperature must be reduced as speedily as possible.

Alcohol is seldom required in treating sunstroke. Ammonia valerianate is evanescent in effects, but its action is speedy and unequivocal. Tea is the remedy *par excellence* for sustaining the heart's action. Moreover, if there is a legitimate use of tea as a beverage it is during hot weather. Opium in some form is of service in the painful symptoms of sunstroke. Leeches or the lancet are indicated in cases of extreme congestion of the brain.

The vaso-motor paralysis, which obtains in thermic fever, necessarily leads to a more or less engorged state of the vital organs. The lungs, next to the brain, are the most frequent seat of congestion. It is sometimes

startling to notice the shortness of the interval between the stroke and marked dullness and rales.

Passive congestion of meninges is a common occurrence among convalescent patients. Inability to endure heat for a long time after insolation is almost a constant sequela. The victim of sunstroke but rarely recovers the former standard of health.

The president announced the death of Dr. John W. Sawyer, Superintendent of Butler Hospital for the Insane, and a Vice-President of the Society, and appointed Drs. Storer, Ely and Batchelder a committee to frame resolutions, which were adopted as follows:

*Whereas*, An inscrutable Providence, who wounds only that through His own mysterious reasons He may really benefit, has taken from the Rhode Island Medical Society its beloved Vice-President, Dr. John Woodbury Sawyer, therefore,

*Resolved*, That in Dr. Sawyer not only had the Butler Hospital a medical superintendent whose first and only thought was the welfare of the unfortunates whom it was his duty to protect, to care for and to heal, but a judicious adviser, who added much to its previous reputation as a model institution.

*Resolved*, That the loss of Dr. Sawyer is one equally great to the city of his residence and to the State at large, so many of whose citizens have had occasion to require his kindly skill.

*Resolved*, That the Rhode Island Medical Society mourns its deceased brother, whose mere acquaintance was a pleasure, and whom to know was to love. Gentle and yet decided, modest always and wholly forgetful of self, learned in his special department of professional labor, and yet inferior to none as a general practitioner, his death leaves a void which time can never more than imperfectly fill.

*Resolved*, That the President and Secretary in behalf of every member, tender to the bereaved widow and orphaned son of the deceased their sincere and heart-felt condolence, and their sense not only of collective but of personal bereavement.

*Resolved*, That a committee be appointed by the chair, to attend the funeral of Dr. Sawyer in behalf of this Society, as an additional mark of sympathy and respect.

### Recent Literature.

*Clinical Therapeutics.* Lectures in Practical Medicine, delivered in the Hospital St. Antoine, Paris, France, by Professor DUJARDIN-BEAUMETZ. Physician to the Cochin Hospital, Member of the Academy of Medicine, and of the Council of Hygiene and Salubrity of the Seine. The Treatment of Nervous Diseases, of General Diseases, and of Fevers. Translated by E. P. Hurd, M.D., Member of the Massachusetts Medical Society, Vice-president of the Essex North Medical Society; one of the physicians to the Anna Jacques Hospital, Newburyport, Mass. Detroit, Mich.: George S. Davis, 1885.

This volume is a translation of Volume III of the excellent *Leçons de Clinique Thérapeutique*, by Professor Dujardin-Beaumetz, and deserves warm commendation.

From the outline of the author's many works, which the translator gives in his preface, one may readily see the wide range of the author's experience and the translator's full sympathy with his author and his appreciation of the highest aims in therapeutics.

The introductory lecture on clinical therapeutics has many good suggestions. In therapeutics "there are two dangerous rocks to shun, skepticism, on the one hand, exaggerated enthusiasm, on the other, to believe too much, and not to believe at all, are two opposite terms. but they are not as far apart as one might suppose. The one engenders the other, and extreme credulity gives rise to incredulity.

"Beware especially of skepticism; a physician who lacks faith in medicine has no more reason for existence than a priest who does not believe the religion he teaches, or a soldier who is destitute of love of his country and his flag. It is repugnant to reason and to conscience that he can be a good physician who judges of no utility all the remedial agents that have the sanction of tradition and custom."

Of experimental therapeutics he says, "it is indeed an excellent study which has furnished valuable data, but do not forget that it is only a complimentary study. It enables us to give a tolerably plausible explanation of the action of the medicament, and especially to know the limits beyond which it is not safe to go, and at what moment the drug ceases to become medicinal and becomes a poison. But it is not physiological experimentation that decides the destination of the medicament, or of medication; it is the effect of the remedy on the sick man, and on the march of the disease which determines its therapeutical value." He also indicates the serious consequences which are the result of the practitioner's ignorance of the art of prescribing. "Exercise the greatest care in the directions which you give the patient or his nurses; do not fear to enter into the minutest details; indicate how the external applications should be made, and the times for giving the internal remedy; regulate carefully the little incidents of the day, and be particular about the diet. For you must ever remember that pharmaceutical measures go but a little ways in the cure of your patient, and that you can often accomplish more by hygiene than you can accomplish by medicine." "Hygiene is, in fact, called upon to play a preponderating part in the treatment of diseases, and especially of chronic affections. To establish with care, and, in a scientific manner the basis of dietetics, ought to be one of the most serious occupations of the practitioner, and you will see in the course of these lectures the prominence which I give to hygiene in the treatment of diseases."

Following the introduction are chapters upon diseases of the nervous system, the first of which is devoted to the physiology of the nervous system, afterward lectures upon various kinds of treatment, hydrotherapeutics, medical electricity, and a chapter on the techniques of electrical machines in which the most modern forms of apparatus are described by Dr. C. L. Dana, of New York.

The lectures on the treatment of neuralgia, of hysteria, epilepsy, chorea, meningitis, as well as on apoplexy and chronic myelitis, all contain valuable suggestions, and discuss these diseases from a clinical therapeutic standpoint. The second part of the work is devoted to the study of blood, to blood-letting and the treatment of anaemia; rheumatism, diabetes, and syphilis are also included in the other half of this part.

In the third division of the book, which is devoted to fevers, typhoid fever, intermittent and the eruptive fevers are considered.

The translation leaves nothing to be desired; the

reader is not conscious that the subject has been rendered from another language into English. Dr. Hurd has also added some short notes in a very judicious manner. That the work is rather too rich in suggestions for treatment will not surprise those who are familiar with the author's many other writings. In these days of superabundant medicaments an undue zeal for new remedies may not easily be avoided.

Much that is of little service to a practitioner in many of the text-books on therapeutics has been left out, and on the other hand, whatever in anatomy or physiology, or other department of medicine that might be of assistance in the treatment of disease has been grouped in so practical a way as to give a rational conception of the means and methods of therapeutic usefulness.

So good a book had deserved a better dress, but if its cheaper covering brings it within the means of a larger number of practitioners it is certainly justifiable.

*Lectures on the Diagnosis of Diseases of the Brain, delivered at University College Hospital.* By W. R. GOWERS, M.D., F.R.C.P. Philadelphia: P. Blakiston, Son & Co. pp. viii, 246. 1885.

It is a satisfaction to have this volume from Dr. Gowers; it will be of value to those who desire to study the various diseases of the brain. As there is a wider range of opinions in regard to the physiology and pathology of the brain than of the spinal cord, it is not to be expected that every one would agree with all that the author has written. The views expressed are, however, those of a competent observer who has had large opportunities to study the subject, and what he has written is valuable, and will prove a useful guide to all in further study of the subjects.

The first three chapters are devoted to the anatomy of the brain; these are full, but condensed, and will require careful study to be understood. A larger number of diagrams and drawings would aid the student to a better or more speedy understanding of these chapters.

Chapters IV to XII are devoted to a consideration of the symptoms produced by disease, the mechanism of their production, the motor and sensory symptom, those due to perverted function in the cranial nerves, mental symptoms, affections of speech. Among these, two of the most difficult subjects are the ocular and visual symptoms and the affections of speech. These are treated at length, so as to give a satisfactory review of the subjects, without using time and space to discuss the opinions of others. The author has given his own conclusions.

In speaking of disturbance of speech, he says, "No two cases of speech defect are alike; and you can only unravel the phenomena of each case by having a firm grasp of the laws that govern both normal speech and the derangement that is produced by disease."

The multiplication of names applied to various forms of aphasia is justly condemned. The terms *amnesic aphasia*, *ataxic aphasia*, *word deafness* and *word blindness* are used, but seemingly only partially approved. *Wernicke's division* — motor and sensory aphasia — is more acceptable to the author, but *Wernicke* is not fully followed. *Hughlings Jackson's* views find more favor than *Kussmaul's*.

Chapters XIII and XIV on local diagnosis, are very satisfactory and full. The book closes with diagnostic pathology and pathological diagnosis.

One cannot skim through this book and receive much benefit; not merely careful reading will answer; it must be carefully studied from beginning to end, and then its value will be appreciated. In the closing paragraph, Dr. Gowers says, "The problems that we have considered in these lectures are certain to present themselves before you frequently in your future work. Their form will vary, but the principles of diagnosis that I have endeavored to put before you will guide you, I believe, to a right conclusion in most cases. When you meet with special difficulty, do not be hasty in trying to arrive at a decision; think over the symptoms; read over the description of the diseases between which the diagnosis lies; examine your patient again, and, if necessary, watch the symptoms for a time." This is excellent advice.

**Practical Therapeutics.** A Compendium of Selected Formulae and Practical Hints on Treatment, Systematically arranged, interleaved, and copiously indexed. By EDWARD J. BIRMINGHAM, A.M., M.D., Fellow and ex-Vice-president of the American Academy of Medicine, etc., etc. New York: J. R. Birmingham, publisher. 1885.

In a book of two hundred well-printed pages, which are interleaved, there are collected and arranged according to the diseases in which they may be employed, a large number of prescriptions, with here and there brief notes on the treatment of the disease under consideration. The name of a practitioner is in most cases appended to each prescription.

For those who are simply looking for a prescription to copy, being too ignorant to write one, this book is fully needed, as a sufficient number of formulae may be found in the numerous works on therapeutics, of which some are in the hands of every practitioner.

It is too brief to be accepted as a guide in the treatment of disease, and as a work on prescription-writing, it encourages the ignorance which is already too widespread among medical men. Of many good and old prescriptions some are, and others should be, sanctioned by the pharmacopoeia, and beyond this, practitioners should be able to rely on a simple, extemporaneous prescription, written so far as possible with a distinct and special object, and based upon a knowledge of the physical, chemical and therapeutic properties of the substances used. A work such as the one under consideration, helps to keep the physician away from an independent and intelligent use of drugs.

**A Manual of Operative Surgery.** By LEWIS A. STIMSON, B.A., M.D., Surgeon to the Presbyterian and Bellevue Hospitals, Professor of Clinical Surgery in the Medical Faculty of the University of the City of New York, etc. Second edition, with 312 illustrations. Philadelphia: Lea Brothers & Co. 1885.

This comprehensive little manual of some five hundred pages, has attained a second edition within about a year and a half of the appearance of the first, which fact speaks well for the success of the work in meeting a want of practitioners and students. In this new edition special reference is made to the changes in operative methods and procedures by the adoption of the antiseptic method of treating wounds. In the descriptions of the formal operations, the chief alterations and additions are found in the passages treating of the excision of joints and bones, and of operations in which the peritoneal cavity is opened.

**A Treatise on Epidemic Cholera, and Allied Diseases.** By A. B. PALMER, M.D., LL.D. pp 224. Ann Arbor, Michigan: Register Publishing House. 1885.

**Cholera, its History, Cause and Prevention.** By EZRA A. BARTLETT, M.D. pp. 105. Albany, New York: H. H. Bender. 1885.

Dr. Palmer has briefly sketched the history of cholera, and also in the same chapter has reviewed the subject of its etiology, introducing abundant references to the most recent investigations of European authorities made during the epidemic of the past two seasons.

The remaining chapters are devoted to the symptomatology and pathology of the disease, its diagnosis, prognosis and prophylaxis, and finally its treatment, in regard to which the author draws largely from his own experience in early epidemics of the disease. The chapter on prophylaxis is especially valuable, and quotes freely from the recent circulars of State Boards of Health, especially that of Michigan.

A second part is devoted to the subject of cholera, or allied diseases.

Dr. Bartlett's book was written, as he states in his preface, for the people, an attempt being made to set before them "in an unpretentious manner the latest, and best opinions." This he has successfully accomplished, the book being written in a popular style, and issued in a compact and convenient form.

The chapters are entitled: History, cause, propagation, prevention, hygiene of food and drink, and disinfection.

The subjects of propagation and prevention are clearly and intelligently stated, but that relating to food and drink is treated in a manner somewhat foreign to the general subject of the book.

**Diseases of the Tongue.** By HENRY T. BUTLIN, F.R.C.S. Assistant-Surgeon and Demonstrator of Practical Surgery and Diseases of the Larynx, St. Bartholomew's Hospital. Illustrated with chromo-lithographs and engravings. Philadelphia: Lea Brothers & Co. 1885.

This is one of the "Clinical Manuals for Practitioners and Students of Medicine." The author discusses the various diseases of the tongue in a thorough manner, and lays down very positive rules in regard to treatment. The application of strong caustics to warty growths or indolent sores of the tongue is strongly condemned. He states that "if there is one means more certain than another to transform a simple into a cancerous sore, it is the use of caustic." The disease must be removed by the knife; the actual or galvano-cautery, or treated with applications as unirritating as possible. When weak astringent lotions are needed, alum, tannic acid, and sulphate of zinc may be used, but chromic acid, five or ten grains to the ounce, is believed to be the best of all. The subject of cancer, and the different operations for removal of the tongue are considered in detail.

It is said that illustrations to be of value ought to be read as easily as the text. We think the excellent chromo-lithographs in this volume will bear this test. Mr. Butlin's book is an important addition to surgical literature, not only on account of its intrinsic merit, but also because it treats of the affections of an organ that has been too much neglected.

# Medical and Surgical Journal.

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## FEWER DRUGS.

THE part drugs play in the cure of disease and of the patient — for these are not always the same — is thought by some to be very great, while by others it is held to be next to nothing. Between these two extremes may be found all shades of belief and skepticism; as usual, the truth lies somewhere between these limits, and every practitioner would assign himself a place somewhat different from the one which would be chosen by his colleagues.

That there are drugs which, under proper conditions and with intelligent direction, may be made very serviceable, only those ignorant of their use will deny. That opium, ether, mercury, quinine, digitalis, nitrate of amyl, iron, certain of the cathartics and other remedies may be made to serve useful ends, there is abundant testimony to prove. Why does it so frequently happen that some of these are not intelligently employed and that the wholesale condemnation of drugs is so frequently heard? One reason, among others, may perhaps be found in the fact that the really valuable drugs have to cover the incapacity of numerous inefficient associates, and there is not time for every practitioner to go carefully through the bushel of chaff.

Does it not then become one of the duties of those members of the profession who interest themselves in this side of medicine, to clear out the worthless and doubtful things which encumber our materia medica, and thus bring the better agents more easily within the reach of the practitioner?

It will be urged that there are many remedies considered valuable by some of the profession, which would be discarded by others under those circumstances; we can give ourselves the benefit of the doubt, by getting rid of all such as have not an established reputation. We have an official list of drugs and preparations, including several hundred titles; it is called a pharmacopœia, and although a large number of practitioners are quite innocent of a knowledge of its contents, and there are some to whose ears the name even is foreign, it would seem to offer one means of attacking the problem under discussion. It would not be in-

possible to form a collection of higher average worth than the present pharmacopœia, by eliminating redundant and useless drugs and preparations and adding a very few others. Something of this nature might well be done at the next revision of this book, if physicians would take greater interest in what is already one of the best works of its kind. Let it be recognized, in doing this, that the profession would be better off if they had pointed out to them one or two good remedial agents which they should learn to know intimately, than they now are with a larger number of which they know but little.

Of the great mass of preparations and compounds of uncertain or unknown strength or composition not included in the pharmacopœia, nothing need be said to the readers of this Journal.

We are already sufficiently advanced in therapeutics to be able to substantiate by the experience of many years, or by combined experimental and clinical evidence, the claims of a number of good medicines, and to be able to throw away those unable to show a certificate of respectability.

Nor have we to consider only the older useless drugs; there are a multitude of new ones, or old ones under new combinations, which clamor for attention in the medical journals, or for money in the advertising columns of the medical and daily papers. As regards the former class of new remedies, it would be well for the practitioner to resist the temptation to try every new thing which he reads of, and to accept only those which bring reliable evidence of clinical or physiological worth; and by this is meant something more than a report of one or two successful cases, or an account of a few experiments on animals. So far as the majority of practitioners are concerned, it would in nearly all instances be better to consider all new remedies as worthless until they are forced to admit their value, rather than be too ready to welcome all the drugs which are brought to their notice; and they should recognize that they have not, as a rule, the opportunity or the training necessary to form a just estimate of the merits of most of these novelties, any more than they have time to investigate their physiological action, if this were worth the while. Could we possess in the pharmacopœia a shorter list of higher average merit, it would be possible for physicians to have a more intimate acquaintance with the properties of official drugs, and later of their actions, and not acquire the habit of using too great a variety of remedies carelessly, and thereby learning to believe in too many, or to disbelieve in all.

The reduction in the number of official remedies would not be unacceptable to the pharmacist, who would be required to keep fewer of the drugs which are so seldom employed that they deteriorate before they are sold, and thus, with a smaller number, could afford to have a better quality.

After fewer and better drugs are employed, not only their properties but their action will be more easily kept in mind, and they may be used with greater discrimination and success.

We are tempted to add a word about giving medicines, although this relates to their action as well as to their properties. In many cases a good and sufficient reason for giving a prescription is to help the patient follow accompanying directions about diet or exercise, or to shield the patient from his own or his friends' sometimes absurd whims or advice. Under other circumstances it should be appreciated that more is expected than to prescribe digitalis in every case of rapid pulse, or to give a full dose of opium for every pain; and let us be more familiar with the properties of drugs than to dress a wound with crystals of carbolic acid.

#### THE INFECTIOUS CHARACTER OF GLEET.

At the recent meeting of the German naturalists and physicians, Neisser of Breslau, the discoverer of the gonococcus of gonorrhœa, spoke of the infectiousness of gleet. The urethral discharges known under the name of chronic gonorrhœa, while being always the result of a primary blennorrhagia, may be infectious or not infectious, as is determined by the presence or absence of the gonococcus. The examination, said Neisser, should be repeated for several days in succession, because the gonococcus, almost always few in numbers, may be wanting at the first examination, while it may be found at a second or third.

The true gonococcus cannot be cultivated on gelatine or agar-agar, a characteristic which distinguishes it from other diplococci existing sometimes in the urethra. The true gonococcus is cultivated in the serum of blood, and on potatoes.

Neisser has examined 113 cases of chronic gonorrhœa (duration of the disease from one to eight years), and in 80 cases he has found the gonococcus; in 63 the result was negative. Neisser's conclusions are as follows:

Every case of chronic blennorrhagia ought to be examined relatively to the presence or absence of gonococci.

Cases of chronic urethritis, complicated with alterations more or less grave of the mucous membrane, (erosions, ulcerations, papillomata), require *always* a treatment directed especially to the relief of such pathological conditions, irrespective of the presence or absence of the gonococcus.

In cases where there exists no marked structural changes in the walls of the urethra, the first question to ask, is, whether gonococci are present or not. If they cannot be found, and there are no subjective or objective symptoms of alarming nature, Neisser would abstain from all active interference, for on the one hand, the treatment, no matter what, remains almost always inefficacious, and on the other hand, these urethritides, *not complicated and non-infectious*, persist, often for years, without any troublesome sequel (*sic*). When on the other hand, there are gonococci present, it is necessary to treat the gleet. The best remedial application is that whose parasitical effect is the most certain, and which, at the same time, irritates the mucous membrane the least.

After numerous trials, Neisser prefers irrigations, with a solution of nitrate of silver. I part to 2,000, by means of an elastic catheter, with several openings near the end; these irrigations, he continues till the complete disappearance of the gonococcus. Sometimes considerable perseverance is necessary. It is a mistake to suppose that any *heroic* treatment can more speedily effect a cure; all the art of the practitioner consists in judiciously combining, if necessary, the treatment directed against the gonococcus with that of any structural changes which may exist in the mucous membrane. The internal use of copaiba is a good adjuvant, because its derivations, excreted by the urine, are anti-bacteric, and prevent decomposition of the urine, an important quality in view of a cystitis always possible, and this especially after long continued catheterization.

There seems to be much evidence in favor of regarding the specific nature of the so-called gonococcus, as the essential factor in giving rise to contagious qualities in any urethral or other discharge, but as to its diagnostic value, it should be borne in mind that, according to the most complete investigations, recognition of the gonococcus is not possible merely from observation of its size, shape, and reaction to staining agents.

The following are the statements of Bumm, with regard to this practical point, in his recent work on the gonococcus (*Der Mikroorganismus der Gonorrhoeischen Schleimhaut-erkrankungen*, etc., etc., Dr. Ernst Bumm, Wiesbaden, 1885, Verlag von J. F. Bergmann).

The diplococcus form of arrangement, as well as the biscuit shape, are not characteristic of the gonococcus. Neither is the size any criterion of its nature, for not only does the gonococcus itself vary in dimensions, but there also exist other diplococci of the same size as well as shape. With one exception, all the six varieties of biscuit-formed diplococci, thus far detected in various secretions, and distinguished from the gonococcus by difference of behavior while under artificial cultivation, manifest the same reaction to coloring matters as does the latter.

The striking difference, however, between gonococcus and all other recognized varieties of diplococcus lies in the fact that to the former alone belongs the power of penetrating into living cell protoplasm, within which they are to be seen grouped around the cell nucleus. So far as Bumm's researches have shown, no other similar diplococcus is found to do this, and, therefore, it follows that reliance can be placed only upon the discovery of diplococci which may be incorporated in cells as showing that any secretion is of gonorrhœal nature, and, in consequence, contagious.

#### THE MASSACHUSETTS HEALTH REPORT.

THE health supplement to the sixth annual report of the Massachusetts State Board of Health, Lunacy, and Charity is a volume of nearly four hundred pages, containing the reports of the analysts of drugs and medicines; the summary of weekly mortality returns; the condensed replies of correspondents regarding the

health of towns; papers embodying the results of investigations into the sanitary condition of school-houses and the comparative safety of illuminating gases; the health officer's notes on disinfection and epidemic cholera; and a short paper by Dr. Jones on the "Sanitary Relations of Taunton."

Dr. David F. Lincoln examined 173 schools in 25 cities and towns, and reports at length regarding the sanitary questions suggested by his inquiry, giving 22 plans of schools. His well-known reputation in school hygiene is fully maintained in a careful paper of 92 pages, which we will not attempt to condense, but which we advise our readers to consult for themselves. He shows scientifically how we are sinning towards our children by what Hosea Biglow less elegantly calls "overloading their underpinning."

The exhaustive report on illuminating gas should settle the question of the introduction of water-gas for illumination of houses. The researches of Professor Sedgwick and Professor Nichols indicate that the average percentage of carbonic oxide (the dangerous component of illuminating gas) in coal gas examined from cities and towns in this State in 1884 was 5.53 (limits 3.19 and 6.74) and in water-gas 27.46 (limits 24.47 and 31.52). Their experiments on animals proved its great danger to life, and Dr. Abbott shows that during the years 1865-1877, when water-gas was scarcely used, the annual number of deaths from asphyxia by illuminating gas in cities of the United States was 2+, but in the years 1878-1885, after its introduction, 12+. A similar difference existed between Boston and Baltimore. In Boston, where water-gas is not used, there were four deaths in twenty years, in Baltimore 19, of which 17 occurred in the last three years since the introduction of water-gas for illuminating dwellings.

The one hundred and fifteen pages devoted to the consideration of the laws regarding the adulteration of food, including milk, and of drugs, deal with the reports of a year's doings in that part of the work of the health department which is probably its most useful function at the present time. A general idea of the benefits to the community may be reached from the facts that there were 48 prosecutions during the year, of which all but three were for adulteration of milk, and that 433 warnings were issued to persons selling adulterated articles.

The comparative statement of the mortality in different cities, the notes on disinfection and cholera and the health of towns present many features of interest which may be profitably studied by every local health board in the State.

#### CONTAGIOUS OPHTHALMIA IN NEW YORK SCHOOLS.

DR. RICHARD DERRY recently addressed a communication to the New York Board of Health, in reference to the prevalence of contagious ophthalmia in schools and asylums, in which he gave a report of the action of the New York Academy of Medicine last

spring in appointing a committee to suggest and carry out measures for the efficient control of the disease, and requested that some twenty-five physicians, who had been selected to visit the various institutions, should be appointed sanitary inspectors without pay.

At the last meeting of the Board, Colonel Prentice, counsel to the Board, sent in an opinion on the request of the committee, in which he stated that the appointment of special sanitary inspectors, without pay, would not be proper, and suggested that regular sanitary inspectors should be detailed to accompany the physicians selected, so that the investigation and its results could be reported to the Board. A resolution directing the Sanitary Superintendent to detail two inspectors to accompany the physicians was accordingly adopted.

An energetic effort will be made to have a law passed during the coming session of the New York Legislature which will require an ophthalmic examination of every child entering an institution, and that any affected child shall be kept in quarantine until its eyes are cured.

#### MEDICAL NOTES.

—Prof. A. D. Grinnell, M.D., of the University of Vermont, will give the course of lectures on the Practice of Medicine, at the Long Island College Hospital, the ensuing year.

—The talk of the day: Mrs. A.—"I hear that the Montmacksingtons are going to spend the winter in Paris." Mrs. B.—"Indeed? You surprise me! When were they bitten?"—*Boston Transcript*.

—J. B. Baillière died in Paris on the 8th of November. He was the oldest, and one of the most well-known of the French medical publishers and booksellers. He was eighty-eight years old, and continued in active business up to his death. He had many warm friends in the medical profession.

—The first number of the *New Yorker Medizinische Presse, Organ der Deutsch-Amerikanischen Aerzte*, has reached us, under date of December, 1885. It is the only American medical journal published in the German language. Among its contributors, are Drs. Roosa, Heitzmann, Weber, Mundé, and others, who give it promise of a high standard of medical excellence.

—In an article in No. 41 of the *Lyon Médical*, Dr. Augagneur draws attention to the deplorable condition of the girl apprentices, who, drawn chiefly from the healthy regions of the Alps and Savoy, are subjected to a life of hard labor under the most unsanitary conditions. Overcrowded into small abodes under the *padrones* to whom they have been consigned, they live and sleep in unventilated rooms, passing long hours of labor, even extended sometimes on Sundays, and feed upon a most insufficient diet. The consequence is that the hospital of the Croix Rouge exhibits a greater mortality from phthisis than any other hospital in Europe, a third of its mortality being due to this

cause. Against this state of things no legal remedy exists, the laws which supply inspection and control only having power in the large workshops, and not applying to the wretched abodes in which these girls work.

## BOSTON.

—The latest intelligence regarding the Boston Board of Pension Examiners, is that Dr. J. G. Blake has resigned, and that the Board is organized with Drs. Bartlett, Ahearn, and Prince.

## NEW YORK.

—A reception was held at the new Manhattan Hospital, at 10th Avenue and 131st Street, on the evening of December 12th, and the buildings were opened for patients on the 14th. By a recent fair at the University Club Theatre, the sum of \$10,000 was raised by the Ladies' Association for the institution. It is the only general hospital north of the city reception hospital at 99th Street, and has grown out of a free dispensary service which has been maintained in the neighborhood for over twenty years.

—The eighteenth anniversary of the Presbyterian Hospital was held December 13th, when the report showed that during the year past, 1,041 male and 406 female patients were admitted, making, with those remaining from the previous year, 1,535 treated, of whom 102 died. A large addition to the buildings, with an out-patient department, is in contemplation.

—A medical students' missionary conference was held in the hall of the Young Men's Christian Association, December 13th, and among the speakers were Professors C. R. Agnew and W. H. Thomson. The Rev. Dr. Hopper, of Canton, said that there were now eighteen hospitals and twenty-four dispensaries in China, which have been founded by medical missionaries, the oldest of which was established in Canton, in 1835.

—Charles Kaufman, of Franklin Township, New Jersey, sailed for France December 16th, in order to be treated by Pasteur. Dr. O'Gorman, of Newark, having provided him with the necessary funds. He was bitten by a dog supposed to be mad, as long ago as November 21st, so that, at least, thirty-five days will have elapsed before he will be in Paris. A veterinary of Newark, who was bitten by a pug dog which was brought to him for treatment, and was afterward found to have rabies, has also been solicited to go to Pasteur, but refuses. As soon as he received the bite, he heated a poker and thoroughly cauterized the wound. A case of probably spurious hydrophobia in a girl of ten years, is reported from Port Jarvis, N. Y. The symptoms came on ten days after she was bitten by a dog which has not proved to be mad, and, according to the last accounts, the child's condition was improving.

—Dr. H. M. Biggs, who recently started for Paris, did not go in company with Dr. Billings and the Newark children, but independently, as a representa-

tive of the Carnegie Laboratory, and he will visit Koch's Laboratory, in Berlin, before his return. All the expenses of his trip are to be borne by Mr. Carnegie, who has also recently given \$6,000 for the purchase of additional apparatus for the Laboratory which bears his name.

—Quite a number of cases of trichiniasis have occurred among a party who partook of slightly-cooked ham at a supper on Thanksgiving Eve. Several members of one family, who are now under treatment at the Trinity Infirmary, in Varick Street, are likely to die of the disease; but of eight or ten other persons who have been suffering from it, all have recovered but one, who is seriously ill at the New York Hospital. The most severe cases seem to have been among those who ate slices of the ham cut from near the bone; while several individuals who ate from the outside portions escaped entirely.

—Dr. Edson, of the Health Department, recently seized, at the West Washington Market, the carcasses of eighteen hogs which had died of hog-cholera.

—Cases of small-pox and other contagious diseases will now no longer be received on Blackwell's Island, but will be sent to the new hospitals which have been erected on North Brothers' Island.

—Diphtheria has been somewhat on the increase in the city since the first of October. During the week ending December 12th, eighty-seven cases of it, and forty-four deaths, were reported.

—A somewhat virulent outbreak of scarlet fever has occurred at Marion, a suburb of Jersey City, and it is charged that the school which all the children attacked attended has been in an unwholesome sanitary condition. There seems to be no doubt, at all events, that the place was greatly overcrowded.

—Both the Board of Trustees and the Faculty of the College of Physicians and Surgeons have passed appropriate resolutions in regard to the death of Mr. Wm. H. Vanderbilt. Among the numerous charitable bequests of the deceased millionaire, are \$100,000 to St. Luke's Hospital, and \$50,000 each to the Home for Incurables and the New York Christian Home for Intemperate Men. The largest bequest is \$200,000 to the Vanderbilt University at Nashville, Tenn.

## ASPIRATION OF THE AORTA.

The following remarkable case and operation are reported in the *Bristol Medico-Chirurgical Journal* for September, by Mr. J. Dacre, as follows: A laborer, aged forty, was brought to the Infirmary suffering from extreme dyspnoea and cyanosis. He had no enlargement of the superficial veins in the neck or arms, the heart-sounds were inaudible, nor could the impulse be felt, the breathing was slow, shallow and gasping, and the conjunctivae were insensitive. Under these circumstances, it was decided to try and relieve the heart by tapping the right auricle. A medium-sized needle was accordingly inserted in the fourth intercostal space on the right side, close to the sternum, and when in the

chest, the point was turned sharply inwards under the sternum, and pushed on for an inch and a half, when it was felt to be in a cavity, but there was no impulse. On removing the needle, black blood flowed freely through the canula, and the heart's action was so far restored as to communicate an impulse to the syringe; when sixteen ounces had been drawn off, there was a very fair pulse at the wrist; in five minutes, thirty ounces had been withdrawn, and the operation was then stopped; no hemorrhage took place through the puncture. The lividity was much diminished, he became conscious, breathed more readily, and was able to speak. A few minutes later he became very restless and his pulse failed; this, however, was relieved by the hypodermic injection of ether, and for the next few hours, he went on fairly well.

Six hours after the operation, his condition having again become very serious, he was tapped a second time, the needle being inserted at the same spot, and in the same manner as before; sixteen ounces of venous blood were removed, and for a few minutes the pulse revived. He then became more restless than ever, complaining of feeling very hot, and in spite of stimulation, he gradually sunk, and died in about forty minutes from the time of the second operation. At the *post mortem*, it was found that the needle had passed immediately above the right auricular appendix, and had pierced the anterior surface of the aorta, about a quarter of an inch above one of the semilunar valves. The author concludes his paper with some remarks on the advisability of cardiacentesis, and observes that the auricle would have been reached in this case if the needle had been passed in directly backward.

#### THE ANNUAL REPORT OF THE COLLEGE OF PHYSICIANS OF PHILADELPHIA.

At the December meeting of the College, the standing committee presented their annual reports.

The *Library Committee* reported that the library now contains 33,686 volumes and 1,393 unbound pamphlets, an increase in the year of 2,592, as compared with 1261 in 1884, and 869 in 1883.

The books are classified as follows:

General Library . . . . .	18,069
Lewis Library . . . . .	8,736

On special deposit:

Mütter Museum . . . . .	86
S. D. Gross Library . . . . .	5,130
The Hodge collection . . . . .	1,665

Total . . . . . 33,686

The library is in receipt of 184 current periodicals devoted to medicine and the collateral sciences.

The number of books taken out during the year, not including the large number which have been consulted in the rooms, was 1,231. In the General Library, all the books are catalogued with the exception of the dictionaries, journals, reports, and pamphlets. In the Lewis Library, all the books are catalogued to date.

During the year, additional bookcases were erected in the large hall, affording accommodations for about 2,600 books. These cases are now full.

The *Committee on the Directory for Nurses* reported that the number of nurses registered December 1, 1884, was 419. The present number is 475, showing a gain of 56. During the year, the loss by dismissal,

resignation, death and removal, was 18. The number of applicants for registration was 118, of whom only 68 were registered.

The largest number of nurses sent out in any one month, was in January, 1885, 119; the smallest in August, 47. The total number of nurses supplied during the last four years, has been in 1881-82, 342; 1882-83, 733; 1883-84, 913; 1884-85, 1,003.

Seventeen wet-nurses were furnished during the year.

The committee has recently assisted the New York Academy of Medicine in establishing a similar directory for nurses in that city.

### Correspondence.

#### DR. FIFIELD'S ATTACK ON THE MASSACHUSETTS MEDICAL EXAMINER SYSTEM.

BOSTON, Dec. 21, 1885.

MR. EDITOR,—The following letter from the Hon. Clark Bell, of the New York bar, is the spontaneous expression of a gentleman who knows wherof he speaks. I think that those of your readers who have taken an interest in the recent discussion concerning medical examiners will appreciate the disinterested testimony which this letter contains, and therefore I submit it to you for publication.

Very truly yours,

F. W. DRAPER.

NEW YORK, December 19, 1885.

DEAR DOCTOR DRAPER,—I have read Dr. Fifield's paper with astonishment. He seems by it not to know much about medical examiners, nor the work of these men as a body. Conceding that the coroner system was rightfully displaced in Massachusetts, does he seriously desire "that this should pass away and give place to something better?"

The question of how medical examiners should be appointed was always a doubtful one with me. I never dared to recommend in this State appointments by the Governor. It would be next to impossible here to keep it out of the mire of politics, but in Massachusetts it has worked admirably. I sat at table with Governor Long and discussed this with him, at your State Medical Banquet, some years ago. The selections were, from my standpoint, admirable, and the best that could be made. I feel sure that your governors have earnestly endeavored to find and name the best men. When you contrast these selections with the old coroners, as to fitness, efficacy, and practical capacity for the work, the gulf is as wide as that which divided Lazarus from the rich man!

Shall we condemn a system on eight years' trial, that has made such tremendous advance as the Massachusetts system has, and which has engaged the thoughtful attention of publicists in every American State, and excites the attention of our British friends?

Dr. Fifield does not comprehend the spirit or the philosophy of your State Act. The medical examiner should be the arbiter of only the medical questions involved. The Court and District Attorney with you represent the legal side. Under the French system, the *Procureur du Roi*, is the judicial mover and prosecutor, before the Tribunal, and he has enormous power. The medical officer, however, is supreme there within his domain. Both work in union and for a common end. The *expert* is a third factor there, a recognized element, and he is under the control of the legal official, what we call the detective, but what in France is one of the essential elements used in the detection of crime.

If your law is to be amended, it should enlarge, rather than contract the powers of medical examiners. They should be compelled by law to make an autopsy, if the slightest reason existed for even suspicion or doubt as to the cause of death.

It is too absurd for discussion that the District Attorney, mayor or selectmen must be consulted even, much less consent, before an autopsy be made.

The propriety of an autopsy is a medical question, not a legal one, and the medical man cannot be held to too great responsibility in this regard. Tying his hands because it costs thirty dollars, is an economical idea unworthy of Massachusetts.

The system in Massachusetts, though new, is marvelously successful. It challenges the admiration of us all. It is wonderful how few defects experience detected in its practical operation in the State.

Let Dr. Fifield learn not only how many medical examiners there are in Massachusetts, but the work they are doing and have done. Show him and the medical profession, and if needs be the public, the magnificent data I saw in their elaborate and technical reports. There is no such information given in this minute detail in any country in the world.

I have looked upon the action of your State as highly commendable, as an enormous step upward and forward, and I see nothing in the paper of Dr. Fifield which should justify the withdrawal of my confidence in the Massachusetts Medical Examiner, or in the method of his appointment, so far as your State goes.

No one would hesitate at all to second any movement calculated to elevate the standard of medical examiners. I do not object to the closing substitute of Dr. Fifield as to qualifications. Let your medical colleges take higher standards on teaching Forensic medicine than many of them do.

The American colleges have much more to answer for, from their neglect of properly teaching medical jurisprudence than the medical examiners of Massachusetts as a body, as I know them, have for want of ability and capacity for the proper discharge of duty. They are singularly well equipped for their work, and the Massachusetts Medical-Legal Society, by its useful labor and co-operation has supplied a serious defect in Massachusetts medical education (which is not, however, behind other States by any manner of means) by forming and enforcing a general plan of practical discharge of duty, which, whenever it is brought to public attention will challenge the admiration of all competent to judge concerning it.

Please excuse this long and hastily written note, which you can use before your society or otherwise, as you deem best, on this discussion. I am, dear doctor,

Very faithfully yours,

DR. F. W. DRAPER, CLARK BELL.  
36 Worcester Street, Boston, Mass.

# REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 12, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	611	237	20.64	16.48	3.12	1.28	10.88
Philadelphia . . . . .	927,985	311	85	9.92	16.96	.32	1.60	6.72
Brooklyn . . . . .	644,526	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	390,106	143	47	9.80	14.00	—	2.10	4.90
Baltimore . . . . .	408,520	132	40	15.20	10.64	—	1.32	8.36
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	—	—	—	—	—	—	—
New Orleans . . . . .	234,000	124	33	11.34	13.77	—	1.62	5.67
Buffalo . . . . .	201,000	—	—	—	—	—	.02	—
District of Columbia . . . . .	194,310	83	23	15.60	11.80	—	3.60	9.60
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	113,405	—	—	—	—	—	—	—
New Haven . . . . .	62,882	—	—	—	—	—	—	—
Nashville . . . . .	64,400	19	2	26.50	5.26	—	—	5.26
Charleston . . . . .	52,286	39	11	7.68	17.32	—	—	2.56
Lowell . . . . .	64,051	19	4	5.26	26.30	—	—	—
Worcester . . . . .	68,383	22	6	13.66	18.22	—	—	—
Fall River . . . . .	66,803	20	5	15.00	25.00	—	9.11	—
Cambridge . . . . .	59,600	32	8	12.52	9.39	—	5.00	5.00
Lawrence . . . . .	38,825	7	3	—	14.28	—	3.13	9.39
Lynn . . . . .	45,861	12	3	—	16.66	—	—	—
Springfield . . . . .	37,577	17	6	35.28	16.66	—	—	—
Somerville . . . . .	29,992	—	—	—	—	—	—	—
Holyoke . . . . .	27,804	—	—	—	—	—	—	—
New Bedford . . . . .	33,333	13	7	15.38	15.38	—	—	—
Salem . . . . .	28,084	8	—	—	12.50	—	—	12.50
Chelsea . . . . .	25,704	8	2	12.50	12.50	—	—	—
Taunton . . . . .	23,674	9	—	11.11	—	—	—	—
Gloucester . . . . .	21,713	10	5	10.10	10.00	—	—	10.10
Haverhill . . . . .	21,795	—	—	—	—	—	—	—
Newton . . . . .	19,759	5	1	—	40.00	—	—	—
Brockton . . . . .	20,783	5	3	—	40.00	—	—	—
Malden . . . . .	16,107	5	2	—	—	—	—	—
Newburyport . . . . .	15,717	6	2	33.33	—	—	—	33.33
Waltham . . . . .	14,093	4	1	—	50.00	—	—	—
Pitchburg . . . . .	15,375	—	—	—	—	—	—	—
Northampton . . . . .	12,896	3	—	—	33.33	—	—	—
86 Massachusetts Towns . . . . .	—	46	25	—	—	—	—	—

Deaths reported 1,730; under five years of age 551; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fever, and diarrhoeal diseases) 259, consumption 250, lung diseases 188, diphtheria and croup 133, typhoid fever 27, whooping-cough 24, diarrhoeal diseases 22, malarial fever 19, scarlet fever 19, cerebro-spinal meningitis eight, measles three, erysipelas three, typhus fever one. From diarrhoeal diseases, New York 12, New Orleans four, Nash-

ville two, Boston, Charleston, Fall River and New Bedford one each. From malarial fever, New York seven, Baltimore six, New Orleans four, Philadelphia District of Columbia and Charleston one each. From scarlet fever, New York and Springfield four each, Boston three, Philadelphia and Baltimore two each, District of Columbia, New Bedford and Chelsea one each. From cerebro-spinal meningitis, Nashville and Springfield two each, New York, Worcester, Lowell and Taunton one

each. From measles, New York three. From erysipelas, New York three. From typhoid fever, New York one.

In 103 cities and towns of Massachusetts, with a population of 1,260,308 (population of the State 1,941,465), the total death-rate for the week was 16.26 between 14.33 and 18.48 for the previous two weeks.

For the week ending November 28th, in the Swiss towns, there were 38 deaths from consumption, lung diseases 19, diarrhoeal diseases 12, diphtheria and croup six, typhoid fever two, small-pox and whooping-cough each one.

The death-rates were: at Geneva 18.2; Zurich 19.4; Basle 9.1; Berne 26.2.

The meteorological record for week ending December 12th, in Sergeant O. B. Cole of the United States Signal Corps:—

Week ending Saturday, Dec. 12, 1885.	Barom- eter.	Thermometer.			Re-lative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.		
	Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration Hrs. & Min.	Amount in Inches.
Sunday, ... 6	29.602	27.3	33.0	21.7	59.0	49.0	76.0	61.3	W.	S.W.	W.	16	18	10	C.	C.	C.	—	—
Monday, ... 7	29.800	18.1	31.8	15.3	45.0	36.0	48.0	43.0	W.	W.	S.W.	34	32	14	C.	C.	C.	—	—
Tuesday, ... 8	30.252	25.4	31.8	12.0	52.0	57.0	81.0	63.3	W.	W.	S.W.	14	16	3	C.	C.	C.	—	—
Wednesday, ... 9	29.864	56.1	61.5	29.9	85.0	94.0	91.0	90.0	S.W.	S.W.	S.W.	19	19	22	24	O.	O.	—	—
Thursday, ... 10	29.757	52.4	61.4	39.2	92.0	98.0	53.0	67.7	S.W.	N.W.	N.W.	16	17	16	O.	O.	O.	—	—
Friday, ... 11	30.204	32.8	41.3	29.6	66.0	45.0	68.0	59.7	W.	N.W.	W.	12	20	17	C.	F.	C.	—	—
Saturday, 12	30.639	30.1	36.0	25.0	65.0	65.0	61.0	63.7	W.	N.W.	E.	10	8	Light	F.	C.	C.	27.5	0.19
Mean, the Week.	30.026	34.8	45.3	22.9			66.9												

<sup>1</sup> O., cloudy; C., clear; F., fair; G., fog; H., hazy; S., smoky; R., rain; T., threatening.

#### OFFICIAL LIST OF CHANGES OF STATIONS AND DUTIES OF MEDICAL OFFICERS OF THE UNITED STATES MARINE-HOSPITAL SERVICE FOR THE WEEK ENDING DECEMBER 12, 1885.

YEMANS, H. W., passed assistant-surgeon. Granted leave of absence for fifteen days, December 7, 1885.

BRATTON, W. D., assistant-surgeon. When relieved to proceed to San Francisco, Cal., December 12, 1885.

NORMAN, SEATON, assistant-surgeon. Appointed an assistant surgeon, December 11, 1885. Assigned to duty at New York, N. Y., December 12, 1885.

#### SOCIETY NOTICES.

The first meeting of the Alumni Association of the Woman's Hospital in the State of New York, will be held at the New York Academy of Medicine, Wednesday, January 20, 1886. The order of exercises will be as follows: Morning Session, 9.30 A.M. to 1 P.M.; 9.30 to 10 A.M., Calling of the roll, Address of the Chairman. 10 to 11 A.M., "The Treatment of Cancer of the Uterus; High Amputation vs. Total Extirpation," by Dr. William H. Baker, of Boston. 11 to 12 A.M., "The Use of the Uterine Dilator in the Treatment of Dysmenorrhoea, and as an aid in Intra-uterine Therapeutics," by Dr. W. Gill Wythe, of New York. 12 A.M. to 1 P.M., "Local vs. General Treatment in Gynecology," by Dr. Andrew F. Currier, of New York. Afternoon Session, 2 to 5 P.M.; 2 to 3 P.M., "The Non-Surgical Treatment of Anterior Displacement," by Dr. P. H. Ingalls, of Hartford. 3 to 4 P.M., "A Brief Study of the Causes of Retroflexion and Prolapse of the Uterus," by Dr. George T. Harrison, of New York. 4 to 5 P.M., "The Exaggerated Importance of Minor Pelvic Inflammations," by Dr. Henry C. Cog, of New York. Business and Social Meeting at 8 P.M.

NORFOLK DISTRICT MEDICAL SOCIETY.—A meeting for Scientific Improvement will be held at Room 7, Palladio Hall Building, corner of Warren and Dudley Streets, Roxbury, on Tuesday, December 20th, at 7.45 P.M. Communications: I. "Arsenic Poisoning," by Joseph Stephan, M.D. II. "A Case of Multiple Sarcoma of the Skin," by C. A. Clever, M.D. III. "A Case of Femoral Aneurism," by C. A. Benis, M.D. Particular attention is called to the place and time. A cordial invitation is extended to members of other Districts to be present at the meetings of the Norfolk District, and participate in its discussions.

S. ALLEN POTTER, M.D., Secretary.

#### DEATH.

Died in Boston, December 15, 1885, Frederick Howard Lombard, M.D., M.M.S.S., aged thirty-three years.

#### OBITUARY.

The death of Dr. John W. Sawyer, late superintendent of the

In the 28 greater towns of England and Wales, with an estimated population of 8,006,440, for the week ending November 28th the death-rate was 21.3. Deaths reported 3,633; infants under one year of age 901; acute diseases of the respiratory organs (London), 480, measles 120, whooping-cough 90, scarlet fever 42, fever 43, diarrhoea 49, diphtheria 35, small-pox (Liverpool two, London and Birkenhead one each) four.

The death-rates ranged from 14.9 in Leicester to 34.3 in Preston; Birkenhead 17.4; Birmingham 21.6; Bradford 19.5; Brighton 28.2; Leeds 18.5; Liverpool 23.8; London 20.6; Manchester 23.0; Nottingham 25.7; Sheffield 18.8.

In Edinburgh 21.7; Glasgow 26.8; Dublin 25.1.

Boston, was as follows, according to observations furnished by

Butler Hospital for the Insane, at Providence, R.I., will cause wide-spread regret. Dr. Sawyer was a specialist of approved ability and most valuable experience, and he performed his delicate duties in a manner acceptable to all who came within his care. He was for many years a witness in very many of the cases here the Rhode Island courts in which the question of sanity was raised, and his views were always received with the highest regard. He was of mild, winning and gentlemanly, yet, when necessity required, of firm disposition. His death was due to blood poisoning.

#### RESOLUTIONS.

At a meeting of the Boston Medico-Psychological Society, held on the evening of December 17th, the following resolutions were unanimously passed:—

*Resolved.* That in the sudden and unexpected death of Dr. John W. Sawyer, superintendent of the Butler Hospital for the Insane, the medical profession has lost a most valuable member; the hospital over which he presided a careful, able and conscientious executive, and the insane an untiring, faithful, and trusted friend.

A man of few words, he seemed thereby to gain added strength for deeds, and though his death occurred at a comparatively early age, he had already accomplished the work of an ordinary life-time.

*Resolved.* That the secretary be instructed to transmit this expression of sympathy of the Society to the family of the deceased, and cause the same to be published in the *Boston Medical and Surgical Journal*.

WALTER CHANNING, M.D.,  
THO. W. FISHER, M.D.,  
Committee for the Society.

#### BOOKS AND PAMPHLETS RECEIVED.

Erysipelas of the Larynx and Pharynx. By D. P. Ryan Delavan, M.D., New York. Read before the American Laryngological Association, June 21, 1885. (Reprint from the New York Medical Journal, September 12, 1885.) New York: D. Appleton & Co. 1885.

Sixth Annual Report of the State Board of Health, Lunacy and Charity of Massachusetts. Supplement containing the Reports and Papers on Public Health. Boston: State Printers. 1885.

Report on Ophthalmology. Read before the California State Medical Society, April, 1885, by A. M. Wilder, M.D., Late Surgeon and Brev. Lieutenant Colonel, U. S. Army, etc. (Reprint from Transactions of Medical Society of the State of California.)

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## Lecture.

## MULTIPLE ABSCESS OF THE BRAIN.—CEREBRAL SYPHILIS.

A CLINICAL LECTURE DELIVERED AT THE HOSPITAL OF THE UNIVERSITY OF PENNSYLVANIA.

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GENTLEMEN, the first portion of the hour will be devoted to the discussion of an exceedingly interesting case, the specimens from which are on the table. The patient was before you on, at least, two occasions during life. I showed him to you last week, in a condition of profound stupor. As you will see shortly, the diagnosis made during life, was, in a measure, incorrect, while, at the same time, it was, in a measure, correct. The case illustrated very well the limits of exactness in the diagnosis of disease of the brain.

Before referring to the specimens, let me refresh your memories by giving a sketch of the history of the patient. The man was admitted to the wards of the hospital on October 15, twenty-one days ago. He was about twenty-one years of age. His mother stated that he had never been sick until last January, at which time he was stabbed in the left side, and was an outpatient at the Pennsylvania Hospital for three weeks. The mother stated that during February, he was sick in bed with erysipelas of the face, but he denied this, and there was some doubt about the statement. At the time of my diagnosis, I did not believe that he had had erysipelas. In May, he was well enough to work, and worked for several weeks. About this time, however, he began to have some kind of fits. These attacks seemed to be worse, according to his statement, during warm weather. He had intervals lasting several weeks, in which he was free from the fits, and in which he was able to attend to his work, that of a brick-maker. The convulsions lasted about five minutes; and he could not tell when they were coming on. There was no aura.

September 30th, he had an attack of partial paralysis of the right side of the body and of the face, associated with convergent squint. According to his statement, there was, at this time, some difficulty with speech.

He had gradually lost the power of walking, so that, when admitted to the hospital, he walked very little. He said that he had suffered with severe pains in the limbs, and also in the head, and that he had frequently vomited. During the two weeks preceding admission to the hospital, he had vomited nearly every day. There was no trouble with the bladder. It was affirmed that during September, he had lain for two weeks in a condition of great stupidity, but could be aroused to answer in monosyllables. There is also a note in the record of the dispensary, which states that on August 10th, a soft swelling, resembling a gumma, was observed, and that this disappeared while the man was taking iodide of potassium, thus confirming the suspicion of the physicians in the dispensary, that the man had syphilitic disease. The nature of this swelling, in the light of recent developments, remains obscure.

When the man came into the hospital, he was in a very stupid condition, answering questions very slowly and imperfectly, and only after he had been aroused by shouting and shaking. He lay with his eyes half closed, paying no attention to what went on around him. The right arm and right leg were partially paralyzed,

and he was scarcely able to move the arm. Sensation was blunted on the same side, but not to any great degree. The man could walk a little, but with a limping, halting gait. The sight was much impaired, the pupils somewhat dilated and sluggish. There was convergent squint. The tongue was protruded to the right, and the right side of the face was paralyzed.

You will remember that in this case, the diagnosis of cerebral syphilis was reached, but of this more anon. I mention it simply to show the reason for the treatment. He was at once put on small doses of calomel. Two days later, he seemed brighter, and answered questions when spoken to, in an ordinary tone of voice. He had, about this time, a slight convulsion, which was confined to jerking of the right arm. According to the best information we could obtain, there was, during this attack, no movement of the face and no loss of consciousness. Examination of the eyes with the ophthalmoscope, showed excessive choked discs on both sides, indicating either meningitis or great brain pressure. Under the continued use of calomel, the man continued to improve until his recovery was expected, but on the evening of October 19th, at 11 p. m., his temperature went up to 101.4. The morning and evening temperature had previously been normal. Slight twitching and jerking of the left shoulder was now noticed. He seemed a little duller, and did not answer questions so readily. The pupils were contracted and fixed to light. On the 20th, he had another slight convulsion. Again, under the use of mercurials, amelioration was secured, and on the 27th, the man talked perfectly plain, his temperature was normal, the pulse was rather strong, from 96 to 100 per minute, and the respirations normal. The right side of the face moved to a certain degree at this time, and the right arm and leg could be used better than at any time since admission. On October 30th, he was noticed to be getting more drowsy and heavy towards evening, but the change was not sufficient to attract much attention. During the night of October 31st, he became rapidly comatose, and at five o'clock in the morning, he had a convulsion, which is said not to have been severe. You saw him later on the same day, perfectly unconscious, not being aroused by shaking or shouting, and he died a few hours later. During the last hours of life, the temperature rose rapidly, reaching 105°.

I have, perhaps, given you the features of this case too much in detail for you to carry them in your mind. Let me, therefore, briefly sum up the facts in this case. The man, having previously been in perfect health, was stabbed in the left side in January of this year. Some weeks later, he has an attack of erysipelas of the head, keeping him in bed some weeks. He recovers and goes to work. In May, he is suddenly seized, without any warning or any apparent cause, with a convulsion. These convulsive attacks continue to recur through a number of months, occurring at irregular intervals, and apparently epileptiform in character, although there is reason to believe that the right side was especially affected. The man suffers from severe headache and spells of vomiting, grows more and more drowsy, and becomes stupid, and exhibits, to a certain extent, that peculiar somnolence which is so frequently seen in cerebral syphilis. He is admitted to the hospital, becomes almost comatose and partially hemiplegic, receives mercurial treatment, and under this, the mind clears up, and he appears to be getting well, but suddenly relapses, in the course of one night, into a coma

tose condition and dies the following day, death being preceded by a marked rise in temperature.

I regret to say that, in making the autopsy of this case, we were compelled to confine our examination to the head. On opening the cranium, it was noted that there was no marked effusion anywhere; that the membranes were intensely congested, and that the dura mater was entirely free from adhesion to the skull, except in one locality, to which I shall refer later. Here it was attached to the skull above and to the brain below. Then we noticed that over the whole vault of the cranium, the arachnoid and pia mater were closely coherent to the surface of the brain. They could not be removed without tearing the brain structure. They were also distinctly thickened. Turning the base of the brain upwards, the sulci and fissures were found to be completely obliterated by exudation. There was also considerable exudation at the base of the brain, and involving the optic tracts.

Finding this condition, I said to myself, the diagnosis was correct, for this is what we expect to find in syphilis of the brain. My self-congratulation, however, received quite a shock, when, on plunging a knife into the left hemisphere, a stream of pus gushed forth. Two or three ounces of pus escaped from the centre of the brain. The incision into the brain was then enlarged, and it was found that the lateral ventricle of the left side had been filled and its walls destroyed by this collection of matter. Further examination showed that the pus had been confined in a sac located in the parietal lobe, and that the destruction of brain tissue in the neighborhood of the ventricle was due to the rupture of this sac into the ventricle. The sac of the abscess had been almost completely dissected out by the discharge of its contents, so that it lay in this cavity, attached only at its lower portion. I now show you the sac. At its lower portion, is a little tumor which I have not yet opened, about the size of a large hickory nut. I now incise it, and, as you see, pus escapes.

As can be readily seen, the abscess within the brain did not come within one inch of the point where the membranes were adherent at the vault of the skull, and it seemed curious that there should have been a localized meningitis in that situation. However, on cutting into this point, a third abscess was found immediately below the thickened membranes. We had then a case of chronic abscess of the brain, with three abscesses, all situated in the left hemisphere.

I wish to say a few words in reference to the bearing of this case on diagnosis. We had positive evidence of the existence either of meningitis or of some gross lesion of the brain, which was accompanied with increased pressure in the general symptoms of headache, hemiplegia, localized convulsions, and especially, in the double-choked discs. This so-called descending neuritis, or choked disc, comes from one of two brain conditions. It is either the result of meningitis, especially of the base, or it is dependent on some disease which increases enormously the brain pressure. It has been found in abscess of the brain, in two classes of cases; one in which with the abscess there is meningitis, in the other, in which there is no meningitis; in other words, either inflammation of the meninges, or increase of the general brain pressure is enough to produce choked disc. I have seen unmistakable choked disc in one or two cases, in which I believe the disease was local, and in which, after watching the cases for many months, I was unable to find any brain symptoms.

Where, however, along with choked disc, there are marked symptoms of brain disease, there is positive proof either of meningitis or some disease of the brain, associated with increased brain pressure.

When I made the diagnosis before you, I told you that I was certain, up to this point, that there was some gross brain lesion, which was focal in its nature. The next question that arose was as to the nature of this lesion. In order to determine that, we had to judge from the history of the case and the general course of the symptoms. Whenever you go beyond the point of determining that there is a focal lesion, and undertake to say what the nature of that lesion is, you are getting into a region of doubt, and every now and then, must come to an erroneous conclusion.

We seemed to have, in this instance, a history of gumma of the scalp. We had the symptoms coming on in a man known to be lewd, and who had been exposed to the contagion of syphilis. We could, however, obtain no history of syphilis from the man himself. In the immense majority of cases, where there is a focal lesion of the brain, developing slowly in a young person, it is due to cerebral syphilis. From the evidence at our command, we came to the conclusion that this was probably a case of that character. When the man improved under antisyphilitic treatment, we were confirmed in our error.

The correct diagnosis in such a case as this ought to be reached during life, if the history is perfectly clear. If we could have relied on the statements of the man and his friends, it should have been made. The father insisted that the head trouble was the result of the stab on the side, but it seemed to me incredible that the lesion, which I considered to be due to syphilis, could be dependent on this injury, and the intercurrent erysipelas attack I only knew of after the death. If there had been a history of traumatism to the head, the diagnosis of abscess would undoubtedly have been made. Where there are symptoms of focal lesion following cephalic traumatism, either immediately or at a long interval, the probability of abscess is to be borne in mind. The abscess may first appear a long time after the injury supposed to cause it. There are cases on record, seemingly well authenticated, in which the symptoms have not appeared until fifteen or twenty years after the injury. In this case, however, no history of traumatism of the head could be elicited, and the diagnosis of cerebral syphilis was made.

Cerebral syphilis was perfectly competent to account for most, if not all, the symptoms in this case. The symptoms in a focal lesion of the brain are not the result of the nature of the disease, but are dependent on the seat of the lesion. If there had been a rapidly developing syphilitic tumor at the position of the abscess, there would have been similar symptoms. But on thinking over the case since the man's death, it has occurred to me that in the hundreds of cases of cerebral syphilis which have passed under my care, not once (so far as my memory or notes go), have vomiting spells, similar to those which this poor man suffered, been present.

Another point of great interest, which presents itself, is in reference to the cause of the abscess. Abscess of the brain is almost invariably the result of septic poisoning, or of traumatism. The books speak of embolism as a cause of cerebral abscess. I believe that embolism never produces abscess of the brain, unless the embolus be loaded with septic poison. If

the embolus simply blocks an artery, the result is simple softening. If, however, the infarct is poisoned, it excites inflammation, and becomes the centre of an abscess. Possibly there is such a thing as idiopathic abscess of the brain, but such a condition must be exceedingly rare; and after all, gentlemen, the more we know of medicine, the more we see that idiopathic local diseases are always rare. A boil comes on a man's arm, and we call it idiopathic, because we do not see the reason for it. We say that it is self generated. It is probably not so at all. It has come on the arm because there has been something in the nervous condition of the part which has led to this local manifestation. Abscess of the brain is probably always the result of traumatism, or of some blood condition. Septic abscesses are rare. They are usually acute, but not always. They are not uncommonly multiple. Abscesses, the result of traumatism, are usually single.

With the history of the man's attack, as we had it from himself and from his parents, and with the existence of three abscesses within the brain, I think that we are thoroughly warranted in considering the case one of septic brain abscess. When a septic abscess is acute, it softens the brain rapidly, producing an acute encephalitis, and the brain becomes more or less infiltrated with pus. Where, however, the abscess is sacculated, the symptoms are always latent, and the disease runs a long course. The man in this case undoubtedly died from the rupture of the abscess into the left ventricle.

It will also be interesting to consider for a moment why the man improved under antisyphilitic treatment. Bear in mind that in this case, as in many other cases of brain abscess, there was also diffused meningitis. When the man was admitted, his stupor was the result of cerebral congestion, and there probably was some oedematous exudation due to the congestion. Both the congestion and oedema were as much dependent on the meningitis as on the abscess. We gave mercury, and under the influence of this remedy, there was lessening of the inflammatory process, and a partial clearing up of the mental condition. The last overwhelming coma was the result of the tearing out of the whole interior portion of the left hemisphere, by the pus of the bursting abscess.

Of course in a case like this, there is no treatment. If the abscess is located in a portion of the brain where its position can be localized with considerable exactness, it may possibly be justifiable to trephine the skull, and try to evacuate the pus. In a large majority of cases, however, of local brain disease, it is impossible to say, with absolute certainty, where the lesion is located. It could not have been diagnosed in this case. We knew that the man had a lesion somewhere, either in the central portion of the brain, or in the neighborhood of the ascending frontal convolution. In many of these cases, as in the present one, the symptoms of meningitis largely overshadow and mask the symptoms due to the local disease.

#### CEREBRAL SYPHILIS.

I shall now bring a patient before you, and shall make the same diagnosis which proved faulty in the preceding instance, and shall give you my reasons for so doing.

The following is the story which we have obtained, but the man's mental condition is such that we cannot implicitly rely upon his statements. It is said that up

to Friday, October 23d (two weeks ago), he was perfectly well. At any rate, he was able to work in a stone-quarry on this day. He states that while working, he felt bewildered, things swam before him, and he sank unconscious on a heap of stones. An important point is, that the man was picked up unconscious, but during the ride to the hospital in the ambulance, regained consciousness. At this time there was no hemiplegia. There was not the paralysis of the left side which is now present. The following day it was observed that the left side was partially paralyzed, and this was gradually increased. Examination of this man's eyes revealed no choked discs, but remember that while the presence of choked discs is of value, its absence is of no importance from a diagnostic standpoint. In one case, in which I had diagnosed brain tumor, the eyes were examined by a distinguished ophthalmologist, and nothing abnormal was found. The following day the man suddenly died, and the autopsy showed a tumor as large as a hen's egg. Therefore, I say that while the presence of choked discs is of great importance in diagnosis, its absence is of little significance.

Although this man has no choked disc, yet he undoubtedly has a focal lesion. He undoubtedly has hemiplegia, of brain origin. He has heaviness of mind, sluggish pupils, somewhat dilated. Hemiplegia produced by other than focal lesion of the brain is exceedingly rare. Having also other symptoms of brain implication, there can be no question as to the cerebral origin of the paralysis.

We next consider the probable nature of this lesion. The first thing that would suggest itself would naturally be that the man had a stroke of apoplexy, and that he fell with a clot in his brain, and that the hemiplegia was due to cerebral hemorrhage. Mark, however, that the hemiplegia did not appear until several hours after the attack. If, during the period of unconsciousness and brain congestion, blood had been poured out, the hemiplegia would have been developed at once. In this instance, the hemiplegia gradually increased through several days. In hemiplegia resulting from the pouring out of blood into the brain, there is rarely this increase. At its first outpouring, the blood tears and shocks the brain, and the symptoms subside as the brain becomes accustomed to the presence of the clot, unless the lesion is so severe as to destroy the conducting power at the position of the clot. For these reasons, I cannot believe that this focal lesion is of the nature of a clot.

The lesion is probably not of the nature of an embolism, for if a thrombus of sufficient size to produce so much hemiplegia had formed, the symptoms would have developed as rapidly as in hemorrhagic apoplexy.

If this be not a case of apoplexy, or a case of thrombus, what is it? I learn, in the first place, that the man has a syphilitic history. He has admitted as much. He has a distinct scar upon the head of the penis. He has distinctly atheromatous arteries. If you find a man under thirty years of age with atheromatous arteries, the chances are that the arterial degeneration is due to chronic syphilis. If severe inherited gout can be excluded, the chances amount almost to a practical certainty. Examination of the eyes shows that the patient has lazy corner, and that there is sub-acute retinitis, which is often associated with syphilis. There is no pain on pressure of the sternum, but I find enlarged glands in various parts of the body.

These facts are sufficient to prove that the man has had syphilis. As he has had syphilis, and we can find no other cause to account for the focal lesion of the brain, we come to the conclusion that the focal lesion is of the nature of a syphilitic infiltration, situated high up in the meninges of the brain, somewhere in the neighborhood of the ascending frontal convolution, or possibly situated, as I have seen it, in one or two cases, in the *velum interpositum*, affecting the parts within the ventricle.

It may be asked why it is that this attack was not preceded by headache. This question is hard to answer, but it is a clinical fact that not rarely, syphilitic disease of the brain makes its first appearance with the quickness and ferocity of a tiger leaping on its prey. The acute attack of congestion and the acute attack of meningitis may be the results of a gradual gummatus inflammation, limited in extent, which has been forming, but producing no symptoms, until for some reason, it suddenly lights up an acute congestion or inflammation.

We know that if the lesion is syphilitic, it is situated in the position indicated, on account of the distinct hemiplegia, with absence of marked eye symptoms. There is, however, some weakness of the eye-muscles, so that probably, in addition, there is some basal exudation. Basal exudation in itself would hardly produce so much hemiplegia. The fact that there seems to be two lesions, would confirm the diagnosis of syphilitic origin, for syphilitic lesions are prone to be multiple.

This man was first put on calomel, in half-grain doses, every hour. This was continued twenty-four hours, when, on account of its action on the bowels, the dose was reduced to one-fourth of a grain. Since then, it has been substituted by iodide of potassium, of which he is now taking one hundred and twenty grains per day. Under this treatment, he is improving, and I think will go on to recovery.

## Original Articles.

### CASES OF ABDOMINAL DISEASE WITH OBSCURE DIAGNOSIS.<sup>1</sup>

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THE difficulty which attends the diagnosis of some diseases of the abdomen, depends, to a considerable extent, upon the absence of definite and characteristic signs relating to them, as well as upon the large number of symptoms which are common to almost all the affections of that cavity. In this respect, they differ remarkably from the diseases of the brain, of the cord, and of the organs within the thorax, which, although inaccessible to the sight and the touch, can, in a large number of cases, be determined with absolute certainty. Exceptions are found in the diseases of the kidneys, whose nature is often ascertained with precision by a comparison of the rational symptoms with the signs furnished by the urine, and in some of those of the liver, when that organ is greatly enlarged, as in cancer, etc., or when the accompanying symptoms are sufficiently definite, as in cirrhosis; but in many instances, it is only by carefully weighing such evidence

as we may be able to obtain, that we can arrive at a conclusion, and that, perhaps, only a conjectural one, as to the diagnosis. Palpation is often of little avail, on account of the presence of gas in the intestines, or of ascitic fluid, and even when the flaccidity of the parietes affords a thorough exploration by that method, there is often a difference of opinion among observers, as to the nature of any tumor which may be plainly felt, or of the organ in which it is situated, and even, sometimes, as in one of the cases to be reported, whether any tumor is to be felt at all. Moreover, the absence of any tumor by no means excludes the possibility of grave organic disease. Even ulcer and cancer of the stomach, two diseases whose symptoms, in typical cases, are so characteristic that their diagnosis is easy, may present absolutely no signs by which they can be distinguished during life, and their presence may only be revealed to us at the post-mortem examination.

The observations which I offer in illustration of these remarks, comprise two cases of gastric ulcer, with perforation; one of cancer of the peritoneum, stomach, and several of the other abdominal organs; and one of cancer of the intestine, ovaries, and uterus. The first case is of historical interest, since it occurred more than two hundred years ago, when the existence of the disease now so familiar to us as gastric ulcer, was unknown; and it is a remarkable instance of the intelligence and sagacity of a man eminent in philosophy and literature, as well as in medicine, who was able, after so great a lapse of time, to diagnose absolutely the cause of death of a person supposed to have been the victim of poison administered with criminal intent.<sup>2</sup>

**CASE I. Perforating Ulcer of the Stomach.** The patient was a lady of high rank, Henriette d'Angleterre, sister of Charles II, of England, and wife of the Duke of Orleans, brother of Louis XIV, at whose court she resided. She had complained for some time, of pain in the side and stomach, but was otherwise in good health. On the evening of the 29th of June, 1670, soon after dinner, she drank a cup of chicory water, which she was accustomed to take for the relief of her supposed dyspeptic symptoms. Immediately after swallowing the beverage, she was seized with severe pain in the abdomen, and vomiting. The pain soon became agonizing, collapse followed, and she died at half past two o'clock on the following morning, nine hours after the beginning of the seizure. Our acquaintance with the symptoms and pathology of gastric ulcer, for which we are indebted to Cruveilhier, enable us to see at once, in this history, a probable case of that disease, with perforation, not very rare in young women, followed by fatal general peritonitis; but two hundred years ago, in the absence of any such knowledge, the sudden access of severe and alarming symptoms, speedily followed by death, in a person of high political position, readily suggested murder by poison, an inference rendered more plausible in this case, in consequence of the enmity of a certain Chevalier de Lorraine, who had been sent by the King to reside at Rome, on an ostensible mission, at the instance of Henriette, in order to put an end to the unfavorable influence which she thought he exercised over her husband. Although the physicians in attendance reported that the autopsy revealed no evidence of poison (their diagnosis was cholera morbus, caused by an excessive flow of bile),

<sup>1</sup> Read before the Boston Society for Medical Improvement, December 11th, 1886.

<sup>2</sup> For an interesting account of this case, see an article entitled "Henriette d'Angleterre, Belle-sœur de Louis XIV, est-elle empoisonnée," by E. Littré, in *La Philosophie Positive*, September and October, 1867.

and although no one was implicated in the affair, no arrests even having been made, it was currently believed that the chicory water which the princess drank had been poisoned by the Marquis d'Elfiat, a friend of the Chevalier de Lorraine, the drug having been sent from Rome for this purpose by the latter. Even to this day, it is believed that Henriette d'Angleterre perished by a violent death.

The late eminent Dr. Littré, while engaged in making researches in the Bibliothèque Royale, in Paris, about twenty years ago, came across a document written by one of the surgeons of Charles II, containing an account of the autopsy of Henriette, at which he had been present. This report, probably a copy of the official one sent to the King, shows conclusively that Henriette d'Angleterre must have died of peritonitis, following the perforation of a gastric ulcer, as the following extracts show: The peritoneal cavity "was full of a thin, sanious, putrid, yellowish substance, containing oil" (a dose of castor oil had been given to the princess, after the seizure); the omentum and intestines were "mortified and gangrened, and much discolored," expressions which, in terms of modern pathology, indicate simply the presence of turbid serum with recent soft exudation, the result of acute peritonitis. "The stomach," he says, "which I examined very carefully, was externally healthy. The interior was corrugated, and stained from end to end with bile, which was easily removed with the finger, leaving no abrasion in any part, *only a little hole in the anterior and middle part*, which was only noticed by myself, and *which was accidentally made by the operator*; on careful inspection, I found no excoriation, corrosion, blackness, induration, nor discoloration." That his inference of an accidental cause of the perforation was erroneous is evident from the fact that, along with some of the contents of the stomach, there was found in the peritoneal cavity, a quantity of oil, which the princess had swallowed before her death. Moreover, his description of the lesion, a simple *hole*, without any such appearance such as would be likely to result from the action of poison (which he had in his mind at the time), corresponds to that of the simple perforating ulcer, most frequently found in young women; and the princess was twenty-six years old.

I presume more than one of us must have met with a case in which the sudden death of a young woman in apparent health was found, on post-mortem examination, to have resulted from the perforation of a minute ulcer, which had given rise to no pathognomonic symptoms, perhaps, to no symptoms at all, during life. No autopsy is now needed to diagnosticate the disease after the fatal event, but how rarely can it be detected during life.

CASE II. *Chronic Gastric Ulcer, with Unusual Symptoms.* The following case was referred to me for an opinion by Dr. James Dinnlap, of Northampton, to whom I am also indebted for some particulars concerning the symptoms, and for an account of the autopsy.

March 22d, 1884. The patient, a gentleman, forty-three years old, married, living in Northampton, by occupation a merchant, was of nervous temperament, active, energetic, and inclined to work beyond his strength. His father, healthy, died at seventy-three. His mother died at fifty-three, of gastric ulcer, so supposed. No constitutional disease in the family of either, so far as known.

Sixteen years ago, he had an attack of "chills and

fever," lasting several weeks. During the last twelve years, he had suffered, from time to time, with obscure dyspeptic symptoms, the most important of which was pain, referred by him to the stomach, situated chiefly in the right hypochondrium, sometimes extending over the abdomen, generally, but never felt in the left hypochondrium. During the last two years, it had become more severe, requiring from half a grain to a grain and a half of morphia, hypodermically, almost daily, for several months. It was paroxysmal in character, lasting several hours at a time, recurring often, and was much relieved by firm pressure on the ribs of the right side, so that he would lean against the corner of a table or other hard object to get ease. No increase of pain ever followed his meals. Flatulence was a frequent symptom. The bowels were extremely constipated, and very large doses of purgative medicine were required, which would operate at the end of thirty-six or forty-eight hours, without ever aggravating the pain. There was frequent vomiting, at times copious, and lasting for a day or two, after which he would be free from it for a week or more. The matters vomited were mostly liquid, with a little undigested food, and brownish flocculent particles, sometimes dark, as if bismuth had been taken. On extremely rare occasions, a speck of blood was seen. The appetite, mostly poor, was capricious. Occasionally, he would eat a good meal. The diet which best agreed with him was roast meat, beefsteak, raw and cooked oysters, fresh fish, and white bread and butter. Most vegetables, especially tomatoes, disagreed with him. He either sat up in bed at night, or lay in a semi-recumbent attitude, as the horizontal position increased the pain. Of late, emaciation had increased considerably. There had been no jaundice.

The patient was spare, but not greatly emaciated, and the muscles were not wasted. Height, five feet, seven inches; usual weight, one hundred and twenty pounds; now, about one hundred and twelve pounds. Complexion rather pale, but not otherwise remarkable; no jaundice; no cachectic look; tongue clean; urine natural in quantity and frequency, and stated to be normal chemically; no oedema anywhere. Bowels constipated; sleep good, except during pain.

He said he had been told that he had a tumor in the abdomen, and that there was a question of the expediency of making an exploratory incision with a view to remove it, provided the operation should appear to be practicable. As it was in reference to this point that he desired my opinion, I examined the abdomen with care, and especially, the region of the right hypochondrium, to which he referred his pain. The belly was somewhat retracted, soft, and easily explored, and everywhere free from special tenderness, including the region below the xiphoid cartilage, but I was unable to feel any tumor. The next day, I had an opportunity of examining the patient, in company with the two physicians who believed they had detected a tumor, which they thought to be probably a biliary calculus, occupying the gall bladder or the cystic duct, but I was obliged to confess that I could feel nothing of the kind.

The interest in the case lay chiefly in the obscurity of the diagnosis. It seemed tolerably certain that the disease was confined to the stomach, since during its long course there had been no evidence of derangement of any other organ. Cancer and chronic ulcer at once suggested themselves. In favor of the former was the excessive pain, the emaciation and the vomiting. On the other hand there was apparently no ob-

struction of either orifice: I could feel no tumor, and it was hardly possible that the patient could have lived for twelve years with a malignant disease of the stomach, and without material change in the symptoms during that time. The usual symptoms of gastric ulcer, pain following the ingestion of food, and relieved by vomiting; hamatemesis, and tenderness in the epigastrium, were wanting. The pain bore no relation to taking food, was chiefly felt in the right hypochondrium, and was relieved by firm pressure on the ribs of the right side. There was no tenderness in any part of the abdomen, even below the xiphoid cartilage. There was frequent vomiting, but never of blood, except that a "speck" was seen on extremely rare occasions, such as might occur with vomiting from any cause. Although the appetite was generally poor, yet a good meal was occasionally taken, and the diet which suited the patient best, "roast meat, beefsteak, raw and cooked oysters, fresh fish, and white bread and butter," seemed incompatible with chronic gastric ulcer, or any other inflammatory condition. On the whole, I was inclined to the opinion that the disease was a neurosis of the stomach, or gastralgia.

Towards the end of January, 1885, I received a letter from Dr. Dunlap, stating that the patient, who during the last four months of his life had been under treatment by a clairvoyant, had been suddenly attacked with intense pain in the bowels, followed by collapse and symptoms of perforation, of which he died in a few hours, October 30. Dr. Dunlap also enclosed an account of the autopsy.

The contents of the stomach were found floating in the peritoneal cavity. An opening in the stomach large enough to admit the tips of two fingers was found in the smaller curvature, two inches from the cardiac orifice. It had smooth, rounded edges. The coats of the stomach immediately surrounding it, were half an inch thick, gradually diminishing to the normal thickness about three inches from the opening, in all directions. Even the extremity of the œsophagus, on the side next the ulcer, was thickened. Nature had made no provision for guarding against the results of perforation: there were no adhesions to the surrounding parts. The stomach was much enlarged, pale and bloodless, even around the perforation. There were no signs of inflammation or ulceration of the mucous surface of the rest of the organ.

A stricture, less than an inch in extent, and beginning at an inch and a half from the pylorus, was found in the duodenum. The gut at the point of stricture would not admit the tip of the little finger; a sizable wood pencil or pen holder would pass readily. The strictured part did not appear diseased; there was no ulceration, no hardness, no cicatrix. Externally, the gut seemed of normal size, or nearly so, and the coats were equally thickened throughout the circumference, but of soft, normal feel.

The other organs were free from disease, though pale, and very slightly friable, probably from inanition. Liver, a little below the normal size. Gall-bladder, nearly empty, containing neither gall stones nor inspissated bile. The cystic, hepatic and common ducts were all very carefully examined, and found to be pervious throughout their extent. The mucous membrane of the intestine was smeared with bile around and below the outlet of the common duct.

The situation of the ulcer in the smaller curvature of the stomach, and near the cardiac extremity, where

it was protected from external pressure, accounts for the absence of tenderness in the epigastrium, as well as for the relief afforded by sitting up in bed. It may also, perhaps, explain why there was no pain following the taking of food, for nowhere else could the mucous membrane be less exposed to contact with the ingesta. The severe pain in the right hypochondrium, sometimes extending over the abdomen generally, except in the left hypochondrium, was probably due to reflex irritation. Several physicians were present at the autopsy, all of whom agreed that there was no appearance of cancer, either in the stomach or in the duodenum.

It is not necessary to review the details of this complicated case in order to show the difficulties which lay in the way of a correct diagnosis. I will only allude to the remarkable fact that two<sup>3</sup> physicians should, under favorable conditions for physical exploration, have been so confident of the presence of a tumor, presumably the gall-bladder containing a calculus, that they advised cutting down upon it; while a third was unable to detect anything of the kind, and the autopsy showed that the gall-bladder was healthy and empty, all the ducts pervious, and no trace of a stone to be found. As to the stricture of the duodenum, we may presume, in the absence of any appearance of structural disease, that it was the result of spasmodic muscular contraction, during the last moments of life.

CASE III. *Cancer of Stomach and Peritoneum.* This case was seen at Framingham, June 17, 1885, with Drs. E. D. Bigelow and G. C. Pierce. The patient was a gentleman, fifty-six years old, married, of temperate habits. There were no special diseases in his family, so far as known. Several years ago he suffered from asthma, but had been free from it of late, and in other respects his health had been good previously to his present illness. In August, 1884, while complaining of dyspeptic symptoms, he vomited a small clot of blood, and from that time he had suffered from flatulence and pain in the region of the stomach, his condition becoming progressively worse. By October the pain had become severe, and he began to lose flesh. In addition to the epigastric pain, there was a good deal of intercostal neuralgia and sciatica, on both sides, during the winter. The emaciation and loss of strength had progressed rapidly during a few weeks before my visit. He had been out-of-doors for the last time within a week, had kept his room for the last few days, and at the time of my visit could only walk with assistance from his chair to his bed, into which he had to be lifted for examination. There had been occasional, but not frequent vomiting, apparently not caused by taking food. Once within a few weeks he had vomited a very little blood, the only time since August. The epigastric pain was nearly constant, unless relieved by morphia, and taking solid food was followed by pain. There was never any dropsy. The urine was normal, bowels in fair condition. Pulse, 96; no cardiac murmur. Tongue dry and smooth, without coat. No jaundice. No nervous symptoms. Aspect cachectic; much emaciation and prostration. Abdomen soft, free from tenderness; no tumor to be felt.

He died July 5th. Dr. Bigelow kindly sent me the following notes of the autopsy, together with the specimen:—

<sup>3</sup> Since the reading of this paper, one of the two physicians has stated that he did not detect the tumor, though he recommended the exploratory incision of the abdomen.

"Body much emaciated. Numerous small ecchymoses over abdomen and lower extremities, skin dry, dull grayish-yellow color. Abdomen distended with six or eight quarts of bloody serum. Peritoneum, visceral, and parietal, was studded over with small, firm, whitish nodules. Omentum and mesentery greatly retracted; the intestines, stomach and pancreas were united in a firm mass by adhesions. The stomach appeared like a firm tube, dilated to the capacity of two ounces at the cardiac extremity, both orifices free from disease. Its inner aspect showed an extensive villous growth on a hard base, this being most marked in the middle third of the organ. Liver contained numerous nodules of secondary cancer. Spleen, kidneys, and lungs normal."

The diagnosis of cancerous disease within the abdomen was obvious from the pain in that region and the progressive and rapid failure of strength and flesh. It was also supposed that the stomach was implicated from the occasional vomiting, and the occurrence of hematemesis, twice, although in very small amount; but as there was no tumor in the epigastrium, and as the vomiting did not appear to be caused by the presence of food, it was concluded that the orifices were free from disease, as the autopsy proved. There was no evidence of peritonitic or hepatic disease, the abdomen being soft, free from tenderness, and containing no tumor, and there was no jaundice.

CASE IV. *Cancer of Intestine, Uterus, and Ovaries.* June 23, 1885, I saw at Lawrence, with Dr. C. W. Chamberlain, a widow, fifty eight years old, who had never borne children. Previously healthy, her present sickness began early last winter with pain in the right hypochondrium, vomiting after eating, constipation and flatulence. These symptoms increased moderately until February, after which they became more severe. The vomiting occurred only at intervals of several days, was usually violent, but could be somewhat controlled by careful diet. The pain was generally caused by food, especially sweet things, and never by hot food, and it was always relieved by vomiting. The constipation was not urgent, and yielded to laxatives. There was no hemorrhage from the stomach or bowels. She never had any symptoms referable to the uterus or ovaries. There was progressive emaciation and failure of strength. She was able to drive out almost daily until June 16th, when she was taken with vomiting, and went to bed, which she never left. She continued to fail, became delirious and lethargic, and died July 18th. Nothing special was elicited by examination of abdomen.

At the autopsy the stomach was found somewhat dilated, the walls extremely thin, the muscular tissue apparently gone, the mucous membrane in places quite reddened; but there was no structural disease. There was a thickening of the bowel three feet below the pylorus, with stricture admitting a blow-pipe a quarter of an inch in diameter, forming a small tumor three-quarters of an inch in length, and less than an inch in diameter, too small to be felt by external palpation. Both ovaries were enlarged to the size of small mandarin oranges, containing cancerous deposits, and cysts out of which a molasses-like fluid came by puncture. There were also cancerous masses in the uterus, the organ not being enlarged, but in a state of senile atrophy.

In this case, also, the diagnosis of malignant disease in the abdomen was inferred on account of the progressive failure of flesh and strength, although no in-

formation was afforded by physical examination, and the rational symptoms furnished no definite indications of local disease. The stricture of the intestine, probably malignant, gave rise to thickening of the walls of the bowel, but the tumor was too small to be detected by palpation. Even the enlarged ovaries were not felt, although it is possible that a vaginal or rectal examination might have revealed the existence of disease in the pelvis, had there been anything in the symptoms to direct attention towards it.

### SOME POINTS IN THE TREATMENT OF SYPHILIS.<sup>1</sup>

BY G. H. TILDEN, M.D.,

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It is nearly twenty years since Sigmund (Wiener Med. Wochenschrift. Nos. 43, 44, 46, 53, 1867) demonstrated the fact that canterization of the point of inoculation of syphilis, if done within three days from the time of inoculation, was competent in many cases to prevent the development of the malady. A step further in this direction is the prophylactic destruction or excision of the initial lesion itself, and although sporadic attempts of this kind had been previously made, it was not until ten years afterward that marked attention was drawn to the subject, by Auspitz's publication of thirty-three cases<sup>2</sup> in which the initial lesion of syphilis had been excised, in the hope of thereby preventing any further manifestation of the disease. The interest in the subject awakened by this communication of Auspitz has not since been suffered to expire, the question having been under discussion at the last International Medical Congress, and apart from its theoretical interest, it is possessed of practical importance sufficient to render it worthy of careful consideration.

Many of the younger German writers, convinced that the primary lesion of syphilis is entirely local in its nature and merely the nidus, so to speak, from which further infection of the system takes place, insist upon the possibility of arresting the progress of such infection, by early and thorough excision of the initial lesion before the development of inguinal buboes, and as evidence in favor of this view, they give the details of cases in which such excision has been performed with the desired result. Not a few are also of the opinion that in those cases where the removal of the primary lesion fails of preventing the progress of the disease, and such cases are in the very great majority, its further manifestations are of milder and more evanescent character than usual.

Several of the older men among the Germans and all of the French syphilographers, on the other hand, with the single exception of Jullien, believing as they do that the initial lesion is to be regarded as the first symptom of syphilis and that by the time of its development the whole organism is already affected by the disease, deny that its excision is possessed of any prophylactic virtue whatever and produce as evidence many instances in which the earliest possible removal of the initial lesion, under apparently the most favorable conditions, has nevertheless, been followed in due time, by the development of syphilis. They assert that

<sup>1</sup> Read before the Boston Society for Medical Improvement, Dec. 11, 1885.

<sup>2</sup> Vierteljahrsschrift für Derm. und Syph., p. 167, 1877

the apparent success in this direction is explained by the facts, that error in diagnosis gives rise to the excision of lesions not syphilitic in nature, and that incompleteness of subsequent observation affords opportunity for the further manifestations of the disease to escape detection.

Such is the statement of the case. The evidence as to facts is conflicting, the theoretical discussion of the problem, involving as it does, speculation with regard to the nature of the syphilitic virus and the manner of its diffusion through the system, is without definite results and the question is to be regarded as yet unsettled. The only practical outcome of the discussion, thus far, has been to show that excision of the initial lesion is not followed by any bad consequences, when thoroughly done, and with strict attention to antiseptic details. The wound usually heals by first intention and the operation is advisable in suitable cases, substituting as it does, a slight incision which unites in a few days for a pathological lesion, which sometimes lasting for weeks, is a source of annoyance to the patient and of danger to others.

The so-called second period of incubation, of from six to twelve weeks, between the appearance of the primary lesion and the first development of general symptoms, should not as is usually the case, be a period of inaction, but the opportunity should be utilized which it affords, of rendering the patient by suitable hygienic and tonic measures, better able to resist the coming disease. The care of the mouth should receive special attention. The teeth should be put in as good order as possible, by the removal of tartar, the extraction of stumps, and the smoothing down of sharp corners, and the mouth kept in good condition by frequent brushing of the teeth and the use of an astringent and antiseptic wash, since a clean mouth and a sound mucous membrane are the best safeguards against the development of salivation and the formation of mucous patches.

As to whether general specific treatment should be employed during the second period of incubation, there is difference of opinion.

Among others, Professor Neisser<sup>3</sup> of Breslau, discoverer of the "gonococcus," a firm believer in the bacterial nature of the virus of syphilis and in the local character of its initial lesion, is an ardent advocate of the early employment of general specific treatment, on the ground that the sooner the microorganisms in question are subjected to the bactericidal influence of mercury, the better for the patient. The usual custom and I think the proper one, is to wait until the appearance of general symptoms before the employment of general specific treatment. The reasons given by Kaposi for this waiting are, *first*, that the diagnosis is never established beyond a doubt, before the development of the so-called secondary symptoms; *second*, that general specific treatment, although it delays does not prevent their development, and *third*, that when these symptoms develop under such conditions they are apt to be of a deeper seated and graver nature than is otherwise the case.

There may exist, however, exceptional conditions which render it advisable to depart from the usual custom, and this is the case when the initial lesion is in such a position and of such a character as to threaten the impairment of function or serious disfigurement. It was shown in Sigmund's clinic that the

initial lesion, and in fact, any specific lesion will yield more quickly to a combination of local and general treatment than to either of them alone, and therefore, in cases where it is necessary to arrest as much as possible its development, general as well as local treatment may be employed.

Experience has taught, and experiment<sup>4</sup> demonstrated the fact that irritation of the skin and mucous membrane in persons affected with syphilis, more especially in the active stages of the disease, is competent to favor the development and promote the growth of specific lesions. Want of cleanliness is one source of irritation, and the lack of care which will cause balanitis in a healthy person, may in one suffering from active syphilis give rise to the development of mucous patches. The necessity, therefore, of strict and continuous attention to the cleanliness of the various accessible cavities and outlets of the body and to the integrity of cutaneous surfaces which are in contact with one another, should always be impressed upon the patient.

The importance of hygiene and tonic remedies in the treatment of syphilis can hardly be overstated. With their aid alone, a patient possessed of a good constitution may recover from the disease; without them, the most energetic specific treatment may be of no avail, a fact occasionally demonstrated by some wretched syphilitic, who saturated with mercurials and iodide of potassium derives no benefit therefrom, but is a living reproach to his physician and burden to himself, simply from want of pure air, nourishment, and tonics. Besides paying careful attention to the nutrition and habits of the patient, it is always well to give iron in combination with mercury in the active stages of the disease. Of the other so-called tonic remedies quinine and cod liver oil are the most useful, to be given as indications for their employment may arise, debility and malnutrition being very common developments during the course of syphilis.

With regard to the employment of specific remedies, it is not uninteresting to remark how short a time it was after the general spread and recognition of syphilis during the last two years of the fifteenth century, that mercury was used in its treatment. In a treatise upon "*le mal Français*" by de Vigo, published in the year 1514, there occurs the following devout recognition of the merits of this drug: "Of all the remedies for syphilis, mercury is the best, and be it well understood that I refer only to those remedies which have been employed up to the present time. For perhaps the future reserves discoveries which we cannot now foresee, some genius may arise, and happily inspired for the good of suffering humanity, may reveal to us a remedy alone more potent than all others, and this by the grace of Almighty God, who alone heals our miseries and of His infinite mercy, bestows upon us health of body and soul," and in a book entitled "*Nouveau carême de pénitence*" published in the year 1527, there is an entertaining dialogue between Mercury and Guaiacum, representing a discussion between them as to their respective merits in the treatment of syphilis, in which the palm of victory is awarded to mercury.

As to the administration of mercury, to which drug the remarks of de Vigo are as applicable to-day as they were three hundred and seventy years ago, the

<sup>3</sup> Deutsch. Med. Wochenschrift, Nos. 1 and 2, 1884.

<sup>4</sup> Tarnowsky Relizung und Syphilis, Vierteljahresschrift, f. Derm. und Syph., 9, 19, 1877.

opinion of those most competent to judge, is that the cutaneous inunction of the drug contained in an ointment is the most efficient method and I think that any one who has seen much of its use in this way, will be of the same opinion. The daily inunction of mercurial ointment is the most troublesome, dirty, public, effectual and trustworthy method in which it is possible to administer mercury in the treatment of syphilis. Besides efficiency, it possesses the merit of sparing the stomach the infliction of being dosed with the drug, which is nevertheless, introduced into the system to the best advantage, inasmuch as it is brought into direct contact with the cutaneous manifestations of the disease. The immediate application of mercury to syphilitic lesions is much more rapid and thorough in curative action, than if the drug is obliged to meander through the circulatory apparatus in order to reach its destination. The inunction of mercurial ointment, however, sometimes irritates the skin to such an extent as to give rise to the development of so-called mercurial eczema, which is not eczema at all, but pustular folliculitis, and in certain cases, this irritant action renders its employment impossible. Of late years the oleate of mercury has been extensively recommended as a substitute for mercurial ointment, but with regard to this preparation, I can only say that I have repeatedly used it, both for purposes of general inunction and local application, always to find it decidedly inferior in efficiency to mercurial ointment, so much so that I have abandoned its use altogether in the treatment of syphilis.

Notwithstanding the fact that in ordinary cases the employment of mercurial inunction is for various reasons often impracticable, and indeed not necessary, it is well to remember that where energetic and radical action is wanted, it is the most potent remedy which we can employ.

For the internal administration of mercury, the pill form is the most convenient, and I know of no better preparation for use in this way than blue mass combined in a pill with sulphate of iron or quinine, as recommended by Bumstead. It is efficient, and may be given for a long time without causing irritation of the alimentary canal, being much less likely to do so than other preparations of the drug, such as the bichloride or protiodide. It is needless to say that salivation should always be avoided during the administration of mercury for the treatment of syphilis.

The other specific remedy which we have at our command, namely iodide of potassium, possesses the most astonishing power to relieve cerebral and osteo-scapic symptoms in the early stages of syphilis, and a more curative and not less striking action in the advanced periods of the disease, but the point I wish to convey with regard to it, is that however wonderful and rapid its action, it is not curative in the same sense as that of mercury. One does not cure syphilis with iodide of potassium alone, and by *cure* I mean, to prevent return of the disease as well as to relieve its symptoms. If a patient is in need of iodide of potassium he is also in need of mercury, and the enormous doses of the former drug which are sometimes required to relieve symptoms, would not I think, be necessary, if mercury were always administered at the same time. In the grave cases of cerebral syphilis, occurring in the early stages of the disease as well as in older syphilis, where iodide of potassium is of such value, mercury should not only always be combined

with it but continued after the symptoms have disappeared and the iodide of potassium discontinued.

As has already been said, not only do these specific remedies act upon the lesions of syphilis when introduced into the circulation but their action is very much more rapid and effectual when placed in contact with such lesions, and wherever it is possible, it is also advisable to do this in addition to general treatment.

The initial lesion, mucous patches, which deprived as they are of protective epidermis are the most contagious of specific lesions, so-called psoriasis palmaris, and all localized cutaneous manifestations, are particularly suited to local treatment and should in all cases, receive it. The initial lesion itself, which should be treated until all traces of induration completely disappear, and localized cutaneous lesions, as a rule, are best treated by the application of mercurial plaster, which is composed of equal parts of soap plaster and mercurial ointment thoroughly mixed and spread upon cloth. This plaster possesses enough adhesive power to retain it in place, is thoroughly efficient and easy of application. Mucous patches on the tongue and mucous membrane of the mouth should be touched daily with the stick of nitrate of silver, tincture of iodine, or a five per cent. solution of chromic acid in water, which latter I have found to be entirely trustworthy in its action. An excellent application to mucous patches in other parts of the body, is iodoform dissolved in ether, in the form of spray, the iodoform being in this way most intimately applied and in an extremely fine state of subdivision. It goes without saying that before the local application of remedies, any crusts or secretion which may cover the lesions to be so treated, should always be removed. The lesions of so-called psoriasis palmaris sometimes persist with extraordinary tenacity, and it is a good plan, in their local treatment, to thin down the thick epidermis which covers them, by the use of salicylic acid plaster before the application of mercurial plaster. This matter of the local treatment of all accessible specific lesions is worthy of more detailed attention than is usually paid to it.

The last point which demands consideration is with regard to the continuation of specific treatment after the disappearance of symptoms. The assumption of its necessity, which forms the basis of the well-known method of intermittent but long continued administration of small doses of mercury, so strongly advocated by Fournier, has received striking confirmation by some recent investigations of Neumann<sup>6</sup> upon the histological changes which occur in the cutaneous manifestations of syphilis. He finds that "with the disappearance of the macroscopic or clinical symptoms of the disease, in no sense do its pathological products also disappear, but that even eight months afterwards there still remain in the skin and its appendages, pathological products in the shape of specific exudation cells, which are to be detected only by the use of the microscope." Commenting upon this fact, he says, "Fournier and others are not so far wrong in retaining patients in observation and under treatment for more than a year's time."

There is good reason for adopting this view of the question, and it is unfortunate that we have no means of telling how long such subsequent treatment is necessary in any given case. The rule of two years after the disappearance of all symptoms, adopted by Fournier, is entirely arbitrary and based upon the results of his great experience. Syphilis, when properly treated

<sup>6</sup> Vierteljahrsschrift für Derm. und Syph., 2. Heft., s. 209, 1885.

can be cured, and the word is used advisedly, in the great majority of cases. Cleanliness, hygiene, tonics, and specific treatment, local as well as general, are the cardinal points of such treatment, in the carrying out of which it is well to bear in mind that, as Dr. Wigglesworth well remarks, "It is rarely sufficient to lay down general rules, in the foolish hope that the average patient may possess by instinct, the knowledge which the physician has been years in acquiring. Minute details are to be taught and to be enforced by frequent supervision."

## A NEW SURGICAL DRESSING FOR WOUNDS.

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REPAIR of injuries takes place most rapidly and completely where the process of nutrition is interfered with the least. Inflammation is always a destructive process and always to be avoided, and never to be invoked in parts where we desire repair to take place. Excess of blood beyond what the nutritive process can utilize, interferes with normal repair. Excess of any portion of the blood acts in the same manner. Consequently effusions of serum in the wound or beneath the united surfaces must necessarily prevent the nutritive process from being completed in the shortest possible time. The germ theory has, in my opinion, no place as applicable to vital tissues. It is only when morbid products, or products capable of becoming so, are allowed to remain in or around such tissues that the influence of "germs" are appreciably noticed. Hence, wounds that have been thoroughly cleansed and are kept so by absolutely thorough drainage, cannot and do not take on unhealthy, suppurative action. By thorough drainage I mean not only deep (underdrains) but superficial drainage. In all cases there must be a certain amount of vascular tension due to needle wounds and strain upon the tissues by tying or twisting sutures, and for a period (varying in time in different cases) a certain amount of effusion of serum in the parts in immediate contact, and whatever will best accomplish drainage from this portion of the wound tends to prevent decomposition in the superficial wound itself.

Mr. Samson Gamage, in a recent address on wound treatment before the Birmingham Medical Institute, said:—

"Clinical observation and histological research concur in proving that repair is an extension and adaptation of the physiological process of nutrition, against which nothing militates more powerfully than does any cause producing vascular excitement or stasis.

"That the essential fact in Chassaigner's system was the employment of drainage in evacuating purulent collections, but the method has been gradually and most beneficially extended to the *prevention of suppuration* by carrying off serous effusions. These, if retained, are liable to decomposition, and by mechanical tension and nerve irritation are potent causes of *inflammation*, which is *opposed to healthy nutrition and repair*, and is the prime factor in the chain of pathological events leading to blood poisoning and death."

Experience has demonstrated that, however carefully we may apply our drainage tubes to the deep portions

of the wound (underdrainage), we find often times, more or less swelling of the edges of the wound, and, if sutures are retained more than two or three days, inflammation and suppuration take place, with failure of primary union, or at least some suppuration at the suture holes. The stasis and tension, due to strangulation of the tissues by the sutures, produces an amount of effusion sufficient to become a focus for decomposition and inflammation. In short, while we have provided for underdrainage, we have omitted to properly provide for *surface drainage*.

Within the past year it occurred to me that if glycerine could be properly applied, we had the desired factor for the production of surface drainage. The well known property it possesses for draining and depleting tissues is demonstrated by every gynecologist who is daily using it for vaginal packs. Its strong affinity for water causes the rapid exosmosis of serum from the vessels with which it comes in contact, and at once relieves them of any excess which may exist. Recognizing this property I made the following trials, with the results given below:—

CASE I. W. G. J., age about fifty-five. Operation for extensive varicose veins, cutting down upon vein, ligating with catgut and closing wound. I made at least seven incisions, involving the leg from ankle to six inches above the knee, incisions averaged an inch in length. After sponging the wounds thoroughly with water, as hot as could be borne by the hands, I squeezed out pads of absorbent cotton from the same water, and then saturated them with glycerine and applied them to each cut; over this dry cotton, and bandage over all; no redressing for four days, when all sutures were removed and each cut was entirely healed without even a blush around the suture holes, or a drop of pus. From each pad a large amount of water ran for two days, saturating the bandages even. There was no further trouble from any one of the wounds, so that within a week we were able to put on an elastic stocking.

CASE II. Amputation of the hand on a man seventy-one years of age; caries of bones of wrist; point of amputation four inches above wrist joint. The same course was followed during amputation, and the same dressing applied. At the end of four days, in presence of Dr. John Buzzell, who assisted at the amputation, it was dressed for the first time, and much to our gratification we found the most perfect primary union, without a tinge of redness or drop of any kind of discharge.

CASE III. Amputation of breast in a lady sixty-four years of age. The patient was a very large, fat woman, requiring an extensive wound for removal of the entire gland, at least twelve inches in length. Dressing remained four days, and, on removal, all the sutures were removed, leaving the wound, as each of the others had been, entirely dry, and closed throughout. Not the slightest elevation of temperature occurred or signs of redness about any portion of the wound.

The next cases were three cases of Tait's operation for removal of the uterine appendages, all made within two weeks. Through my own neglect to inform my assistant just how to prepare the pack in one case, it was not dipped in the hot water, but the dry cotton was saturated with the glycerine and consequently it was not so readily taken up by the cotton, and an excess of glycerine remained on the surface. This, by its absorbent power on the skin, with which it came in

<sup>1</sup> Italics mine.

contact, produced a slight dermatitis, but did not interfere with union of the wound. It is quite common in cases of abdominal section to have small abscesses form around the suture holes, and become very troublesome from the pain and discomfort, which last sometimes for weeks. In neither of these three cases has there been the least trouble in that respect. I feel very sure the exemption is due to the removal of all serum, produced by tension of the sutures.

The glycerine used in all the cases given above, with one exception, was what is known, in commerce, as "common glycerine." I use this in all gynecological work, and for the past few years have dissolved in each pound and a quarter of glycerine half an ounce of boracic acid. This I happened to have with me when I made my first trial, and have used the same each time since, with the exception named, when I used a much stronger solution of the acid. If any one should claim that the effect produced is due to the antiseptic virtue of the boracic acid, he will claim more for a two and one-half per cent. of the acid than any one has yet believed it possessed. I shall use glycerine alone at the next trial, and shall expect equally good results.

In conclusion, I can only ask the profession to give this a trial, each man for himself. I have never yet used, either in public or private practice, the so-called germicides, believing that in vital tissues no such dangerous remedies are called for, and that the well authenticated cases of poisoning by them outnumber the well authenticated cases of septic poisoning which have occurred from neglect of their use. Even the most careful Listerism does not prevent the latter result. In my opinion, if we get rid of the effusions and prevent the exudate, we will surely have primary union. Certainly, the records of Tait and Keith in abdominal surgery, cannot be equalled by any follower of Lister. In my own experience I have had eighteen consecutive Tait operations without a death, and but one case where there could by any possibility be a suspicion of septic influence, and in that case the parotid glands were inflamed for a day or two only. Forty-three abdominal sections (including the oophorectomies) with thirty-six recoveries, justify me in believing that no better results can be expected, where all the deaths but three were malignant cases. Of the three non-malignant cases, one only died from any cause that the most ardent follower of Lister would have claimed could have been prevented by the use of the spray and other "antiseptic precautions." In the case of hysterectomy for a large uterine fibroid, the patient had become completely anemic from repeated exhausting hemorrhages, and had I the same condition of things again, I should make Tait's operation instead of hysterectomy. She died in thirty-six hours, from peritonitis. The other two cases lived only twenty-four hours, and died from shock, and (perhaps in one case) from internal hemorrhage. I feel quite sure had I the same cases to operate upon now I would save them all.

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— A physician was fined at Oswego, last week, \$250, with the alternative of six months' imprisonment for contempt of court in refusing to testify in a criminal case. He pleaded, unwillingly, as a defence that his testimony would involve the disclosure of professional secrets.

## DILATATION OF THE UTERUS.—A CONSIDERATION OF SOME OF THE METHODS AND THEIR VALUE.<sup>1</sup>

BY F. H. DAVENPORT, M.D. BOSTON.

*Assistant in Gynecology, Harvard Medical School.*

THAT the uterine canal should sometimes be dilated for purposes of diagnosis and treatment, no one now-a-days denies. All are agreed that there are cases which imperatively demand, that not only instruments, but the exploring finger of the operator, should be introduced into the uterus. To make such introduction possible, some dilatation is in the majority of cases necessary.

The indications for this procedure are becoming fixed. Considerable difference of opinion still exists, however, in regard to the manner in which such dilatation should be effected, and it is with the hope of throwing some light upon the question, and of eliciting some discussion on mooted points, that this short paper is written.

Looking at the matter broadly, dilatation of the uterus is employed in two general ways: first, as a means to enable the operator by instruments or by the sense of touch, to make a diagnosis, or to carry out treatment, and second, as an end, the stretching itself being the object sought. In considering dilatation as a means, the question as to the method to be employed, narrows itself in general, to the discussion of rapid or instrumental dilatation, and slow dilatation, or that by means of tents. One can be accomplished in from five to twenty minutes, the other in from twelve to twenty-four hours. Both have been practiced for a long time, and both have their strong advocates. Of late years, the rapid method, has been on the whole gaining ground, and it will be part of our object to discover, if we can, how far the growing preference is justified by the merits of the case. In determining this point we will look at the methods from two different standpoints: first, as regards their safety, second, their efficacy.

I think there can be no doubt, that on the whole, rapid dilatation by means of instruments, is the safer method. Let the same operator exercise equal care in the employment of both modes of dilatation, and in a given number of cases done in each way, there will be fewer complications and unpleasant accidents by the rapid than by the slow method. This seems to me to be due to the fact that there is one danger connected with the use of tents which is peculiar to it, I mean that from septic infections. This danger, to be sure, can, by the exercise of due care, be reduced to a minimum, but it is a factor which cannot be wholly eliminated even with the most scrupulous observance of antiseptic precautions, and in the comparison of the two methods, should be taken into consideration.

Were there no counter-balancing circumstances, this fact should lead us to abandon the slow method entirely; but as will be seen later, when speaking of the relative efficacy of the two modes of operation, there are cases in which we are warranted in running the slight extra risk, in view of the better results obtained.

I would not be understood as claiming that the rapid method is absolutely free from danger. There are, of course, the risks incident to any operative procedure on the uterus, risks which are often impossible to foresee. There are cases in which the slightest interference is followed by inflammatory reaction. These accidents are not, however, to be charged to the method employed. I can, however, conceive such

<sup>1</sup> Read before the Obstetrical Society of Boston, November 11, 1885.

force being used as to tear into the structure of the uterus itself, and in this way start a cellulitis. But with a proper instrument, and due caution in its use, such an accident would hardly happen. There is a class of cases which I shall speak of later, in which it is difficult to get complete dilatation with the instrument. In these, cellulitis may occur, but I should feel it was more likely to be due to attempts to introduce the finger, with inadequate dilatation, then to the stretching itself. Safety is promoted by having a free open canal, so that the finger can pass in easily.

The danger from septic infection by tents being recognized, it can be lessened by a proper selection of the kind employed, and then thorough disinfection. Under no circumstances, in my opinion, should sponge tents be employed. However carefully prepared, and however antiseptically introduced, they so favor septic poisoning, that they should be entirely discarded in favor of less dangerous forms. Fortunately we possess in laminaria and tupelo all that we need. The chief advantages of the laminaria are its smooth surface, which admits of its easy introduction when the canal is small, and its great expansive power. The advantages of the tupelo are that it swells more quickly and more uniformly than the laminaria and softens the tissues more thoroughly, thus resembling the sponge tent in its action. As it can be procured of much larger sizes than the laminaria, it is better adapted for more thorough dilatation. Bearing in mind the peculiar advantages of each, it will be a matter of experience to choose the appropriate tents for the individual case.

The second ground of comparison of the two methods is, as regards their efficacy. Which does its work best, rapid or slow dilatation? This question cannot certainly be answered definitely off-hand in favor of one or the other. The kind of patient, the history and nature of the case, the character of the uterine tissues to be stretched, and the object of the dilatation, must all be taken into consideration before the best method can be decided upon.

In the first place, where only moderate dilatation is desired, as is the case where applications are to be made to the interior of the uterus, and free drainage is essential, or where it is necessary to use the curette for the removal of hyperplastic growths, the rapid dilatation by graduated sounds, or by some dilator, is all that is called for. For such purposes, tents need never be used.

Suppose, however, it is desired to dilate sufficiently to allow of the introduction of the finger. In such a case, other considerations come into force. Uteri differ very much in the ease with which they yield to a force applied in this way. It fortunately happens that in a majority of cases in which we wish complete dilatation, there has been more or less persistent hemorrhage, or leucorrhoeal discharge, both of which tend to render the tissues of the cervix more yielding. Such is the fact in cases of abortion, where we wish to remove retained products of conception; in hyperplastic endometritis, in polypus, and in many cases of malignant disease. In the case of fibroids, however, especially the interstitial and subserous varieties, which are usually accompanied by less hemorrhage, such softening is not likely to take place.

The uterus which has been repeatedly or recently the seat of pregnancy, will dilate more easily than the virgin uterus, or where it has undergone senile atrophy.

The examination of the patient will throw some light upon the question. If we find on digital examination that we have a hard, indurated, conical cervical portion, and the passage of the probe shows a narrow unyielding os internum, we should doubt the wisdom of relying upon rapid dilatation alone.

Even with a cervix of apparently normal consistency, it is, in my experience, not infrequently a difficult matter to stretch the uterine canal sufficiently, with the ordinary dilators, to readily admit the passage of the finger. The usual instruments do stretch the internal os wide enough to admit the finger could the calibre attained be kept; but as soon as the instrument is withdrawn, the elasticity of the tissues, contracts the canal again. Here is where a tent becomes of great service. By its prolonged action it both paralyses the muscles, and softens the tissues.

The conclusions arrived at from the consideration of these various points, are that in the large majority of cases in which we are called upon to explore the interior of the uterus, rapid dilatation will suffice; in a few cases, usually unmarried women, with firm unyielding uterine tissues, where there has not been much hemorrhage, it will fail. The danger in such cases is that in attempting to force the finger through the imperfectly patulous canal, such violence is done to the uterus or its surrounding parts, that inflammatory action is set up in the neighboring cellular tissue. To avoid that danger in this class of cases, my plan of treatment would be the following: I should first introduce with all the caution possible, a tupelo or laminaria tent, using the latter if the canal was very much contracted. This I should allow to remain for six or eight or at the most twelve hours, the patient being kept absolutely quiet in bed. Then under ether I should remove the tent, wash out the cavity with a solution of corrosive sublimate 1-2000, and complete the dilatation with instruments.

In must be borne in mind that this mixed method of dilatation, if I may so express it, would, however, only be necessary in a very small majority of cases, and in view of the slightly increased risk which I consider inseparable from the use of tents, I should employ it only when I consider it absolutely essential to success.

This method as compared with that by tents alone, using two sets in immediate succession, has a marked advantage in that it is less painful. The introduction of a single tent, especially if the canal is narrow, and tortuous, is an exceedingly painful operation. Add to this the constant pain as the tent swells, then the forcing of several tents into the already sensitive uterus, with the woman exhausted with the suffering she has already gone through, and it is no wonder that the patient comes to the final examination under ether, weak and predisposed to septic infection. I have seen nausea and vomiting, chilly sensations, and a variety of other symptoms occur as a result of this course of action.

We now come to consider the second class of cases in which we employ dilatation, not as an aid to diagnosis, or for further treatment, but as an end in itself. This is done principally for the relief of stricture, the usual symptoms of which are dysmenorrhea and sterility. It has also been recommended in cases of antelexion. Here the comparison as regards the method of operating, is to be made between the so-called bloody dilatation, or that by means of cutting

with a knife or scissors, and the bloodless, or that by stretching.

My own experience in these cases, has been, until recently, wholly with the former method, namely, that by cutting, nor can I say that on the whole I have been disappointed with it.

There has been, if I remember rightly, in a series of cases which must number at least two hundred, occurring both in private practice and in the Free Hospital for Women, one or two cases of cellulitis following it, and a small number where there was failure to relieve the symptoms. But on the whole it has proved satisfactory. Within the past six months, influenced largely by Dr. Goodell's warm advocacy of the operation of divulsion, which he was led to adopt after two fatal cases by the other method, that has been tried. The operation itself has been unaccompanied by any unfortunate occurrence. In two or three cases there have been high temperatures following, and in one case some cellulitis.

As to the ultimate results, it is too soon to speak definitely. Enough time has not elapsed to show whether the symptoms for which the operation was done, have been more than temporarily relieved. A case which occurred at the Free Hospital for women, will be of interest in this connection. The patient entered the hospital three years ago, complaining of great dysmenorrhœa. It was found that she had a stricture at the internal os, which was incised in the usual way. The operation was apparently successful, as the patient was entirely free from pain at the menstrual period, for several months. It gradually returned, however, and she was readmitted to the hospital in January of this year. It was found that the canal had again contracted. This time the operation of divulsion with Ellinger's dilator was performed with an equally good result for the time being. A letter received a few weeks since, says her monthly periods are still painless. It will be of interest to learn whether this improvement remains permanent.

My own impression is that divulsion has not so much in its favor, or rather that incision of the cervix is not so dangerous a procedure as Dr. Goodell claims. If the latter operation is done carefully, the patient being kept in bed at least a week, and the danger of hæmorrhage and of an immediate closing of the canal to its former calibre being guarded against by the introduction of a tent of styptic cotton, I do not believe the risks any greater nor the results any less certain, than from the operation by stretching.

The points discussed in this paper may be briefly summed up in the following propositions:

(1) Dilatations for diagnosis or for farther treatment may be either slow (by means of tents), or rapid (by means of instruments).

(2) Rapid dilatation is in general safer than slow.

(3) The principal danger of slow dilatation is from septic infection. By strict antiseptic precautions, this danger can, however, be reduced to a minimum.

(4) For moderate dilatation the method by instruments will always be found satisfactory.

(5) In cases where full dilatation is necessary, (to introduce the finger or to remove a tumor) it will sometimes be found that the rapid method will not give the complete relaxation desired, and the risk from attempting to explore with imperfect dilatation, is greater than that from the use of tents. In these cases tents should be carefully used.

(6) Sponge tents should never be employed. Tnpelo and laminaria are safer, and will answer every purpose.

(7) The preliminary use of tents followed by stretching with instruments is safer than the employment of two sets of tents in immediate succession.

(8) In enlarging the canal, in cases of stricture or flexion, the choice lies between the so-called bloody method, that by cutting, and the bloodless, that by stretching.

(9) The claims made for the operation of divulsion of greater safety and equal or greater efficacy, have not become established; a longer time is needed before a decided opinion can be given.

## Reports of Societies.

### BOSTON SOCIETY FOR MEDICAL IMPROVEMENT.

E. M. BUCKINGHAM, M.D., SECRETARY.

DECEMBER 14th, 1885, the President, Dr. F. W. DRAFER, in the chair.

DR. JAMES C. WHITE showed a case of

#### MELANOSIS LENTICULARIS PROGRESSIVA,

which he preferred to the name *angiona pigmentosum et atrophicum* proposed by Kaposi, who was the first to observe the disease. Including the present and one other case, a brother of this one, now under Dr. White's observation, there have been in all but thirty-five cases reported, occurring in thirteen families, and seen by nine observers, showing the disease to be of great rarity. The disease begins in infancy or childhood with an apparent freckling of the hands and face, which afterwards so increases as to cover the whole surface, the freckles being lenticular pigment spots. Later new blood vessels form in the skin, showing as minute points. After this, comes atrophy, of the pigment, accompanied by a thinning of the epithelium and of the corium. In about one-half the cases the disease has gone on to hypertrophy of the papillæ, followed by carcinoma of the skin, and death.

The case shown to-night is a Russian, seventeen years old, whose skin has been diseased since he was two. The skin, which is atrophied, looks like that of a negro who has lost a portion of his color in parts. There is neither hypertrophy nor carcinoma. The patient, who has had the disease fifteen years, is well formed, and has healthy functions. In a small proportion of the cases is a want of development of mental powers, the connection of which fact with the presence of the skin disease is not obvious.

To questions by members, Dr. White answered that although the disease appears, as stated, to select certain families, yet that there is no evidence that it is hereditary. This patient is the child of healthy parents. The cause is apparently not to be found in the hygienic surroundings.

#### LITHOLAPAXY.

DR. A. T. CANOR reported two cases, and showed the crushed stones. The first patient was a man of sixty-seven, who had been referred to him by Dr.

Reynolds. He had had symptoms for a year and a half, and during nine months had had blood in the urine, and difficulty in walking or riding. The stone was easily detected, but, being a hard uric acid calculus, was not so easily broken. A large fragment lodged in the tube, and, as it proved impossible to dislodge it, it had to be drawn out through the urethra, causing considerable laceration. The patient was a drinking man, getting a pint of brandy or whiskey in a day, and to this Dr. Cabot attributes much of the subsequent history. At the end of twenty-four hours, the temperature rose to 102.5, and by the next day to 104.6, and the patient was delirious. There were swelled testicle and a dry tongue, but no hardening about the bladder. There were tremulousness and jactitation. At this point the six ounces of brandy that the patient was getting were increased to twelve, and he began to improve. He is now well.

The second case, a man of forty-seven, with a small uric acid stone, was remarkable for a long tight prostate, making the reach for fragments hard, and increasing the time of operation from fifteen minutes, which would have otherwise been necessary, to twenty-five. He also has made a good recovery.

A third case was interesting for the lesson it teaches as to the value of antiseptics. A forty-grain prostatic stone was crushed November 10th, and the patient made a good recovery, with no reaction. Eight days later he was pumped out again, according to routine, before leaving the hospital; no more fragments were found, but the speaker did not personally see to the disinfection of the evacuator, and believes that it was not well done. On this occasion the temperature went up to 100.5 and there was an increase of mucus-purulent matter in the urine.

DR. FRANCIS MINOT read a paper on

#### CASES OF ABDOMINAL DISEASE, WITH OBSCURE DIAGNOSIS.

DR. HENRY I. BOWDITCH asked to be allowed to read a brief record of Dr. Minot's second case, in which an exploratory incision had "been suggested by two physicians." Dr. Bowditch said that he was one of them, and, under similar circumstances, he was prepared to give the same advice. He then stated that though he could not find any tumor in Dr. Minot's case, the long continued ill health, severe dyspepsia, and at length such horrible paroxysms of pain, that the patient rolled on the floor in his agony, and his evidently failing strength proved to Dr. Bowditch's satisfaction that the patient would die unless relieved. Medicines had been used in vain. Drs. Bowditch and Marcy, therefore, advised an exploratory incision, because life was intolerable as he was, and with modern surgery an exploratory incision had been done many times without danger.

The following case had much weight with them in making this suggestion. Dr. Bowditch had been asked to see a patient in consultation with Dr. Marcy, December 23, 1883; a woman aged fifty-three. She had been healthy till October 7, 1883, when she was suddenly seized with severe pains around the waist, preventing easy breath, and increased by motion. At first there was lessened respiratory murmur in the lower part of the left lung, but that had been relieved, and the thoracic organs were healthy. In a few days, very deep jaundice ensued, with clay-colored dejections and urine dark colored, but otherwise well. Dr. Marcy

saw her first December 10, 1883, and Dr. Bowditch was called in consultation thirteen days afterward, that is, on the twenty-seventh day of the disease, and not long before he saw Dr. Minot's case. A few days before that, she had shown signs of mental disturbance, loss of memory, slight incoherence in talking. At Dr. Bowditch's visit she was crying like a child, and very restless, evidently in great pain. She needed assistance in moving about her chamber, but there was no paralysis. She refused food. Pulse 76. The cephalic symptoms increased, and she died in twenty-four hours. At the autopsy, the sole trouble found was a gall stone of the size of a marble, impacted in the common duct. It was manifest immediately on opening the abdomen, and was considered the cause of her suffering and death, and the question arose in the minds of both whether life would not have been saved by an operation and removal of the calculus. The ducts of the liver were all very large, and some old adhesions were around the gall bladder, otherwise no lesions.

Dr. Bowditch believed that an operation might have been done in this case, and in Dr. Minot's case of ulcers of the stomach. Dr. Bowditch had nothing to regret in advising the same exploratory operation. He believed that within fifty years a surgeon will be deemed wanting in duty to his patient if he does not propose an operation in cases of intersusception, obstruction of the appendix cecæ, etc. He saw no reason why some ulcers of the stomach, even, may not be excised if need be, and the adjacent parts be brought together by sutures.

DR. E. N. WHITTIER said it is extremely consoling and not by any manner of means of necessity discouraging to those whose experience is comparatively limited, to have so accomplished a clinician as Professor Minot, declare as definitely as he has in his paper to-night, his opinion of the difficulties of dealing with diseases of organs within the abdominal cavity, particularly with reference to the obstacles constantly met with, standing in the way of accurate and satisfactory diagnosis.

Several years ago, while attempting to collate the methods of various teachers for the purpose of tabulating and formulating a method to be used in instruction in clinical medicine, I was much impressed by the wide range of apparently collateral subjective and objective symptoms, cited by these various authorities, and quickly found that any tabulation, comparatively comprehensive, became at the same time too extended and cumbersome to be of much value for the purpose I had in view. Of late, therefore, I have restricted myself to the admirable table of Professor Roberts, whose division for the purpose of diagnosis into eight groups is sufficiently suggestive to prevent any essential error of omission.

The table is as follows:

- 1st. Diseases of the abdominal walls.
- 2d. Diseases of the peritonæum and its folds.
- 3d. Diseases of organs within the abdominal cavity, namely: stomach and intestines; hepatic organs, including the liver, gall bladder and ducts, spleen; pancreas; supra-renal capsules; urinary apparatus, including kidneys, their ducts and the bladder; female generative organs, including uterus, broad ligaments, fallopian tubes and ovaries, and last, though not least, the absorbent glands.
- 4th. Diseases of blood vessels, especially the aorta and iliac arteries.

5th. Diseases of sympathetic and other nerves within the abdominal cavity.

6th. Diseases originating in connection with cellular tissue, such as inflammation and abscess.

7th. Diseases springing from posterior boundaries of the abdomen, from the pelvis and the structures within its limits, or from the diaphragm, and invading the abdominal cavity.

8th. Diseases encroaching upon the abdomen from other parts, especially from the thorax.

I do not feel that I can add anything to the interest of this meeting by citing cases of similar import to those reported by Dr. Minot, or by any remarks upon the subjects embraced in his valuable paper.

I have therefore chosen to make this effort to re-inforce what he has so well remarked upon, concerning the difficulties of diagnosis and treatment in diseases of the abdominal organs, by the reference to which I have asked your attention in the table just quoted, to similar opinions advanced by other eminent teachers in other schools, both in this country and abroad.

DR. F. B. STEPHENSON, of the Navy, present by invitation, mentioned a case of obscure tumor which was observed in another city, and which puzzled more than one practitioner, but which readily disappeared on using a cathartic.

DR. MINOT said that he must acknowledge that he had been mistaken in supposing that Dr. Bowditch had felt the tumor. He had not been mistaken, however, about the other gentleman, who had tried to point it out to him.

DR. GEORGE H. TILDEN read a paper on

#### SOME POINTS IN THE TREATMENT OF SYPHILIS.

DR. J. C. WHITE said that if there were a criminal law, prohibiting the treatment of syphilis before the appearance of secondary symptoms, it would be a gain to the community. There are few physicians capable of making a diagnosis at that stage; and many patients are dosed for a syphilis that they never had, and go through life anxiously watching for its reappearance; a serious penalty for having consulted an unwise or a dishonest practitioner. There is nothing to be gained by so early treatment, although theoretically, if a bacterial origin for the disease should be demonstrated, it would seem that the earlier it were attacked, the sooner it would be destroyed.

The speaker does not by any means always give mercury and iodide of potassium together in the later stages, but in a large proportion of them gives iodide alone. Its action seems at such times almost miraculous, and it is hard to see how anything could make it more rapid. Unfortunately its benefits are not permanent, and for this reason he follows it with mercury. As one gets older, he learns to place less absolute confidence in either mercury or the iodide, and in the graver forms of the disease he has not now the confidence he once had that he will be able to relieve the patient in every case, and to keep him relieved.

The speaker said that the use of tonics in connection with mercury depends on the condition of the patient. If he is well nourished, they are not needed as a rule, although there are cases in which they are all important.

DR. F. B. GREENOUGH, wished to emphasize the statements just made, as to the wickedness of giving syphilitic treatment in many cases during the early

stage, where it only serves to mask the diagnosis. He does not agree, however, with Dr. White, that a diagnosis is rarely possible, but sees many cases in which he has no doubt at all. If in these cases treatment is indicated, as by a deep or large ulcer, or by the need of concealment or of avoiding danger to others, then he would use specific treatment with local treatment, and the good result has been clinically most marked. As a rule, however, specific drugs should not be used at this time.

The treatment by inunction is the most thorough and quick, but it is the most disagreeable and severe. If the ointment is made with petroleum instead of lard it is less likely to irritate the skin. He has not felt like continuing the use of blue mass for a long time, but generally prefers the protiodide.

It is impossible to fix on a time when a patient will be cured. Fournier, as the result of long experience, has somewhat arbitrarily chosen two years for the treatment. Keyes has lengthened his treatment by a year. Some patients will be as well in a short time as others are in a long one. That a large number are really cured, there can be no question, but, on the other hand, there are a certain number of relapses. The speaker believes that notwithstanding these difficulties, a prognosis as to return of symptoms can be approximately given. If the disease has run its course in a simple, orderly manner, and has then disappeared, and if it has been well treated for two years and has then been under observation for one year without relapses, that particular patient is probably well.

The speaker agrees with Dr. White about tonics, iron, quinine, or cod liver may upset the stomach, and interfere with the treatment. They should not be used as a routine.

DR. J. B. AYER mentioned a case of syphilitic swelling of the nose, which only slowly diminished under the use of mercury in six months, until, by advice of Dr. Greenough, he had used inunction, when it disappeared in four or five days.

DR. EDWARD WIGGLESWORTH said that he took the side of the reader with regard to tonics, as he regarded syphilis as a wasting disease, characterized by the formation of imperfect material which rapidly degenerates. Mercury has been supposed to be a tonic. Sigmund had thought that with tonics and no mercury, he could get as good results as with mercury, but without tonics and hygiene. He himself thinks that hygiene, tonics and cleanliness are of the utmost importance, and he always employs them from the beginning. The stomach is almost never disturbed by Bimstead's pill of mercury, iron and opium, and as symptoms go off, it is common for patients to say that they never felt so well in their lives. He thought that the want of confidence mentioned by Dr. White might be owing to his neglect of tonics. He himself prefers to treat for three years, with breaks of a month in the second, and of two months in the third year, the intermediate treatment being of one month's duration.

DR. WHITE said that he did not see how Dr. Wigglesworth could compare their results. What data had he upon which to form an opinion?

DR. WIGGLESWORTH said that he judges from Dr. White's own statement as to relapses. For his part, he seldom had relapses after the course was finished, and thought they might have been perhaps prevented by the use of iron.

# PROCEEDINGS OF THE OBSTETRICAL SOCIETY OF BOSTON.

C. M. GREEN, M. D., SECRETARY.

NOVEMBER 14th, 1885, the President, DR. A. D. SINCLAIR, in the chair.

DR. F. H. DAVENPORT read a paper on

## DILATATION OF THE UTERUS: A CONSIDERATION OF SOME OF THE METHODS AND THEIR VALUE.<sup>1</sup>

DR. BAKER corroborated what the reader had said in his paper: he also exhibited a set of dilators, which he had devised several years ago, for rapidly dilating the uterine canal.

DR. J. W. ELLIOT said if only one tent is to be used, it should be as large as possible; but it is difficult to know how large a tent the cervix will admit without trying several, and this causes a waste of tents. He therefore thinks it best to measure the capacity of the cervix with Hank's dilators, and then select a tent of proper size. He had recently read in the *Berliner Klinische Wochenschrift* an excellent method of making tents aseptic: the tent, either laminaria or tupelo, is soaked in a ten per cent. ethereal solution of iodoform. Of course this causes the tent to swell; but the rapid evaporation of the ether, after the tent is removed from the solution, causes the tent to shrink again to almost its original size. Subsequent section of a tent thus treated shows crystals of iodoform in its interior: such a tent must therefore be thoroughly aseptic. Solution of corrosive sublimate may also be used for this purpose.

DR. C. P. STRONG said that he had been led by the recent favorable reports of Dr. Goodell to employ rapid dilatation in four cases, in which formerly he should have used either the knife or tents. Of these, two were cases of sterility with long narrow cervixes and stenosis of internal os, the finest probe entering with difficulty. Each case was also marked by considerable dysmenorrhœa, which has entirely disappeared since the operation. The canals still remain freely open, admitting, without pain or hemorrhage, a sound three-eighths inch in diameter, although since the operations, five and six months respectively, no dilating instruments have been introduced. In the third case the cervical canal was so completely plugged by cicatricial tissue from the employment of caustics, that a probe could not be passed. The symptom for relief in the case was intense dysmenorrhœa, and incidentally sterility. By the operation the dysmenorrhœa was entirely relieved, except some little ovarian disturbance. Dilatation was very difficult owing to the yielding cicatricial character of the tissues, and a unilateral laceration occurred which healed perfectly, however, in a fortnight. Rapid dilatation was employed in the fourth case for exploration of the uterine cavity and immediate treatment by curetting. After an interval of two months the operation was repeated in this case.

The advantages gained by the method of dilatation in these four cases were: Entire absence of subsequent febrile disturbance; absence of danger from immediate or secondary hemorrhage; and, most important of all, permanent patency of the cervical canal. It had been the experience of the speaker that the stenosis of an uncut canal returned almost invariably, unless dilators were frequently passed, thus practically keeping the patient under active treatment. He has especially noticed this fact in his out-patient service from the fre-

quency with which patients presented themselves because of more or less complete return of the old symptoms, dysmenorrhœa, etc., which had been temporarily relieved by incision of the canal. The speaker had used a modification of Elleger's dilator made by Genrieg, but, except in the fourth case, where the cervix was softened by hemorrhage, this instrument was not sufficiently powerful to dilate to the necessary extent for digital exploration, as the blades feathered badly.

DR. SINCLAIR made the following remarks on

## PROLAPSE AND PROCIDENTIA UTERI, AND ON A MODIFICATION OF ZWANCKE'S PESSARY FOR THEIR RELIEF.

We are frequently consulted by elderly women who have borne children, and occasionally by the nulliparous, about some sort of protrusion at the vulva, which causes them great distress or inability to walk or stand for any length of time. This trouble is described by them as having been coming on for a long time, years may be, and increasing in the amount of discomfort it entails, especially on the bladder. An examination with the patient lying on her back, will not give a satisfactory exhibition of the disorder, but rather have the woman walk about the room, or go up stairs and down, and then be examined in the erect position, when the nature of the protrusion may be readily ascertained. It will be found, generally, that the anterior wall of the vagina protrudes to a greater or less degree, in some cases; while in others the sagging of the anterior walls of the vagina has close behind it, and near the vaginal outlet, the cervix of a retroverted and oftentimes flabby uterus.

Another class of cases presents a still more advanced condition of prolapse, that in which the posterior wall of the vagina is found bulging at the vaginal orifice. This last state of things but precedes procidentia when the uterus slips from the vaginal outlet, carrying with it the vaginal walls as its covering, and causing more or less deflection of the uterus and base of the bladder. I will not attempt to give a detail of the causes which lead to this hernia; nor shall I refer to other conditions which give similar discomfort to their subjects. My object is to introduce to you certain disorders which have been benefited to an unexpected degree by an instrument which I shall show you this evening, and to which my attention was called six or seven years ago by Dr. Erich, of Baltimore. It is a modification of Zwancke's pessary, and consists of a stout copper ring covered with rubber and formed into a figure-of-8 pessary with a short nib or stem, the latter not more than half the length of that of the original instrument. It requires a little manual dexterity to twist this ring into a proportional figure-of-eight shape; but a little practice will surmount what little difficulty there may be. There are one or two objections to the use of this instrument: one that but few patients are able to remove and replace it; another, that it may be a barrier to conjugal relations. The first of these has been overcome in one or two instances, showing that the feat is not impracticable: I do not bring forward this instrument as a cure-all, as other forms of pessary have succeeded at times— even the common stiff Meig's ring has done wonderfully well in some cases. I am forced to say, however, that in my own practice I have had no great success in affording relief in the kind of cases which I now speak of, before the use of this modification of an old pessary. Not to be tedious; yet I ought to say that certain preliminaries are nec-

<sup>1</sup> See page 643

essary before inserting the instrument. If the prolapsed parts are merely pushed back into the pelvis by main force, one is not certain that the reposition is complete. To insure which, in some cases, the patient is made to assume the knee-elbow position, and the uterus, by the aid of the pneumatic pressure from the vagina, made to swing in the abdomen, or if this manœuvre will not effect a perfectly free condition of the parts, the uterine sound may be used. Having thus prepared the parts by a complete reduction of the hernia, a pessary of suitable size can be introduced, which keeps its position and prevents recurrence of the prolapse.

I will not undertake to explain, if I could, the way in which this pessary holds its place in the vagina, whether partly by resting on the rami of the pubes, or partly by friction, but that it does retain its position is certain.

The first case in which I tried this instrument was that of a lady sixty-three years of age, with complete proclitica, who after many years of suffering and discomfort had the great satisfaction of being entirely relieved: the uterus never afterward appearing externally. She passed through a severe attack of bronchitis two or three years later. Unexpected success in this instance, encouraged me to try its use in others similar, but most frequently in the earlier stages of prolapse as these present themselves oftener. Of all degrees I have treated fifteen to twenty cases with satisfactory results. I can scarcely recall a failure when the patient was willing to do and be done by, all that was best for her. It may be that this is but another and ephemeral notion to be added to the legion of those that have had their day and gone to the limbo of the forgotten and discarded, but it will then have done some good in its short day, and I am, perhaps, its only herald. It may be asked, how long is the instrument to be worn? How long is a truss for inguinal hernia to be worn? I answer: Certain contingencies apply to the one as to the other. In the case of hernia of the pelvic floor care must be had that the support does not cause ulceration of the parts which overlie it, and that a detergent wash be used twice or thrice weekly. In this, as in hernia of the groin, a new support will sooner or later be required.

In reply to questions, Dr. Sinclair said that he examined the pessary *in situ* two or three days after its insertion, then in a week, and again in a fortnight; after that, if the pessary was well fitted, the patient could wear it for a long time without examination. He said his pessary was the same as Zwaucke's in principle, but that Zwaucke's pessary was made of hard material and might therefore do harm; it was, moreover, in most cases not large enough.

Dr. Elliot showed some finely colored drawings of a number of small abdominal tumors which he had removed by laparotomy: among them were several dermoid cysts of the ovary, cysts of the broad ligament, one complicated with a papilloma, an inflamed and enlarged fallopian tube, ordinary cystomata, etc. He said he intended merely to show the drawings and not to report the cases. He had given some time and attention to these small tumors, the importance of which he thought was often overlooked. The great difficulty was, of course, in the diagnosis; but Dr. Elliot thought that with patience and care the diagnosis could be accurately made out in almost every case. The great amount of suffering caused by some of these

tumors is not generally known, and when they become impacted in the pelvis the suffering may become intense. They also destroy life in various ways. Dr. Elliot said he happened to have had rather a large experience with dermoid cysts: he had seen them of various sizes and in conditions very unfavorable for the patient. He thought that being of slow growth they often remained in the pelvis for a long time unknown to patient or doctor. There they were the cause of various pathological changes. He had usually found the small ones tightly impacted in the pelvis and universally adherent with more or less recent adhesions, so that with further growth the cyst must have ruptured rather than rise out of the pelvis. He had also seen a case where such rupture had actually taken place, giving rise to encysted peritonitis and rendering the cyst wall so adherent that its removal was impossible. He concluded, therefore, that these tumors so often progressed unfavorably that they ought to be removed as early as possible.

These small dermoids always feel very hard to the examining finger, and can only be distinguished from fibroids of the uterus by making out their independence of that organ. He had never regretted an early operation. His results had been uniformly good. Out of fifteen laparotomies for large and small tumors he had had but one fatal case, and that was in the case of a sarcoma where an exploratory incision was made in the hope of saving life.

Dr. BLAKE said he could testify to the difficulty of diagnosing these small tumors: he was in favor of removing them early, especially dermoid cysts.

Dr. BAKER wished to congratulate Dr. Elliot in his success in removing those small abdominal tumors, a much more difficult procedure than the removal of large tumors.

#### FISSURE OF THE ANUS FOLLOWING PARTURITION.

Dr. MIXER desired to put on record two cases of fissure of the anus occurring in the puerperal condition. The patients primiparae and healthy, but of nervous temperament. In both cases the forceps were used when the head was in the perineum. The patients did well for about three weeks, then each complained of severe pain, coming on about half an hour after defecation, and lasting several hours. Fissures were found in each case. After the unsuccessful trial of various remedies, the sphincters were forcibly stretched, with immediate and permanent relief.

#### THE NEW YORK ACADEMY OF MEDICINE.

STATED meeting, December 3, 1885.

##### THE WILLARD PARKER HOSPITAL.

THE SECRETARY read a communication from the Health Department, announcing that the new Willard Parker Hospital in East 16th Street is now open for the reception and treatment of cases of contagious disease, and inviting the President and Fellows of the Academy to visit it and inspect its accommodations. It is provided with a resident physician and a corps of trained nurses, and is designed for the treatment of patients suffering from such diseases as scarlet fever and diphtheria, who cannot receive proper care in their own homes.

Dr. MORRIS H. HENRY read a

REVIEW OF THE LIFE OF THE LATE DR. LOUIS ELSBERG, AND OF THE ADVANCEMENT OF OUR KNOWLEDGE OF DISEASES OF THE THROAT DURING HIS PROFESSIONAL CAREER.

DR. SAMUEL W. SMITH read a paper on

ORIGINAL DEDUCTIONS BASED ON A STUDY OF ONE HUNDRED CASES OF FRACTURE OF THE UPPER EXTREMITIES, EXCLUDING THE HAND.

Nearly half of these cases referred to had been in children under twelve years of age. Of those occurring in children under twelve, twenty-five were fractures of the clavicle, while in patients between the ages of twelve and fifty, only eight had had fractures of the clavicle. Having spoken of the character of fractures of the clavicle observed by him, the deformity in which he attributed in large measure to the action of the subclavius muscle, he went on to that of fractures of the humerus, in describing which he mentioned that he referred particularly to those of the lower end of the humerus, involving one or both condyles, or causing a separation of the epiphysis. In speaking of fractures of the radius, he paid special attention to the so-called cases of Colles' fracture, and referred to the character of the obliquity that was met with in different cases. The kind of apparatus required in any case, he said, would depend on whether the obliquity was long or short. He denominated fractures of the lower end of the radius Colles' fracture only when they were of the long oblique variety. When the fracture was transverse, or of short obliquity, the deformity was easily reduced, and fragments readily retained in position.

In the treatment of fractures of the clavicle, of course a great variety of apparatus had been devised, but those most commonly in use are the Desault dressing, with the axillary pad, Lewis's, Sayre's adhesive plaster dressing, and E. M. Moore's shawl or figure-of-eight bandage. Sayre's method was simple and generally efficient, but the greatest objection to it was the irritation of the skin which the plaster was liable to produce, especially in young subjects; the compression of the fore-arm across the chest also interfered more or less with the circulation, and might cause so much discomfort as to call for its removal. Consequently Dr. Moore's dressing was a step in advance; but neither the Moore or Sayre method was efficient when the seat of fracture was near the inner third of the clavicle, and long oblique. In a case of this kind, he had resorted, with good effect, to a modification of Moore's figure-of-eight bandage, which consisted in making a clove hitch around the arm near the elbow.

More recently he had devised an apparatus of his own, which seemed to possess all the advantages of the other dressings in use, and also some peculiar to itself. In this, the elbow, secured in a leather sling, is drawn inward and backward by means of straps passing to a padded band, which is placed in the axilla of the opposite side and fastened over the shoulder. A boy, in whose case a perfect result had been obtained, was shown, wearing the apparatus, and photographs were also shown which were taken before the latter was applied—exhibiting very marked deformity—and at the conclusion of the treatment.

In fractures of the condyles of the humerus, he said that he was convinced that the active combating of the inflammation, usually manifested in the joint, was the

only safeguard against ankylosis. When but one of the condyles was implicated, the ordinary anterior splint was generally efficient; but where the fracture involved both condyles, constituting what is known as a T fracture, he had found the usual methods of treatment quite inadequate. A varied experience, full of disappointments, in the use of the known splints for the more severe fractures of the condyles, had set him to work to devise a splint with the following requirements:

1. To hold the fragments firmly in apposition.
2. To allow the fore-arm to be flexed and extended, pronated and supinated.
3. To lengthen or lessen the external angle of the arm with fixation.

4. To leave the entire elbow joint exposed for the purpose of making local applications, during the whole time of wearing the splint, without disturbing the latter.

Such a splint he had constructed, and he now exhibited it, consisting of two rods of untempered steel, with ball and socket-joint, and fixation-screws at the elbow and wrist; the rods being secured to the arm and fore-arm by means of plaster-of-Paris bandages. It had long been a mooted point among surgeons, he said, how soon passive motion of the joint should be commenced; some claiming that this should be at the end of a week, and others, not for three or four weeks. For his own part, he thought that the character of the injury, in any given case, should regulate the time for beginning passive motion.

In speaking of the treatment of Colles' fracture, he said that he had also devised a splint of his own, for this; but his experience with it had not up to the present time been sufficiently large to warrant him in expressing any definite opinion in regard to its merits. He said, in conclusion, that he wished to emphatically protest against any splint whatever being left on for a week or more in any case of Colles' fracture. It was his own practice to remove the dressing every other day, and he said that unless this was done, deformity was very likely to result. To illustrate this, he mentioned a case in which a splint was allowed to remain on uninterruptedly for two weeks; when it was replaced by a plaster-of-Paris bandage, which was not disturbed for six weeks. The result was a very bad arm. In the course of the paper, Dr. Smith also reported a large number of illustrative cases occurring in his own practice.

DR. JOSEPH D. BRYANT said that the cause of the deformity in fracture of the clavicle had been the subject of much discussion among surgeons; but in his opinion it depended simply on the fracture of the bone, and not on the action of any particular muscle or set of muscles. He spoke of the difference in the deformity according to the situation of the fracture, and said that he could not agree with the author of the paper that it was due, at least to any great extent, to the action of the subclavius muscle. If in the cadaver the clavicle were fractured and the body hung up, it would be found that the same deformity would result as in the living subject, and, therefore, it seemed hardly likely that it was produced by muscular action.

As to the method of treatment to be resorted to in this fracture, any apparatus that would meet the indications present would secure a good result; though some of the dressings employed, no doubt, had special advantages. The Sayre dressing met the indications, and he had used it frequently, with good results.

The same was true of Moore's, and others. In the same way Dr. Smith's apparatus fulfilled the indications, as far as he could judge of what he had seen of it to-night, and it appeared to have the advantage over many others, of greater comfort to the patient. This was an important point, and altogether he was much pleased with the dressing; so that he should like to give it a trial as soon as an opportunity offered. On account of the lateness, he would not speak on other points touched upon in the paper.

Dr. SMITH said that, following Hamilton, he divided the clavicle into three thirds, and that the deformity was always greatest when the fracture was situated in the middle third. As the insertion of the subclavius occurred at this part of the bone, it had seemed reasonable to attribute the more marked deformity here to the action of this muscle.

#### THE REPORTING OF CONTAGIOUS DISEASES.

Dr. C. R. AGNEW presented a resolution, which was unanimously adopted, to the effect that in the opinion of the Academy any judicial action which tends to prevent the early reporting to the Board of Health on the part of the medical profession of cases of contagious disease is contrary to public policy and detrimental to the public health.

### Recent Literature.

*The Science and Art of Midwifery.* By WILLIAM THOMPSON Lusk, A.M., M.D. Third edition. 8vo. 763 pp. New York: D. Appleton & Co. 1885.

The second edition of this well-known work was, with the exception of a few minor changes and corrections, a reprint of the first, the short interval between the two editions precluding any extensive revision. But in the preparation of his third edition, the author has faithfully availed himself of recent contributions to obstetric science in monographic and periodical literature, and drawn, as well, from his own rich experience. Nearly every chapter bears evidence of careful revision, and some subjects have been in great measure rewritten: the volume is thereby enlarged by over sixty pages, and there are twenty-one new illustrations.

While we cannot notice all the new matter of this edition, we wish to call attention to some subjects which seem of especial interest and importance. The author's advocacy of the use of forceps in extraction of the breech, is, perhaps, the most striking innovation. He has formed his opinions in this matter, however, with great caution, and subjected them to the test of his own experience, as well as that of others. In the last edition, preference was given to the blunt hook and fillet when instrumental interference with a breech case was indicated: the use of forceps was only briefly alluded to; but in the edition before us, the author places forceps first in the order of relative value, and then proceeds to carefully point out the objections to, and advantages of, its use. A special forceps for the breech has been devised by Miles; but, as the author points out, such an instrument is not a necessary addition to the usual armamentarium. Good results have followed the use of the ordinary short forceps, and the axis-traction forceps has proved a safe and efficient instrument when the breech is high in the pelvis. The author is careful to point out that "the extraction of the child should not be made an exhibition of strength," and with this in-

junction in mind, it does not seem to us that the procedure can be a hazardous one in careful hands. We are well aware that conservative obstetricians will regard the operation with distrust; but we think that after the highly favorable experience of Tarnier, Budin, Pinard, of Taylor, Lusk, Haake, Truzzi, and others, the procedure may well receive a place among legitimate obstetric operations.

In the chapter on induction of premature labor, Bayers's method of exciting labor-pains by galvanization is briefly described, and its probable utility recognized. The section on the care of the premature infant contains a description of Credé's hot-water cradle and Tarnier's couveuse, both of which contrivances have proved of great value.

The chapter on Cesarean section has been enriched by a brief description of Kebrer's and Singer's methods of operating, and there are new cuts illustrating the latter's plan of subperitoneal muscular resection and introduction of sutures for closing the uterine wound. Dr. Harris's latest statistics are also given. Porro's operation and its modification by Müller are carefully treated, and Fehling's admirable directions are clearly given.

In his treatment of the etiology of spondylolisthesis, the author gives the results of the recent investigations of Neugebauer, which appear to prove that the deformity is not due to a separation of the articular processes of the last lumbar from those of the first sacral vertebra, as hitherto supposed, but certainly, "in many cases, to a congenital separation of the arch from the body of the fifth lumbar vertebra, due to defective ossification." The chapter on abnormalities of the fetus as a cause of dystocia, contains a new section on shortness of the cord, and another on transverse presentations. We are glad to see in the chapter on eclampsia, a description of Breus's method of treatment with hot baths, a method which has given good results in Vienna. On page 639, is a valuable new section on nerve exhaustion and shock, in which this anxious, and often fatal condition, is most graphically described. The chapters on puerperal fever have been largely rewritten, and the subject is presented in a masterly manner from the standpoint of modern investigation. The index has been considerably enlarged, and convenience in using the book thereby increased.

In concluding our necessarily brief review of this most admirable work, we are glad to call attention to the correction in this edition of a grave error in the designation of the oblique diameters of the pelvis. In his earlier editions, the author named the oblique diameters right or left, according as they are directed towards the right or left *acetabulum*, thereby confusing all who are in the habit of consulting other authorities. He now designates the diameters right or left according to the *sacro-iliac synchondrosis* towards which they are directed, and thus adopts the conventional nomenclature of Spiegelberg, Barnes, Schroeder, Playfair, Braun, and other eminent authors.

C. M. G.

—Dr. A. Walker writes to the *British Medical Journal*: "In a number of cases, strychnine administered along with iron for a month before labor, has exerted a remarkable influence in preventing post-partum hemorrhage, where severe flooding has occurred in previous labors."

# Medical and Surgical Journal.

THURSDAY, DECEMBER 31, 1885.

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## ANNUS MEDICUS, MDCCCLXXXV.

UPON the first day of the current year, the JOURNAL indulged in a brief retrospect of some of the vicissitudes of medical journalism during the nearly sixty years of its career as a weekly publication. Upon the closing day of the year, and in its fifty-third issue, it takes leave, in accordance with a previous custom, to lay before its readers a short review of some of the occurrences of medical interest which the year has brought forth.

The epidemiology of the year has to do chiefly with cholera and variola. The former disease, which ravaged Italy and the south of France during 1884, transferred its worst scene of operations into Spain. During the summer the disease extended widely through that country. In the later months of the year its spread was materially checked, although not till nearly 300,000 cases had occurred. The mortality was over 100,000, the per cent. of deaths apparently being somewhat less than in the preceding year in Italy, though the imperfectness of returns casts doubt upon the accuracy of any published death rates.

The epidemic scourge of this continent has been small-pox, which, during some eight months was very prevalent in Canada. A rigid system of inspection and of compulsory vaccination, under the supervision of the United States Marine Hospital Service, was maintained along the frontier, and medical officers boarded all trains coming from over the line. Baggage from suspicious localities was, in many cases, detained for disinfection. These efforts, combined with the thorough and energetic action of the health officers in cities especially exposed to importation of the disease, have secured a general exemption from the disease in the United States. In Montreal, at the height of the epidemic, the deaths daily averaged from sixty to seventy, and it was believed that some four thousand cases existed at one time in that city. Within the past six weeks the epidemic has decreased to a great extent, and at the present time has practically ceased, or shall we rather say, is in abeyance? For the spirit which led to antivaccination riots in the summer is still unchanged, and even after the ravages of the disease, there still remains fuel for it in the

numerous persons unprotected by the only reliable safeguard. Notwithstanding the zealous propitiatory cult which has been rendered by the inhabitants to all the saints of the calendar, there is still room for the question *quo numine laeso*, and the answer is *SS. Hygieia et Vaccinia*.

The report of the English Cholera Commission, sent out to India by the Home Government, was made public early in the year, and its verdict was adverse to the claim of Koch that the comma bacillus has a specific relation to the disease. They recognized the comma bacillus in the intestines of cholera patients, but claimed it to be developed as the result of post-mortem changes. Their own bacillus (must every commission find one in order to keep up its national credit?) was straighter than that of Koch, and was otherwise differentiated. Unfortunately the report, apart from the negative office of disputing the significance of Koch's spirillum, was barren of much fruit.

An International Sanitary Conference was held at Rome in the earlier part of the year, whose investigations were especially directed, as was natural, to the means of protecting Europe from the invasion of cholera. The conclusions of the conference held some years ago at Vienna, were adopted as a starting-point. Land quarantine was condemned as emphatically as was done at Vienna, but the sea quarantine, which at the former conference was established at seven days, was, on the motion of the French delegation, reduced to five days. The British and Indian delegates refused their assent to maritime quarantine, as vicious in principle, useless in practice, and dangerous as tending to divert attention from more effective sanitary measures. The line of policy advocated by the French delegates, however, prevailed, and a diminution in the rigor and inconvenience of quarantine has served only to fasten the fact of quarantine for a time longer on the nations of Europe.

In the domain of bacteriology, public attention has been chiefly engrossed by attempts to adapt the microbes to the practical end of preventive inoculation. Koch, and perhaps we may say the more conservative bacteriologists generally, have failed to receive any new light on this practical application of their studies. The existence and pathological significance of the tubercle bacillus have received confirmatory testimony and may now fairly be said to have gained general professional acceptance. And, while Koch's laboratory has been crowded with eager and zealous students, the problem of protecting the race through a possible inoculation of bacilli of mitigated virulence, seems as far from solution as ever.

During the past summer, however, Dr. Ferrán has inoculated widely in the cities of Spain, what he claims to have been a culture-fluid, containing the microbes of cholera. The only demonstrable results have been a moderate local inflammation, sometimes amounting to abscess on the arms of the patients, and a large influx of gold to the pockets of the operator. A committee of the French Academy, appointed perhaps on the strength of Ferrán's professed devotion to Pasteur,

and laudation of the latter's discoveries, visited Spain, but were given no information as to the character or mode of preparation of the mysterious fluid inoculated, and saw no evidence that the process gave any immunity against the scourge, a conclusion which was merely confirmatory of the *à priori* objection that, as having the disease once was no protection against a second attack, so, also, inoculation with the bacilli of cholera could confer no immunity.

Meantime, however, the illustrious chemist whom Ferrán professed as his master, has been demonstrating what he claims to be a preventive inoculation of a more dreaded disease—hydrophobia. The announcement of successful inoculation for this purpose was made to the International Congress of 1884, but experimental proofs were for some time not forthcoming, and there are still skeptics who are not satisfied that the disease produced in the inoculated rabbits and dogs was hydrophobia at all. Finally, in the fall, Pasteur communicated to the Academy two cases, in which hydrophobia was to have been expected, and in one of which, after repeated inoculations, it has not appeared in one hundred days. The uncertain and always long incubative period of this disease, makes necessary a prolonged period of time for the completion of such observations. In the interval, however, many persons, bitten by rabid dogs, have subjected themselves to Pasteur's inoculations. Just at the present time this is the popular craze, and numerous persons on this side the water, who have been bitten, seem at once to have become rabid on the subject of Pasteur. What may possibly be made by fate a "control experiment," is now going on with six children from Newark, N. J., who were bitten by a dog, alleged, on somewhat less loose evidence than usual, to be mad. In four cases the parents concluded to try inoculation, and in the other two they refused. The four children, sent abroad through the generosity of Mr. Carnegie of Pittsburg, have arrived, and been operated upon, the details being given with considerable fulness in the daily press, and even calling forth the imaginative powers of the "special artist." If the four escape, while the two die, Pasteurization will have a further boom; if all escape, or if the two escape and the four die, it will be time enough to decide what we shall then think.

Nothing that the year has brought forth is more productive of shame and disgust to the American medical profession than the developments in regard to the proposed International Congress of 1887. The beginning of the year found the original Committee of Arrangements, which had been appointed by the American Medical Association in 1881, successful in the acceptance of their invitation presented to the Copenhagen Congress to meet in Washington in 1887, and well advanced in the arrangements which they considered themselves empowered to make for the organization of the Congress. At the meeting of the American Medical Association in New Orleans, in April, after an unseemly wrangle, led by men whose

opposition, founded, it is to be feared, on ungratified personal ambitions, was cloaked in solicitude for the "code," and a desire to see the honors of the occasion awarded on a geographical basis, the work of this original committee of seven was disallowed, and the committee, increased by the addition of one man from each state and territory, and each of the government services, was authorized to make all the arrangements for the Congress. This enlarged committee, of about forty-five members, has held two meetings, the first at Chicago, June 24th, at which the American membership in the Congress was restricted to medical societies in affiliation with the American Medical Association; the number of sections was reduced from nineteen (as provided by the original committee), to sixteen, many of the original appointees dropped, and the officers selected on the basis of territorial representation.

Resignations began promptly to pour in from the leading men of the leading medical centres, so that to fill the decimated ranks, another meeting of the Committee of Arrangements became necessary. This was held in New York, September 3d. But still the stream of resignations has continued. At the second meeting, the constituency of the Congress was extended so as to include all members of the regular profession of medicine. Some of the removals that had been made at the previous meeting were reconsidered, a list of rules for the government of the Congress was adopted, and an executive committee appointed, which sub-committee proceeded at once, in contravention of the very principles which had been insisted on at New Orleans, to make itself autocratic by declaring itself irresponsible for its acts, either to the Committee of Arrangements or to the American Medical Association.

Very recently a meeting of men interested in a compromise of existing difficulties, has been held in Philadelphia, and a proposition has been made that this last executive committee, augmented by a number of gentlemen whom they have chosen of their number, but who have hitherto declined to serve in that capacity, unite with the original (enlarged) Committee of Arrangements to organize the Congress *de novo*. This plan has not as yet succeeded, and the time is rapidly slipping away during which any solution of the difficulty is possible. Meantime, the foreign members of the Congress, who accepted the invitation to Washington only on condition that all questions of the code and local medical politics should be left out of account, do not seem to be engaging their staterooms for an Atlantic trip in the summer of 1887. As one of the ablest of our English contemporaries remarks, "The American Medical profession is not so rich that it can afford to play all Europe with only pawns on its side of the board."

During the summer, much interest and excitement were aroused both here and in England, through the publication in the *Pall Mall Gazette* of what purported to be an exposure, in the interest of public morality, of the dangers to which girls of thirteen years and over are exposed through the legalizing of that as the age

of "consent," whereby men who seduce them can be held free of the charge of rape. Of the wisdom of this publication, which was made under the title of "The Maiden Tribute of Modern Babylon," in a special issue of the journal, with sufficient warning so that regular subscribers might keep it out of the hands of their families if they so desired, there was naturally great difference of opinion. The ostensible purpose of the publication, namely, the raising of the legal age of "consent" to sixteen years, was accomplished. But more recently, Mr. Stead, the proprietor of the paper, has been tried, with some of his coadjutors in this business for illegal methods, in compassing the abduction of a girl, Eliza Armstrong, which abduction was undertaken for the purpose of demonstrating what an enormity could be accomplished under protection of existing laws. The conviction seems to show that the facility for the sale of virgins, afforded by existing laws, was not so great as was claimed. A most unfortunate development of the affair was the implication of a member of the medical profession, Dr. Heywood Smith, in the unprofessional act of having chloroformed the girl, against her knowledge, for the sole purpose of examining her with a view to the whitewashing of a man who had wilfully laid himself open to the suspicion of having violated her. This act met with a most scathing but deserved rebuke from the judge, and is expected to call forth discipline from the censors of the College of Physicians, to which body Dr. Smith belongs. Meantime, much of the good which might otherwise have arisen from this whole unsavory business, is outweighed by the odium attaching to the mistaken policy of doing evil that good may come.

The sympathies of the medical profession, as indeed those of the whole civilized world, have been drawn out during the year towards General Grant through his patient endurance of the painful and lingering disease, which terminated with his death in the latter part of July. Early in the year, the cancerous disease had made inroads which precluded the possibility of surgical interference. In the spring months, although the extent of the diseased process was not great, the constitutional depression was alarming, and from the wearisome prolixity of the published bulletins, as well as from the small amount which they left to the imagination, the public anticipated his death almost hourly. The separation of a small slough, however, was accompanied by such an improvement in the constitutional symptoms, that the sufferer was able to complete the literary task upon which he was engaged, and to be removed from New York to Mt. McGregor, where he heroically awaited the inevitable.

A bill to regulate the practice of medicine, which was introduced into the Legislature of Massachusetts last winter, was defeated by an overwhelming vote, the usual cry of "medical monopoly" being raised, and the advocates of "free medicine" organizing with a definiteness of purpose which had nothing to compare with it upon the other side. The same Legislature, however, passed a Pharmacy Bill, which provides for a Board of Registration, to consist of five druggists, one to be appointed by the Governor each year, and all for a

term of five years, to meet, at least, three times a year, and to examine all persons desirous of engaging in the business of pharmacy. Such a Board has been organized, and has served notice upon all druggists doing a retail dispensing business in the State, to apply for registration. Candidates for examination may appear before the Board on the first Tuesday of January, May, or October, and all pharmacists who have been engaged in business three years prior to January 1, 1886, are entitled to registration without examination on the payment of fifty cents.

Among the important stated lectures of the year in England, were the Lettisonian on "Disorders of Digestion, Their Consequence and Treatment," by T. Lauder Brunton, M.D.; the Gulstonian Lectures on "Malignant Endocarditis," by William Osler, M.D., of Philadelphia; the Croonian Lectures on the "Hygienic and Climatic Treatment of Chronic Pulmonary Phthisis," by Hermann Weber, M.D.; the Lunuleian Lectures on "Some Points in the Natural History of Primitive Dry Pleurisies," by Sir Andrew Clark, Bart., M.D.; the Cavendish Lecture on "Hysteria and its Counterfeit Presentments," by J. S. Bristowe, M.D., LL.D., F.R.S.; the Bradshawe Lecture on "Morbid Arterial Tension," by James F. Goodhart, M.D., F.R.C.P.; the Bowman Lecture on "Ophthalmology and Diseases of the Nervous System," by J. Hughlings Jackson, M.D., F.R.S.; the Biennial Hunterian Oration, by John Marshall, F.R.S.; the Annual Harveian Oration, by Richard Quain, M.D., F.R.S.

Some of the more important annual society meetings for the year have been the following: The American Surgical Association held its thirty-sixth annual meeting at New Orleans, April 28 to May 1. The American Medical Association held its thirty-sixth annual meeting at New Orleans, April 28 to May 1. The Association of American Medical Editors met at New Orleans, April 27. The American Climatological Society met in New York, May 27-28. The American Neurological Association held its eleventh annual meeting in New York, June 17-19. The American Laryngological Association held its seventh annual meeting in Detroit, Mich., June 24-26. The American Otological Society held its eighteenth annual session at New London, Conn., July 14. The American Ophthalmological Society met at the same place on the two following days, July 15 and 16. It was the twenty-first annual session. The British Medical Association held its forty-third annual session at Cardiff, Wales, July 28-31. The American Dermatological Association held its ninth annual meeting at Greenwich, Conn., August 26-28. The American Association for the Advancement of Science met for the thirty-fourth year, August 26 to September 1, the place of meeting being Ann Harbor, Mich. The American Gynecological Society held its tenth annual meeting at Washington, September 22-24. The American Academy of Medicine held its ninth annual meeting at New York, October 28-29. The American Public Health Association held its thirteenth annual session at Washington, December 8-11.

Among the State medical societies, the Massachusetts held its one hundred and fourth meeting at Boston, June 10; the Ohio its fortieth meeting at Dayton, June 3-5; the Rhode Island its seventy-fourth, at Providence, June 11; the Maine its thirty-third, at Portland, June 9-11; the New Hampshire its ninety-fifth, at Concord, June 16; the Pennsylvania its thirty-sixth, at Scranton, May 27-29; the New York State Medical Association its second, at New York, November 17-19; the Medical Society of the State of New York, its seventy-ninth, at Albany, February 3-5.

## GENERAL NECROLOGY.

William Braithwaite, M.D., of Leeds, Eng., died January 31, at the age of seventy-eight. He filled honorable posts in hospitals and a medical school of Leeds, but is best known to American readers as founder of *Braithwaite's Retrospect*, which he began in 1840.

Costano Mazzoni died at Rome, February 5, at the age of sixty-two. He was one of the most prominent Italian surgeons, was a friend of such men as Lister and Billroth, and was Professor of Clinical Surgery in the Roman University. His numerous contributions to the *Accademia Medica di Roma* were among the most valuable scientific papers in Italian literature.

Professor Louis Elsberg, M.D., a pioneer in the specialty of laryngology, and first President of the American Laryngological Association, for seventeen years a member of the faculty of the University Medical College, and later, Professor of Laryngology at Dartmouth and in the New York Polyclinic, died in February of Bright's disease, at the age of forty-seven.

Professor Eilersie Wallace, M.D., at first Demonstrator of Anatomy, and later, and up to two years ago, Professor of Obstetrics in the Jefferson Medical College of Philadelphia, died March 9, at the age of sixty-six. He was for a short time Dean of the College, succeeding Professor Gross.

Ebenezer Pye Smith, F.R.C.S., intimately connected with the earlier traditions of Guy's Hospital and Medical School, though ten years retired from practice, died March 9, aged seventy-eight.

Prof. P. A. Pannu, who occupied the chair of Physiology at Copenhagen, and who became known to many Americans, as the president of the last International Medical Congress, died during the spring. He had made valuable contributions to scientific pathology among his more noted works being one upon embolism.

Professor von Frerichs, of Berlin, died March 14, at the age of sixty-six. His scientific studies were carried on at Göttingen, where he began teaching as privat-docent. At first, he devoted himself to chemistry and physiology more than to medicine, but he soon found his account in clinical medicine, which he began to teach at Breslau in 1851, in connection with pathology. Called to Berlin in 1859, he gained a world-wide reputation as a clinician. He presided at the recent meetings of the German Medical Congress, and he had recently been highly honored on the occasion

of the completion of the fiftieth year of his University labors.

James Lawrence Little, M.D., Professor of Surgery in the New York Post-graduate Medical School, died April 4th, of peritonitis, following a perforation of the vermiform appendix. He was born in 1836. He had held a number of important hospital services, and had a wide reputation as an operator. Among valuable monographs of his, may be mentioned one on the median operation of lithotomy, which operation he was believed to have performed more frequently than any other American surgeon.

Frederic Gustave Jacob Heide, professor of anatomy and director of the Anatomical Institute at Göttingen, died May 18, at the age of seventy-six. His earliest work as an instructor in anatomy was done at Berlin, where as prospector to the medical faculty of the University, and afterwards as privat-docent, he broke ground in the then untitled field of microscopical anatomy. In 1840, he was made professor of anatomy, and later of physiology in the University of Zürich. Four years later he was called to a professorship at Heidelberg, and during the eight years that he remained there, produced the great work of his life, the "*Handbuch der Rationellen Pathologie*." The "*Handbuch der Systematischen Anatomie des Menschen*" was published, the first volume in 1855, the second in 1864, and the last in 1868.

Carlo Maggiorani, physician, littérateur and statesman, prominent in the Roman Academy of Medicine, and one of the earliest and ablest promoters of the *Gazette Medica di Roma*, died in Rome, August 12, aged eighty-five.

Dr. Paul Börner, of Berlin, a life-long political reformer, and equally enthusiastic in hygiene and sanitary reforms, the founder of the *Medicinishe Wochenschrift* as well as of the *Reichs Medicinal-Kalender* and probably the leader of German medical journalism, died suddenly August 29, at the comparatively early age of fifty-seven.

William Augustus Guy, M.D., F.R.S., professor of forensic medicine in King's College, London, from 1838 to 1870, and dean of the medical department for twenty-two years, professor of hygiene in 1869, at one time president of the statistical society, vice-president of the Royal society, and the holder of a number of the most important annual lectureships, died September 10, aged seventy-five.

Prof. Samuel G. Armor, M.D., dean of the faculty of Long Island Hospital Medical College, and formerly an assistant of the chair of therapeutics, materia medica and general pathology, and later of that of the practice of medicine and clinical medicine, in which he succeeded Dr. Austin Flint, died October 27. He had, prior to his removal to Brooklyn in 1866, held professorships in several western medical colleges.

William B. Carpenter, M.D., F.R.S., born October 29, 1813, met his death November 9, by a painful accident which is still fresh in the minds of our readers. His monumental work on human physiology,

which reached eight editions, and in his recently established journal, the *Asclepiad*, to which he contributed so abundantly, his indefatigable labors, not only in strictly professional grounds, but also in other branches of science, as zoölogy, geology, hypnotism, and finally in connection with deep-sea dredging, and his lectures before the Lowell Institute of Boston, on Human Automatism, do not require rehearsal. He was a many-sided and most industrious man.

Professor Giuseppe Ponzi of the chair of anatomy and physiology in the University of Rome, equally eminent as a student of the science of geology, the author of a hundred monographs on various scientific subjects, died the last of November, aged eighty years.

John W. Sawyer, M.D., Superintendent of the Butler Hospital for the Insane, at Providence, R. I., and an experienced alienist, died December 14, at the age of fifty.

Albert Holmes Smith, M.D., a prominent obstetrician and gynaecologist of Philadelphia, died after a lingering and painful illness on December 14, at the age of fifty. He was appointed one of the obstetricians to the Philadelphia Hospital in 1862. He was one of the founders of the Philadelphia Obstetrical Society and its president from 1874 to 1876. He was also prominent in the formation of the American Gynaecological Society, and was its president at the ninth annual meeting, held last year. Of his numerous contributions to medical literature, some of the most valuable are contained in the published Transactions of this society. Of his inventions in the line of gynaecological instruments, we may mention hard rubber urethral dilators, a uterine speculum, and what is best known in connection with his name, a modification of the Hodge pessary, which is perhaps more widely used than any instrument for a similar purpose in this country. Dr. Smith lectured for many years in a school which was founded by his old preceptor, Dr. Joseph Warrington, in connection with the Lying-in Charity.

John C. Draper, M.D., LL.D., died in New York, December 20. He was born in Virginia, March 31, 1835, and was the oldest son of the late Professor John H. Draper. In December, 1858, he was made professor of analytical chemistry in the University of the City of New York, which position he held for thirteen years. From 1860 to 1863 he was professor of chemistry in the Cooper Institute. In 1863 he also occupied for the first time the chair of natural history in the University of the City of New York, which he has since held. In 1866, he became professor of chemistry in the medical department of the university. He was the senior member of the faculty of the Medical College, and also was treasurer. For a number of years he contributed a series of semi-scientific articles to the *Galaxy* and *Scribner's Monthly*. He published in 1875, a textbook on anatomy, physics and hygiene. He edited *Scribner's Year Book of Nature and Science* for 1872, and *Draper's Year Book of Nature and Science* the year following and up to 1876. Besides a

large number of scientific papers of considerable importance published subsequent to this, Professor Draper published in 1882, a "Practical Laboratory Course in Chemistry." His last work was an advanced textbook of medical physics.

In addition to the names already mentioned, Germany has lost during the year: Professor Fehling, of Stuttgart, the inventor of Fehling's test for sugar, who died July 1, at the age of seventy-two. Professor Ludwig Schlager, Director of the Wiener Landes-Irrenanstalt, and one of the most eminent alienists of Austria, who died August 4, aged fifty-seven. Professor Berger, of Breslau, a well-known neurologist. Professor Charles Seby, recently called to the chair of anatomy at Prague.

France also has been called upon during the year to part with several of her men most eminent in science and medicine: Rabuteau and Yvaren, of considerable home reputation as practitioners and writers; Ernest Dubreuil, of Montpellier, the founder and publisher of the *Revue des Sciences Naturelles*; Henri Milne-Edwards, chiefly known as a zoölogist, the successor of Cuvier in the Academy of Sciences and of Geoffrey St. Hilaire as Professor at the Jardin des Plantes, who died July 29, at the ripe age of eighty-five. Gueneau de Mussy, accomplished as a scholar and great in therapeutics, whose medical writings are models of their kind; Charles Robin, distinguished as a histologist and lexicographer; Bailliere, the Nestor of medical publishers, and lastly Henri Bouley, whose death happened on the first inst., who has perhaps done more than any other man of the age to advance veterinary medicine to a level with the progress made in human medicine, while at the same time bringing from the former a powerful illumination to bear upon the latter, and for which medical science cannot be too grateful. He was the successor of Claude Bernard at the Museum and inaugurator of the chair of Comparative Pathology, editor of the "*Recueil de Médecine Vétérinaire*," and lastly president of the Academy of Sciences. He early embraced the doctrines of Louis Pasteur, of which he was the most ardent defender; recognizing the immense future in store for microbiology, which in his estimation, was destined to disclose the secrets of every form of contagious disease. Of the works which M. Bouley has left behind him, the best known and most important are his "*Lçons de Pathologie Comparée*," "*Le Progrès en Médecine par Experimentation*," published in 1882, and his "*Nature Vivante de Contagion*," published last year.

#### NECROLOGY OF THE MASSACHUSETTS MEDICAL SOCIETY.

One of the most eminent and lamented practitioners died at the close of last year, too late to be included in the necrology of that year.

William Henry Thorndike, M.D., died in Boston, December 26, 1884, aged sixty years, six months.

Andrew Marion William White, M.D., died in Fall River, January 5, 1885, aged forty-two years.

Levi Howard, M.D., died in Chelmsford, January 23, aged sixty-five.

Ebenezer Turell Learned, M.D., died in Fall River, February 12, aged seventy-two.

John Pierce, M.D., died in Edgartown, March 27, aged seventy-nine.

William Osgood, M.D., died in Boston, April 10, aged sixty-two.

Robert William Hooper, died in Cambridge, April 13, aged seventy-four.

Samuel Cabot, M.D., died in Boston, April 13, aged sixty-nine.

William Hathorn Gage, M.D., died in Taunton, April 21, aged fifty-four.

Andrew Alexander, M.D., died in Dorchester, April 22, aged seventy-three.

Joseph Cummings Batchelder, M.D., died in Templeton, April 26, aged seventy-six.

Joshua Brackett Treadwell, M.D., died in Boston, May 6, aged forty-four.

Alfred Clark Downing, M.D., formerly of Palmer, died in Roxbury, May 11, aged thirty-six.

Jonathan Walter Dandolo Osgood, M.D., died in Greenfield, May 16, aged eighty-three.

Joseph Ferdinand Gould, M.D., died in South Boston, June 5, aged fifty-five years, six months.

Henry Robert Vaille, M.D., died in Springfield, July 15, aged seventy-six.

Joseph Rutter Draper, M.D., died in South Boston, August 5, aged fifty-five.

George Anson Bates, M.D., died in Worcester, August 9.

James Joseph Sullivan, M.D., died in Lowell, August 11, aged twenty-eight.

William Henry Aiken, M.D., died in Malden, September 16, aged thirty-six.

James Wolcott Foster, M.D., died in North Attleborough, September 17, aged seventy-two.

William Workman, M.D., died in Worcester, October 17, aged eighty-seven.

George Otis Warner, M.D., died in Leicester, November 12.

Frederick Howard Lombard, M.D., died in Boston, December 15, aged thirty-three.

John Orne Green, M.D., died in Lowell, December 23, aged eighty-six.

John Leland Sherman Thompson, M.D., died in Lancaster, December 25, aged seventy-four.

#### MEDICAL NOTES.

—A means of treatment for insomnia, which has been found useful by Dr. Von Gellhorn (*British Medical Journal*, November 7), is bandaging the legs with a bandage, of which a portion is wrung out in cold water, the dry part being applied over the wet. A dilatation of the cutaneous vessels is produced, which diminishes the cerebral circulation and induces sleep.

—Austrian newspapers report that six of the American medical students at Vienna not only offered

to Serbia their gratuitous aid in attending the wounded, but actually left for the front, and six others held themselves ready to start.

—A Paris despatch announces that the four Newark children who have been inoculated by M. Pasteur, will sail for home January 3. They are all well.

#### NEW YORK.

—The new Croton aqueduct is a very costly affair in lives, as well as in money, and since the work began, thirty-five men have been killed by accidents at the various shafts. On the 7th of December, five men lost their lives at shaft No. 3, in the town of Neweastle, about four miles back of Sing Sing, on the Hudson, and two days later, there was another fatal accident at shaft No. 4, which made nine deaths altogether within a fortnight.

—The thirteenth annual meeting of the State Charities Aid Association was held December 17th. Its object is to look after the manner in which the officials of public charities perform their duties, having been granted visitatorial powers in the various public and charitable institutions in 1881, and, when necessary, to arouse public opinion and make it effective in the correction of abuses in the administration of such institutions. It has committees and visitors in fifty counties throughout the State, and has been the means of accomplishing a considerable amount of good.

—A meeting called for the organization of a section of Laryngology of the New York Academy of Medicine, was held in the rooms of the Academy, on the evening of December 23d, 1885, the President of the Academy occupying the chair. A valuable paper, entitled "The surgical uses of electricity in the upper air passages" was read by Dr. R. P. Lincoln, and was followed by an interesting discussion. Dr. Rufus P. Lincoln was elected President, and Dr. D. Bryson Delavan, Secretary of the section for the ensuing year, and a general plan of organization adopted. The interest in the section manifested by the members present, gave gratifying assurance as to its future success.

#### Miscellany.

##### INSTANTANEOUS DEATH BY LIGHTNING WITHOUT VISIBLE LESION.

A CASE was recently reported by Dr. Formad to the Philadelphia County Medical Society, of a mulatto woman who was killed by lightning in August last, under the following circumstances:

The deceased was a robust woman who had always enjoyed excellent health. On the day of the accident she, with her husband, nephew, and son, were seated in the order mentioned, on a wooden bench, which was placed under a tree. The individual killed was seated on the end approximating to the trunk of the tree. The storm was approaching, and as the rain had not commenced to fall, they remained watching the unusually heavy clouds. Suddenly the flash occurred,

instantly killing the woman, rendering temporarily unconscious the nephew, and occasioning a transient anesthesia of the feet of the husband. The nephew remained totally unconscious for about twenty minutes, and partially conscious for five or six hours, by which time he was thoroughly himself. The only pain experienced was a deeply-seated epigastric one, which persisted for forty-eight hours, and headache, of one day's duration. The anesthesia, which was limited to the lower extremities, was pronounced for two days, when it began to ameliorate, and in the course of a week had entirely disappeared. The sphincters escaped and there were no local paralysis. In this case careful examination failed to discover any traces of lightning burn. The husband simply suffered slight numbness of the feet, which lasted for an hour or two and disappeared. Interrogation revealed the fact that the nephew did not experience any pain at the reception of the shock, and the only thing he remembers is his recovery of senses, just as if waking from a deep sleep, with a loss of power and sensation of extremities, for the cause of which, until the commotion was explained, he possessed no satisfactory solution. The husband experienced a sense of pain accompanying the shock.

Dr. Beates, in his remarks upon the effects of lightning upon the human body, called attention first to the total absence of rigor mortis and of coagulation in the present case, effects which have been denied by high authorities, notably by Dr. B. W. Richardson, who experimented upon animals with the Leyden jar, and concluded that rigor mortis and coagulation constituted, in an especial degree, the direct effects of fatal shocks of electricity.

Dr. Beates recognizes two classes of cases of sudden death, the first with, the second without, external evidences. In the former there are burns, manifesting themselves in different degrees in the same subject; and it is a matter of remark that almost all of those in whom there is wanting external evidence, present the phenomena of absence of rigor mortis and such organic alterations of the blood as result in destruction of its power to coagulate, while when burns, bruises, etc., are present there also is rigor mortis and coagulation. This conclusively demonstrates that the lightning bolt effects its fatal consequences in a diverse manner; on the one hand the force effecting a fatal result by direct action upon the centre of the organism, probably, as in the instance reported above, by injuring the cerebro-spinal centres; on the other, by a diffuse process, in which both the exterior and interior parts are involved.

#### THE PHYSICIAN'S DUTY AS TO PATENTED ARTICLES.

A recent number of the *American Druggist* contains an interesting editorial upon this ethical question. After taking the ground that all those, whether physicians or pharmacists, "whose profession has a direct bearing upon the relief of suffering humanity should be considered as having renounced the moral right to secure or control patents, on any articles that are primarily used for remedial purposes;" and admitting that a relatively smaller number of pharmacists feel their obligations in this regard than of physicians, the article goes on to consider the important point of the proper relation of those who may use patented articles

to those who *own* the patents. The writer remarks: It is the prerogative of the physician to employ for the cure of disease any method of treatment which he conscientiously believes to be conducive to the benefit of his patient. But it is not only his prerogative, it is even his *duty* to do so, if he knows that favorable results may be expected from the use of some remedy or appliance, even though they be claimed by a particular sect as quasi-proprietary, or else be guarded by a patent. If the physician has the choice between a non-patented and a patented article, he will quite naturally prefer the former, provided it is equally serviceable. But if the latter answers the purpose better, he is perfectly justified in recommending and employing it. The onus of immorality attaching to such a patent belongs to the patentee exclusively, but *not* to the person who uses it or is compelled to use it in want of something equally good and unpatented.

In following this argument, it should always be remembered that a patent implies not merely a monopoly, but at the same time removes all secrecy from the invention. Every one, therefore, who uses a patented article or invention has full opportunity of examining its details and its adaptability to any special case. The reverse is the case with so-called proprietary medicines, the composition of which is kept secret, and which are copyrighted by title. It is hard to understand how any physician can persuade his conscience that he is justified in using such preparations—the composition of which is at the discretion and mercy of men seeking to make money—in the treatment of the sick.

From the above, it follows that a physician is perfectly justified in employing an article patented by others, provided he considers it of special benefit to his patient. On the other hand, he is not justified in using proprietary "medicines," of unknown composition, the ingredients of which may at any time be altered by the maker without his knowledge. Incidentally, also, it follows that the whole business of manufacturing, selling, or using proprietary "medicines" is unjustifiable, wrong in principle, and indefensible as long as there is any secrecy maintained about their composition.

It is probably known to all who read this that *no product of nature*, whether existing as such ready formed in any of the three natural kingdoms, or artificially obtainable as a definite compound of constant composition and characteristic properties (such as many artificially prepared organic chemicals), is capable of being patented. Only the special *processes* by which such products are reached can be protected by a patent. If another inventor discovers an entirely different process leading to the same result, he is as much entitled to a patent as his predecessor. There are numerous indispensable articles used in medicine which have been at times, and are even now, partly hedged around by patents, but in almost all of these cases the patent does not amount to a monopoly, inasmuch as there are channels left open by which the same article may be procured without an embargo. Take the case of salicylic acid. This may be obtained perfectly pure from oil of wintergreen, and is in fact manufactured from this source for the market. There is no patent on this. But the process discovered by Prof. Kolbe, which enabled the acid to be made at a low price on a very large scale, is protected by a patent. The patented acid is much cheaper and equally pure as the natural. Would any one plead in favor of using the more expensive natural acid, merely because the artificial is pa-

tented? Many other such cases might be cited, but the argument in favor of the patented article would remain the same.

In like manner it is shown that the new antipyretic, antipyrine, is made under a process that is patented. Its chemical composition and mode of preparation have been announced to the public through the patent publications. It therefore is proper for the physician to make use of the unequalled antipyretic powers of the drug. Meantime, should another investigator hit upon a different method of preparation, the latter could have the choice either of throwing open the right of manufacture to the world at large, or of protecting his new process, likewise, with a patent.

And tradition says that the virus first used in 1856 was of the Jennerian stock, introduced into this country by Dr. Waterhouse. Dr. Snow who was, for twenty-eight years, Superintendent of Health, and who had ample opportunities for testing its protective power, found that its efficiency in this respect, was in no way impaired. Nearly 47,000 persons have been vaccinated with this virus, and our experience has been that while it is certainly not inferior to the bovine virus in protective power, it is decidedly superior to it, in that it is much less liable to make a troublesome sore, and is much more certain to "take" than any animal virus which we have ever been able to obtain. When my annual report is printed, I will send you a copy giving a detailed account of our methods.

Yours truly,

CHARLES V. CHAPIN, M.D.

## Correspondence.

### HUMANIZED VIRUS.

HEALTH DEPARTMENT, OFFICE SUPERINTENDENT OF HEALTH.

PROVIDENCE, R. I., Dec. 26, 1885.

MR. EDITOR:—

I noticed in your issue of December 10th, that Dr. S. C. Martin is reported as saying that "it is no longer possible to observe the effects of long humanized virus." I desire to call your attention to the fact that humanized virus has been used continuously by this department since 1856. The stock has been maintained by continuous transmission from child to child, without being once renewed from the cow.

### SCIENCE? LOGIC?—OR WHAT?

MR. EDITOR:—

From "so good a book," as he calls it, a reviewer in your last issue quotes with other similarly lucid and logical sentences the following:

"Beware especially of scepticism. . . . It is repugnant to reason and to conscience, that he can be a good physician who judges of no utility, all remedial agents that have the sanction of tradition and custom."

"For you must remember that pharmaceutical measures go but a little way in the cure of your patient, and that you can often accomplish more by hygiene, than you can accomplish by medicine."

What is scepticism, if this is not?

BELIEVER.

### REPORTED MORTALITY FOR THE WEEK ENDING DECEMBER 19, 1885.

Cities.	Estimated Population.	Reported Deaths in each.	Deaths under Five Years.	Percentage of Deaths from				
				Infectious Diseases.	Consumption.	Diarrhoeal Diseases.	Typhoid Fever.	Diphtheria and Croup.
New York . . . . .	1,340,114	383	228	19.38	13.00	.62	10.54	2.53
Philadelphia . . . . .	927,935	—	—	—	—	—	—	—
Brooklyn . . . . .	614,526	—	—	—	—	—	—	—
Chicago . . . . .	632,100	—	—	—	—	—	—	—
Boston . . . . .	330,406	141	43	9.23	19.17	.71	5.68	.71
Baltimore . . . . .	408,520	113	46	8.90	18.69	—	6.23	.89
St. Louis . . . . .	400,000	—	—	—	—	—	—	—
Cincinnati . . . . .	272,400	103	43	19.10	16.49	6.02	5.82	5.82
New Orleans . . . . .	234,000	122	25	12.54	15.58	4.92	4.92	—
Buffalo . . . . .	201,000	—	—	—	—	—	—	—
District of Columbia . . . . .	104,510	—	—	—	—	—	—	—
Pittsburgh . . . . .	180,000	—	—	—	—	—	—	—
Milwaukee . . . . .	142,400	—	—	—	—	—	—	—
Providence . . . . .	119,405	31	12	6.16	12.92	3.23	3.23	—
New Haven . . . . .	62,882	—	—	—	—	—	—	—
Nashville . . . . .	51,400	25	4	16.00	16.00	—	8.00	—
Charleston . . . . .	52,286	24	7	12.48	12.48	—	—	—
Lowell . . . . .	61,651	18	4	11.11	16.66	—	11.11	—
Worcester . . . . .	68,283	25	10	40.00	8.00	—	16.00	4.00
Fall River . . . . .	56,863	22	7	4.55	13.66	—	—	—
Cambridge . . . . .	59,660	20	12	3.45	13.80	—	—	—
Lawrence . . . . .	38,825	8	3	—	25.00	—	—	—
Lynn . . . . .	45,861	11	4	9.09	18.18	—	9.09	—
Springfield . . . . .	37,577	14	2	7.28	28.56	—	7.28	—
Somerville . . . . .	29,962	—	—	—	—	—	—	—
Holyoke . . . . .	27,894	5	2	—	—	—	—	—
New Bedford . . . . .	33,263	12	3	41.66	16.66	8.33	8.33	—
Salem . . . . .	28,084	13	1	—	—	—	—	—
Chelsea . . . . .	25,709	6	—	16.66	—	16.66	—	—
Taunton . . . . .	23,674	4	1	50.00	—	—	—	—
Gloucester . . . . .	21,713	5	3	20.00	—	—	20.00	—
Haverhill . . . . .	21,795	4	—	—	—	—	—	—
Newton . . . . .	19,759	6	—	—	50.00	—	—	—
Brookton . . . . .	20,783	6	2	16.66	16.66	—	—	—
Malden . . . . .	16,407	4	3	—	25.00	—	—	—
Newburyport . . . . .	13,716	2	—	—	50.00	—	—	—
Waltham . . . . .	14,669	4	—	—	—	—	—	—
Fitchburg . . . . .	15,375	—	—	—	—	—	—	—
Northampton . . . . .	12,896	3	1	33.33	—	—	—	33.33
88 Massachusetts Towns . . . . .	—	48	17	8.32	20.80	—	—	8.32

Deaths reported 1,388; under five years of age 483; principal infectious diseases (small-pox, measles, diphtheria, and croup, whooping-cough, erysipelas, fevers, and diarrhoeal diseases) 210, consumption 277, lung diseases 203, diphtheria and croup 99, scarlet fever 28, diarrhoeal diseases 21, whooping-cough 20, typhoid fever 16, small-pox 11, cerebro-spinal meningitis nine, erysipelas three, puerperal fever two, small-pox one. From whooping-cough, New York 19, Baltimore one. From typhoid fever, New York five, Cincinnati four, Boston and New Bedford two each, Charleston, Worcester and Taunton one each. From malarial fever, New Orleans five, New York four, Baltimore, and Cincinnati one each. From cerebro-spinal meningitis, Worcester three, New York two, Cincinnati, Charleston, Fall River and Taunton one each. From erysipelas, New York, Worcester and New Bedford, one each. From small-pox New York one. From puerperal fever, Boston and Cambridge, one each. One case of small-pox reported in Boston.

In 108 cities and towns of Massachusetts, with a population of 1,288,540 (population of the State 1,941,405), the total death-rate for the week was 15.29 against 16.26 and 14.33 for the previous two weeks.

In the 28 greater towns of England and Wales, with an estimated population of 8,306,446, for the week ending December 5th the death-rate was 20.2. Deaths reported 3,442: infants under one year of age 815; acute diseases of the respiratory organs (London) 410, measles 123, whooping-cough 111, scarlet fever 40, fever 49, diarrhoea 32, diphtheria 26, small-pox (Liverpool three, London one), four.

The death-rates ranged from 31.3 in Bolton to 11.2 in Birkhead; Birmingham 16.7; Blackburn 24.1; Bradford 19.5; Hull 17.1; Leeds 19.4; Leicester 19.5; Liverpool 23.5; London 19.4; Manchester 23.5; Nottingham 26.7; Sheffield 15.2. In Edinburgh 23.5; Glasgow 26.3; Dublin 24.7.

For the week ending December 5th in the Swiss towns, there were 27 deaths from consumption, lung diseases 20, diarrhoeal diseases eight, small-pox two, measles two, whooping-cough three, diphtheria and croup two.

The death-rates were: at Geneva 6.5; Zurich 9.7; Basle

24.2; Bern 19.5. The meteorological record for week ending December 19th, in Boston, was as follows, according to observations furnished by Sergeant O. B. Cole of the United States Signal Corps:—

Week ending	Barometer.	Thermometer.			Relative Humidity.			Direction of Wind.			Velocity of Wind.			State of Weather. <sup>1</sup>			Rainfall.			
		Daily Mean.	Daily Mean.	Maximum.	Minimum.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Daily Mean.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	7.00 A. M.	3.00 P. M.	11.00 P. M.	Duration Hrs. & Min.	Amount in Inches.
Saturday, Dec. 19, 1885.		Daily Mean.																		
Sunday, ... 13	30.218	40.7	50.3	27.1	67.0	77.0	96.0	80.0	S.	S.	S.	5	9	22	F.	R.	R.	—	—	—
Monday, ... 14	29.623	47.9	55.7	40.1	94.0	86.0	79.0	86.3	S.	S.W.	W.	16	11	6	F.	R.	R.	—	—	—
Tuesday, ... 15	29.963	50.0	42.2	27.2	54.0	61.0	51.0	55.3	N.W.	N.W.	W.	20	17	12	O.	C.	C.	—	—	—
Wednesday, ... 16	29.344	31.5	39.5	24.8	62.0	42.0	52.0	52.0	W.	W.	N.W.	6	14	7	C.	O.	C.	—	—	—
Thursday, ... 17	30.378	25.9	30.7	23.8	69.0	84.0	93.0	82.0	N.	N.	N.	8	14	18	O.	C.	C.	—	—	—
Friday, ... 18	30.137	26.1	29.3	22.4	78.0	92.0	83.0	84.3	N.	N.	N.	8	14	3	O.	C.	C.	—	—	—
Saturday, ... 19	29.506	35.0	37.9	26.5	87.0	82.0	70.0	79.7	S.W.	N.W.	W.	11	6	14	N.	F.	C.	45.0	1.33	—
Mean, the Week.	30.066	34.0	40.8	27.4				74.2												

1 O, cloudy; C, clear; F, fair; G, fog; H, hazy; S, smoky; R, rain; T, threatening.

#### OFFICIAL LIST OF CHANGES IN THE STATIONS AND DUTIES OF OFFICERS SERVING IN THE MEDICAL DEPARTMENT, U. S. ARMY, FROM DECEMBER 18, 1885, TO DECEMBER 24, 1885.

FRYER, B. E., major and surgeon. Sick leave extended six months on surgeon's certificate of disability. S. O. 292. A. G. O., December 21, 1885.

VICKERY, R. S., major and surgeon. Relieved from duty in Department of the Columbia, to repair to Washington, D. C., and report in person to surgeon-general for duty in connection with Army and Navy Hospital, Hot Springs, Arkansas. S. O. 293. A. G. O., December 22, 1885.

REED, W., captain and assistant surgeon. Leave extended one month. S. O. 293. A. G. O., December 22, 1885.

#### SOCIETY NOTICES.

BOSTON SOCIETY FOR MEDICAL OBSERVATION.—A regular meeting of the Society will be held at the Medical Library, 19 Boylston Place, on Monday, January 4, 1886, at 8 P. M. Readers: Dr. S. H. Burgin, "On the care of contagious diseases." Dr. H. W. Cushing, "On Dislocations of the head of the Radius in children." H. L. BRIGGEE, M.D., Secretary.

NEW YORK STATE MEDICAL ASSOCIATION. Fifth District Branch. The third special meeting of the Fifth District Branch will be held in Yonkers, on Tuesday, March 24, 1886.

E. H. SQUIRE, M.D., Secretary.

SUFFOLK DISTRICT MEDICAL SOCIETY. SURGICAL SECTION. The regular meeting of the Section will be held at 19 Boylston Place, on Wednesday evening, January 6th, at 8 o'clock. Communications.—Dr. E. H. Bradford, "New Means of Treatment of Club-Foot." Dr. G. W. Gay will exhibit a case of Extrophy of the Bladder, showing the results of an operation. Dr. E. T. Williams will show a new dressing for Fracture of the Clavicle. Dr. John Romans will show an Ether Inhaler.

S. J. MIXTER, M.D., Secretary.

#### BOOKS AND PAMPHLETS RECEIVED.

A Treatise on the Diseases of Infancy and Childhood. By J. Lewis Smith, M.D., Clinical Professor of the Diseases of Childhood in Bellevue Hospital Medical College, New York. Sixth edition, thoroughly revised, with forty illustrations. Philadelphia: Lea Brothers & Co. 1886.

A Manual of Distributive Co-operation. Prepared in accordance with the provisions of Chapter 51 of the Resolves of 1885, by Carroll D. Wright, Chief of the Bureau of Statistics of Labor. Boston: State Printers, 1885.

Physician's Account Books, consisting of Ledger and Office Journal, or Ledger and twelve monthly pocket Day-book. By W. L. Hitchcock. New York.

The Origin, Work and Present Position of the National Board of Health. By Stephen Smith, M.D. New York. From the Sanitarian for December, 1885.

Transactions of the American Surgical Association. Volume III. Edited by J. Ewing Mears, M.D., Recorder of the Association. Philadelphia: Published for the association by P. Blakiston, Son & Co. 1885.

Medical Legislation. The Annual Address delivered before the Association of American Medical Editors. By Henry O. Marcy, A.M., M.D. Boston, U. S. A. Reprint from Journal of American Medical Association, May 2, 1885.

Sixteenth Annual Report of the Manhattan Eye and Ear Hospital, with the Thoracic and Nervous Departments. No. 103 Park Avenue, New York. September 30, 1884, to October 1, 1885.

The Extra Pharmacopœia, with the additions introduced into the British Pharmacopœia, 1885. By William Martin-Dale, F.R.S. Medical references and a Therapeutic Index of Diseases and Symptoms. By W. Wynnan Westcott, M.B., London. Fourth edition. London: H. K. Lewis, 1885.

Transactions of the American Ophthalmological Society. Twenty-first Annual Meeting. New London, Conn., 1885. Boston: Published by the Society.

Transactions of the American Dermatological Association at the Ninth Annual Meeting. Greenwich, Conn. August 26-28, 1885. New York.

Manuel de technique des Autopsies par Bourneville et P. Brier. Avec 16 figures et 5 planches. Paris: Librairie du Progrès Medical, 1885.

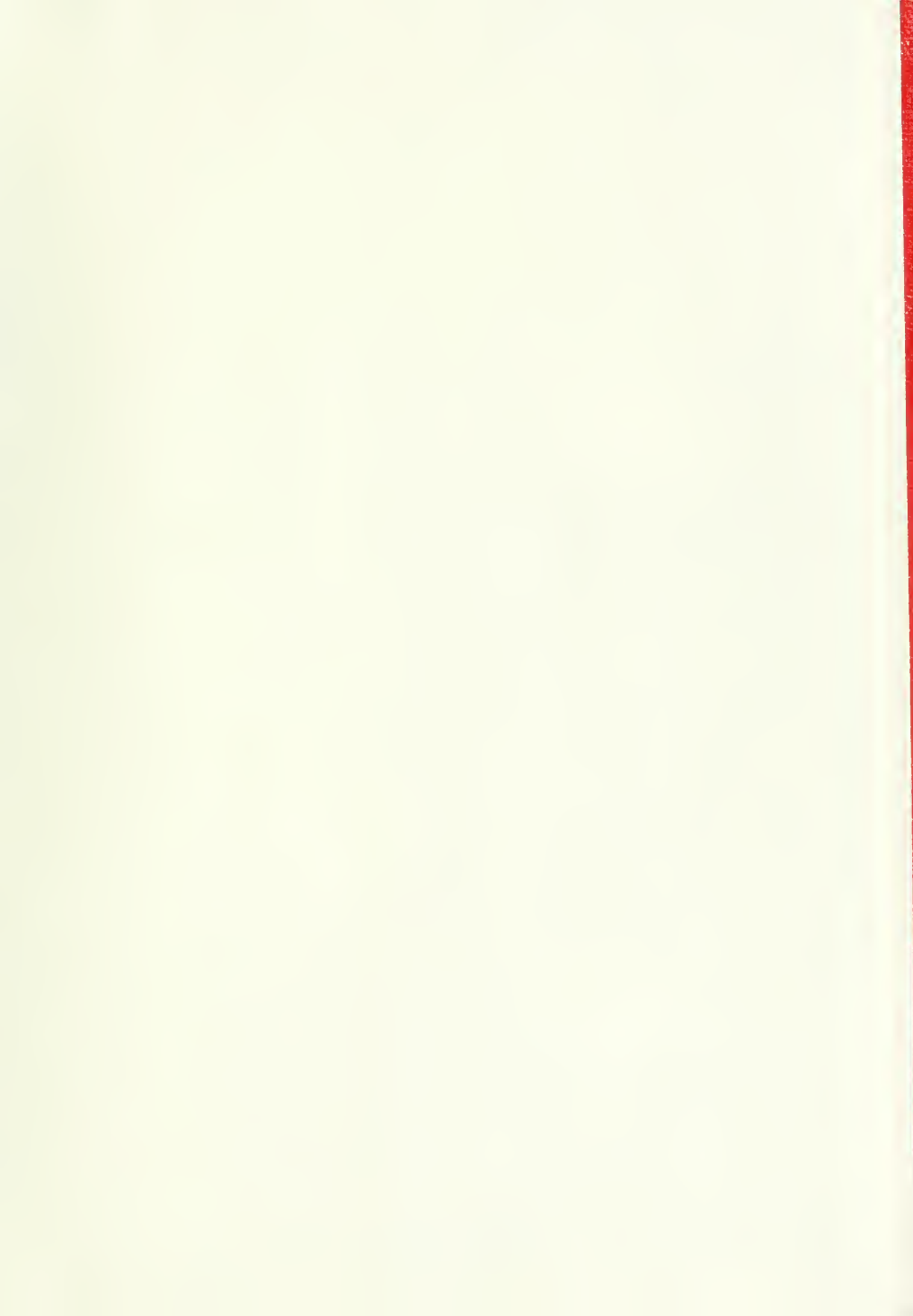
The Influence of Sex in Disease. By W. Roger Williams, F.R.C.S., etc. London: J. & A. Churchill, 1885.

Die Alte und Die Neue Medizin von Prof. Dr. Mariano Semmola, etc., Lehrbuch der von Prof. Dr. Vincenz Meyer nach der vom verlassenen vollständig umgearbeiteten und bedeutend vermehrten dritten Auflage: Napoli Francesco Giannini and Figli. 1885.

Report of the Committee on Disinfectants of the American Public Health Association, 1885. Baltimore: Printed for the Committee, 1885.









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